

# GREATER LINCOLNSHIRE LEP

CONSOLIDATED LOCAL INDUSTRIAL  
STRATEGY EVIDENCE BASE

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# Executive Summary

Metro Dynamics has been commissioned by Greater Lincolnshire LEP (GLLEP) to develop an evidence base to underpin their emerging Local Industrial Strategy (LIS). This report summarises the key points of this analysis. It draws upon existing LEP evidence, including the Strategic Economic Plan, the emerging opportunities framework and other strands of work, and is supplemented with additional analysis to provide extra insight into productivity, the business base, characteristics of the labour market, and place.

## The Greater Lincolnshire economy

Greater Lincolnshire is a £20.7bn\* economy according to the most recent GVA figures. The economy has grown positively since 1998, by 27.65%\* - the 6th lowest among all LEPs. In 2017, GLLEP's GVA per hour worked was £27.40 - the 5th lowest across all LEPs. This is 22.8% lower than the UK average.

During the financial crisis all areas experienced a decline in productivity. Productivity in GLLEP recovered from 2009-2015 however has since been on a downward trajectory. The total effect has been a 0.1% decline in productivity from 2007 to 2017. GLLEP's declining productivity means that the productivity gap between GLLEP and the UK has widened – from a gap of 18.1% in 2007 to 22.8% in 2017.

Some local authorities, such as Boston and South Holland, have seen fairly consistent growth since 1998. North Lincolnshire, on the basis of real growth in GVA, has not recovered from the effects of the financial crash, with an overall downward trend in

performance from 2007/8 onwards. It is the only geographical part of the Greater Lincolnshire economy which is smaller in GVA terms in 2017 than it was in 1998.

In 2017 there were 468,500 jobs in GLLEP, with 35,500 new jobs created between 2012-2017. Lincolnshire (24,000 jobs) had the highest job growth in absolute terms, growing by 8.50% (UK job growth rate is 9.63%). North Lincolnshire (5,500 jobs) had 7.91% job growth and North East Lincolnshire (4,500 jobs) 6.87%. Rutland (1,500 jobs) experienced the highest job growth in percentage terms with 10.34%.

## Sectors

Manufacturing is the largest sector at £4bn GVA and is the third highest employer in the region. Its contribution to GLLEP's GVA has shrunk by 6% over the past twenty years, although this has steadied after a period of disruption which followed the financial crisis. It remains a high proportion of the GLLEP economy.

Alongside manufacturing, there are existing strengths and opportunities in specific sectors: agrifoods, energy and water, ports & logistics, visitor economy, and health & care. In all these sectors GLLEP is experiencing positive jobs growth and positive business birth rates.

High job growth in Food and Beverage Service Activities (8,550 jobs), Manufacture of Food Products (4,880 jobs), and Crop and Animal Production (2,000 jobs) reflects Lincolnshire's strong agri-food industry.

These three sub-sectors account for 43% of total new jobs created, although many of these jobs are likely to have relatively low wages. Agri-food is gaining in concentration between 2012-2017. The manufacture of food products (LQ 4.43; 25,000 jobs) is over 4 times as specialised as the UK average. Crop and animal production (LQ 2.62; 18,500 jobs) is more than twice as specialised as the UK average.

The growth in Civil Engineering (2,215 jobs) is positive, and there has been strong growth in Computer Programming, Consultancy and Related Activities (1,745 jobs), albeit from a low base. There is also a nascent but growing creative / digital industry, concentrated in Lincoln and Grantham. Opportunities exist to capitalise on GLLEP's diverse energy sector to both grow the sector's GVA and to ensure it enables success in other sectors.

GLLEP's sectors sometimes are concentrated geographically – for instance ports & logistics activity exists mostly around the Humber estuary or the visitor economy in some coastal areas. This means that some sectors may drive the hyperlocal economy, employment and supply chains. For the LIS, there may be an opportunity to increase economic resilience and sector diversity across the LEP.

GLLEP is well-positioned to contribute to the Clean Growth and Ageing Society Grand Challenges within the UK's National Industrial Strategy, as these Grand Challenges align well with GLLEP's priority sectors and with the region's geography and demographic profile.

\*Figures do not include Rutland.

### Place: Differences between the East and West

GLLEP is a polycentric area consisting of rural areas, coastline and dispersed towns, each making distinctive contributions to the GLLEP economy. Performance between the town areas is variable with Grimsby, Lincoln and Scunthorpe the three largest populations. Clusters of business are found across the LEP area and business growth has been particularly strong in Lincoln at 20% between 2013-2018.

Greater Lincolnshire possesses an attractive quality of place offering, with low population density and plenty of rural space, the Lincolnshire Wolds Area of Outstanding Natural Beauty, 50 miles of coastline, Lincoln City and a visitor economy which promotes access to the natural environment and other attractions.

Across many of the areas looked at in the report we see pronounced pockets of deprivation along the Eastern coast. This is a large LEP geography, with limited public transport networks and investment required in new transport and digital infrastructure. Development of the A46 is an important infrastructure project to better connect the region, alongside additional capacity on the East Coast Mainline and regional connections.

Poor connectivity out to the East may be a factor in some of the figures we see here. Analysis shows that in coastal areas three people over 60 are moving in for every two 16-24 year olds moving out.

There is skills inequality with approximately a 47% difference between the East and West in terms of NVQ 4 qualifications. Areas with a higher share of degree-qualified residents (over 30%) are typically in

the West part of the LEP. Over 30% of residents in the East from Mablethorpe to Skegness have no or low qualifications.

The Eastern towns all have a lower share of residents in managerial roles (under 25%). In parts of Grimsby, Scunthorpe and Louth, the range is lower, at 5% - 17%. Pockets of low income ranging from £20,001 to £25,000 are clustered eastward in resort towns such as Skegness, Grimsby, and Mablethorpe. Resort towns such as Skegness, Mablethorpe, and Grimsby are among the 10% most deprived.

### People: An ageing society with inclusive growth challenges to overcome

The total population is predicted to increase from 1.12m in 2019 to 1.20m by 2041, however this increase is skewed heavily towards population growth in the 65+ age category. A 38.4% increase in the retirement age population, compared to 44.4% in the East Midlands, is a large increase and will present a new set of challenges around social care and the provision of public services. This is accompanied by a forecast decline in the working age population (-2.7%): North East Lincolnshire for example is predicted to experience a decline of 8.97% in the 16-64 cohort.

Positively, GLLEP is a net attractor of people. Total net migration between June 2017 and June 2018 was 4,499, driven by inflows of 58,273 outpacing outflows of 53,757. GLLEP experiences positive net inflows across all age groups except for those ages 20 – 34, where outflows from Lincolnshire and North East Lincolnshire result in net outflows for GLLEP.

It is a challenge for the area to find suitably qualified people to fill 207,000 job vacancies between 2014 and

2024. The data suggests an oversupply of people with low skills and undersupply of higher level skills. The education gap between GLLEP and comparators widens after NVQ 3. GLLEP NVQ 4 attainment is lower than UK shares with over 10% difference between GLLEP and UK attainment.

The percentage of jobs in GLLEP paying below the real living wage is higher than the UK and regional average. This is an area of concern given that the real living wage acts as a proxy for in work poverty, which remains a major issue for achieving inclusive growth. Raising wages (and perhaps redesigning jobs) alongside targeted support for identified residents and sectors could help raise living standards and increase productivity.

### Business environment, ideas and innovation

GLLEP has started from a low base in Ideas, but there are signs that this is changing - the investments by the University of Lincoln, the LEP and several large businesses for example. Given the latest data is at 2015, this may not be reflected in the figures. 80% of R&D expenditure per inhabitant in Lincolnshire is by businesses, compared to the UK value of 67%.

GLLEP's business base consists of 39,650 VAT registered businesses – 88% of which are micro. 36% of employment is in large businesses, which is the third lowest proportion across LEPs. In trade, the region is a net importer of goods, however produced £4.7bn of exports in 2017, 63% of which was bound for EU destinations. GLLEP's businesses and priority sectors are exposed to risks from Brexit, which will need to be managed as part of LIS implementation.

# Introduction

Metro Dynamics has been commissioned by the Greater Lincolnshire Local Enterprise Partnership ('GLLEP' or 'Greater Lincolnshire' throughout this data pack) to develop an evidence base to underpin their emerging Local Industrial Strategy (LIS).

This data pack consolidates the existing SEP evidence base, GLLEP's Evolving Opportunities Framework, GLLEP Observatory and technical reports, propositions and strategies, and the additional analysis conducted for the LIS. A diagram illustrating the process of developing the LIS evidence base is shown on the following page.

It also includes updated GVA analysis (overall GVA and growth, GVA per head and growth, and broad sector productivity) using data for 2018. Other data may be quoted for earlier years, based on the latest data available or where we have drawn from existing GLLEP source documents.

The analysis has considered GLLEP as a whole, but also variation within the LEP area. This involves looking at differences between the four local authorities – Lincolnshire, North East Lincolnshire, North Lincolnshire, and Rutland. The 'Lincolnshire' county council top tier local authority contains seven local authorities – Boston, East Lindsey, Lincoln, North Kesteven, South Holland, South Kesteven, and West Lindsey. Where appropriate our analysis breaks Lincolnshire down into its component parts.

Recognising the polycentric nature of GLLEP, our analysis has looked at the rural economy, natural capital and where possible drilled down into the five principal towns: Lincoln, Boston, Scunthorpe, Grimsby and Grantham, to understand the dynamics of these more urban areas and how they contribute to the growth of the conurbation.

Comparators have been used to provide context for GLLEP's performance, data permitting. Comparators include the Humber LEP and New Anglia LEP, and also the East Midlands and United Kingdom as a whole. Where

possible, temporal data and change over time has been used to contextualise current performance and show trends.

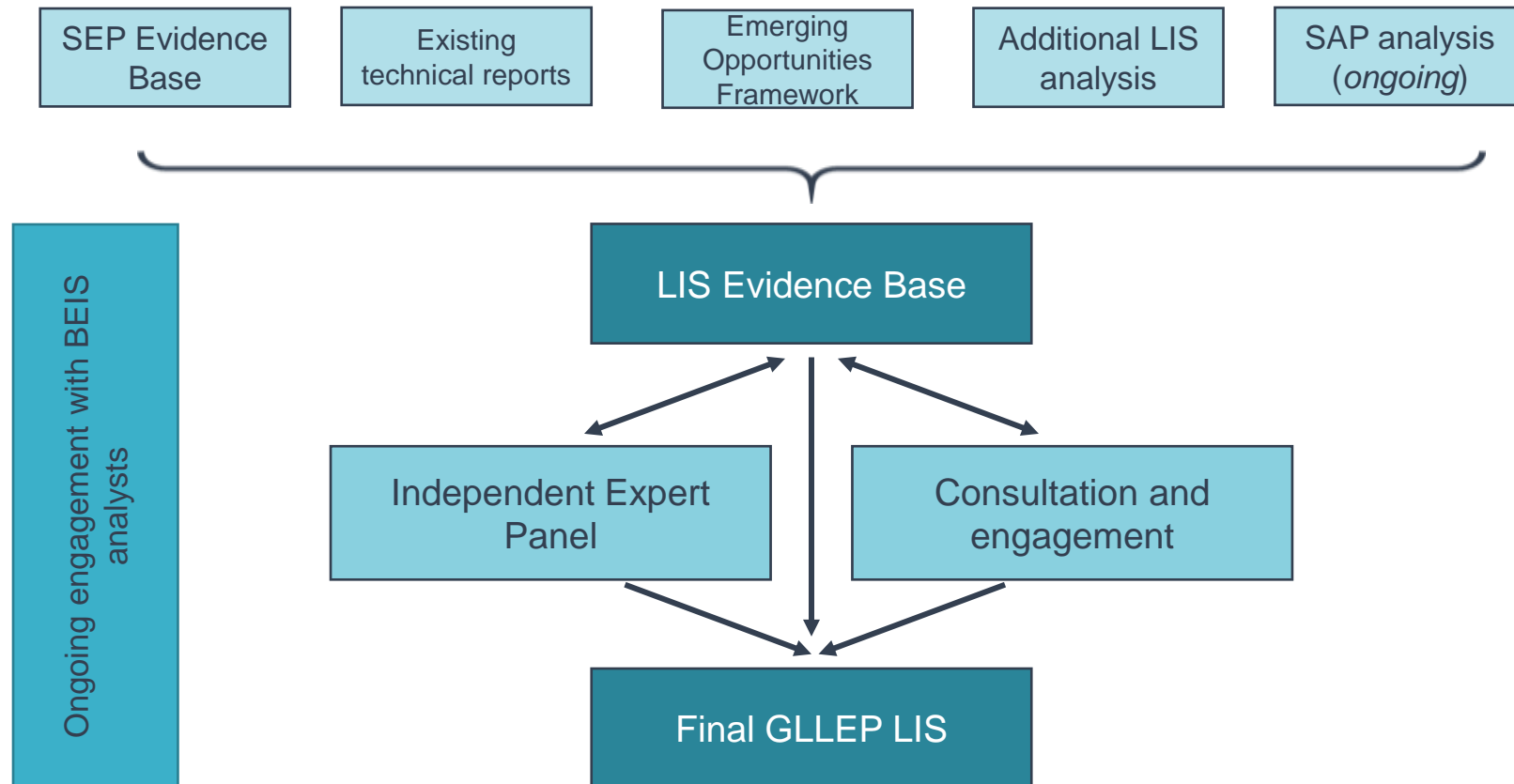
This pack is organised into seven sections. The first two sections give an overarching summary of the GLLEP economy:

- **Economy and productivity** – analyses overall economic growth and productivity
- **Sectors** – provides detailed analysis of GLLEP's key sectors covering number of jobs, LQs, GVA, supply chains, productivity, and an overview of the 'Priority Sectors' identified by GLLEP as potential focal points of the LIS.

To closely align with the national Industrial Strategy, the next five sections are structured by the 'five foundations of productivity':

- **Ideas** – covers R&D and innovation, with a focus on innovation assets
- **People** – provides in depth analysis of the labour market, including demographics, employment patterns, wages, deprivation, skills and migration
- **Infrastructure** – covering digital, transport and energy
- **Business environment** – includes a detailed analysis of the business base covering distribution by sector, spatial distribution, births and deaths, research and development, exports and inward investment
- **Place** – presents commuting patterns, population clusters, house prices and affordability, natural capital and land use, and summarises the economic, demographic and labour market profiles of the five principal towns.

# Process to develop the LIS evidence base



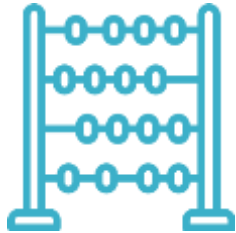
# ECONOMY AND PRODUCTIVITY



Metro — Dynamics



# Economy and productivity – summary



A **£20.7bn** economy with an ambition to increase the value of the Greater Lincolnshire economy by **£3.2 billion** by 2030



**1.96%** average annual GVA growth from 2012-2017, compared to 2.2% across the UK, 2.0% in the East Midlands, 1.46% in New Anglia LEP and 0.19% in Humber LEP



**Second lowest** GVA per head of **Midland LEPs** and **36<sup>th</sup> out of 38** LEPs in 2017 – **£18,625**



**£27.40 GVA produced per hour worked** – 22.8% lower than UK, 11.6% lower than New Anglia LEP and 7.9% lower than Humber LEP.



# Economic growth

Gross Value Added (GVA) is the standard measure in the UK for the total size of local economies. It measures the increase in the value of the economy due to the production of goods and services in an area.

## GVA

Greater Lincolnshire is a £20.7bn\* economy according to the most recent GVA figures. The economy has grown positively since 1998, by 27.65%\* - the 6<sup>th</sup> lowest among all LEPs – compared to the UK average of 43.3%, 15.7% in Humber LEP and 33.4% in New Anglia LEP. GVA in the East Midlands has grown by 26.8% over the same period. Recent growth has been relatively stronger, however. Between 2012 and 2017, GVA growth was 10.21%\* in GLLEP (11.6% nationally), the 15<sup>th</sup> highest of all LEPs, and average annual growth was 1.96%\*. New Anglia GVA has grown by 7.51% at an average of 1.46% annually between 2012-2017.

Average annual growth is marginally higher in the East Midlands (2%) and UK (2.22%) than GLLEP between 2012-2017. Leading the growth of the GLLEP economy are West Lindsey and South Holland, growing at average annual rates of 16% and 3% over this time, respectively.

These figures may appear high though to smaller numbers of residents in those areas and because the areas are starting from a relatively low base. Other local authorities such as North Lincolnshire and Rutland have experienced average annual decline of 0.64% and 0.50% annually, respectively.

## GVA per head

GVA per head of population is a normalised measure of GVA used to compare regions of different sizes. The chart on the following page illustrates GVA per head for GLLEP and all other LEPs.

In 2017, GLLEP produced £18,625\* per head of population – the 2<sup>nd</sup> lowest among Midlands LEPs, next to the Black Country, and the 3<sup>rd</sup> lowest of all LEPs. Average GVA per head across the UK was £26,870 and £21,423 in the East Midlands in 2017 – both higher than in GLLEP.

GVA per head in GLLEP is lower than pre-financial crisis levels by -2.85%. Humber LEPs GVA per head is -13.3% lower than in 2007 while New Anglia's GVA per head has grown by 0.42%. Positive growth in New Anglia LEP's GVA per head is indicative of the national and regional picture as the UK's grew by 3.92% and the East Midlands 2.23%.

Within Greater Lincolnshire, Lincoln and North Lincolnshire have the highest GVA per head with £24,126 and £22,136, respectively, while West and East Lindsey have the lowest (£13,086 and £13,844).

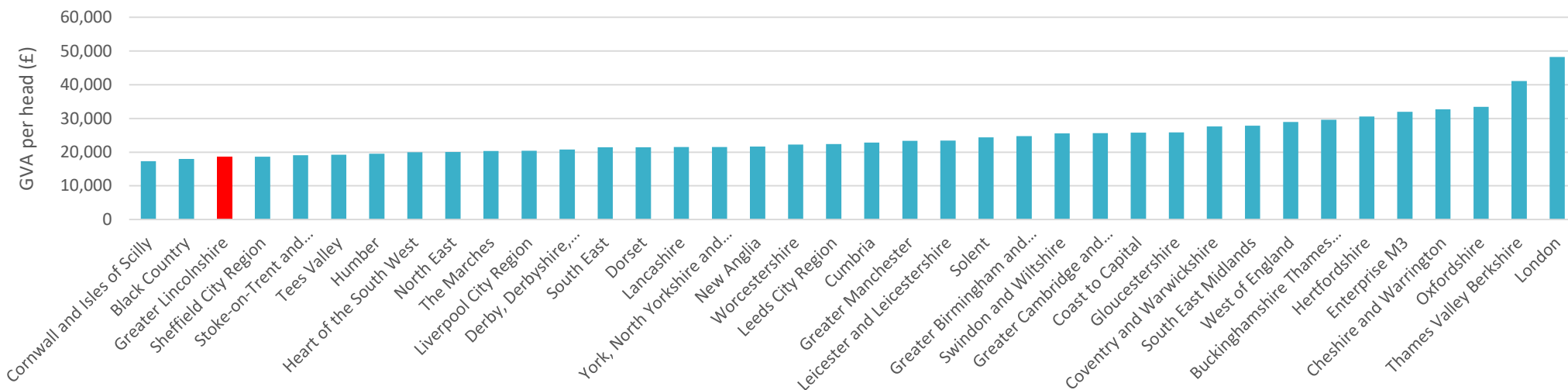
All areas have experienced a fall in GVA per head during the financial crisis and a period of stagnation since 2009.

*\*Figures do not include Rutland. GVA in 2016 prices. Overall economic output sourced direct from GLLEP documents.*

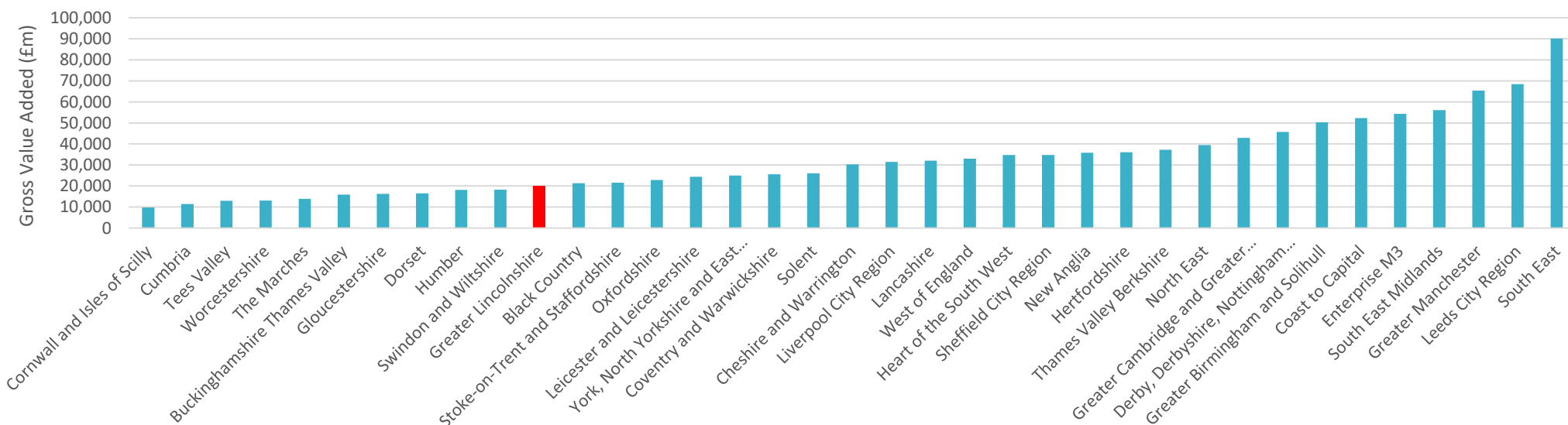
Source: Economic Growth in Greater Lincolnshire, Research Report; ONS Balanced Gross Value Added (2017); ONS Regional GVA (balanced) local authorities; ONS Subregional productivity: labour productivity indices by local enterprise partnership; ONS (Balanced) GVA per head for LEPs

# GVA across LEPs

GVA Per Head 2017



Gross Value Added 2017



\*Figures do not include Rutland. GVA in 2016 prices. Excludes London

Source: ONS Balanced Gross Value Added (2017); ONS (Balanced) GVA per head for LEPs

# GVA per head over time across LEPs

GVA per Head (2001-17)



The graph above shows changes in GVA per head over time for GLLEP, comparator LEPs, the East Midlands and the UK. All regions experienced fairly consistent GVA per head growth from 2001 up to the financial crisis. Since then, however, the trajectory of GVA per head has diverged across the regions. New Anglia LEP, the East Midlands and the UK as a whole have experienced rising GVA per head levels, although New Anglia LEP is yet to return to pre-financial crisis levels of GVA per head.

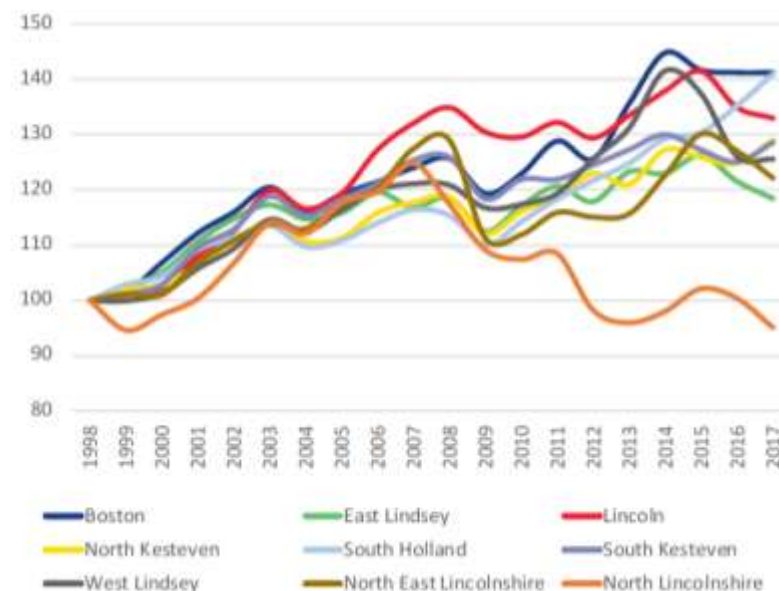
GLLEP's GVA per head was stagnant in the years following 2009, but more recently has experienced positive gains in GVA per head. Humber LEP, by contrast, has been on a downward trajectory since 2007. GLLEP's GVA per head is £18,625, compared to £21,423 for the East Midlands and £26,870 for the UK.

# GLLEP GVA by district and unitary authority

GVA (2017)



Change in GVA 1998-2017



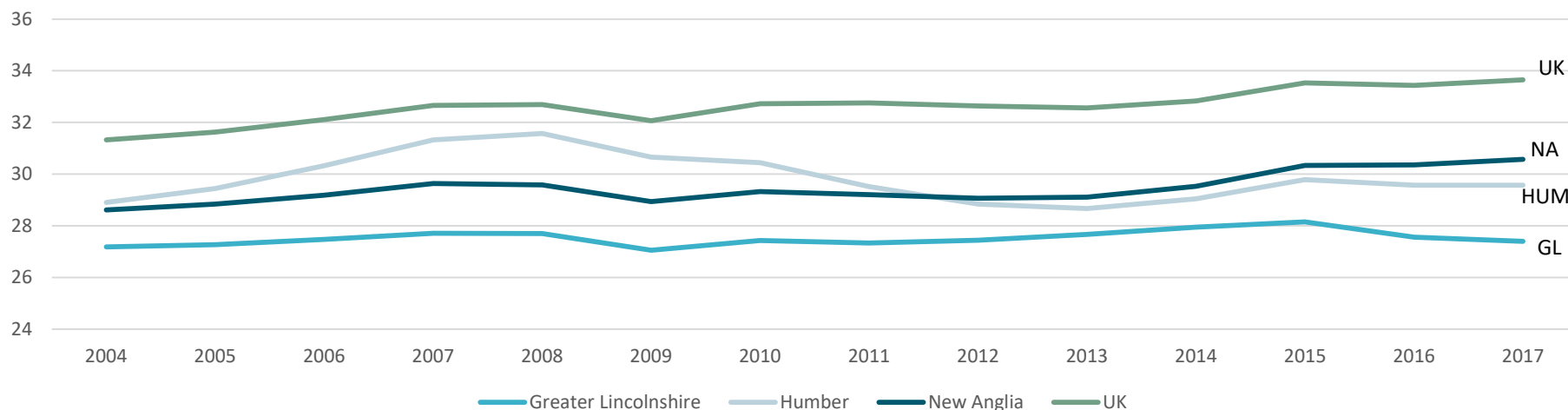
The charts above are taken from GLLEP Observatory's existing analysis and show the make-up of the economy at district and unitary authority level.

North Lincolnshire is the largest part of the economy at 19%, followed by North East Lincolnshire. When we look at the 7 districts which make up Lincolnshire County Council, together they equate to 66% (£13.5bn) of the GLLEP economy.

The right-hand chart shows change in GVA over time. Some local authorities, such as Boston and South Holland, have seen fairly consistent growth since 1998. North Lincolnshire, on the basis of real growth in GVA, has not recovered from the effects of financial crash, with an overall downward trend in performance from 2007/8 onwards. It is the only geographical part of the Greater Lincolnshire economy which is smaller in GVA terms in 2017 than it was in 1998.

# Overall productivity

Productivity: GVA per hour worked (2004-17)



This graph shows overall productivity, measured by GVA per hour worked for GLLEP and comparators.

In 2017, GLLEP's GVA per hour worked was £27.40 - the 5<sup>th</sup> lowest across all LEPs. This is 22.8% lower than the UK average, 7.9% lower than Humber LEP and 11.6% lower than New Anglia LEP.

During the financial crisis all areas experienced a decline in productivity. Productivity in GLLEP has since stagnated, and has declined by 0.1% from 2007 to 2017. Stagnant or low productivity growth has been a common experience throughout the UK: Humber LEP experienced a 0.6% decline, while New Anglia (0.3%) mirrored the UK's overall productivity growth rate of 0.3%.

GLLEP's declining productivity means that the productivity gap between GLLEP and the UK has widened – from a gap of 18.1% in 2007 to 22.8% in 2017.

In the years following the financial crisis from 2009 to 2015 GLLEP's

productivity increased, as GVA per hour worked rose from £27.05 to £28.15, an increase of 4.1%. In comparison from 2009 – 2015, the UK's productivity increased by 4.6%, New Anglia's by 4.9%, and the Humber's declined by 2.8%.

Since 2015, however, GLLEP has been unable to continue the productivity growth of the years following the financial crisis, with productivity declining by 1.3% since 2015. This compares to a 0.4% decline in Humber, a 0.4% increase in New Anglia and a 0.2% increase for the UK since 2015.

The overall productivity growth rate masks sectoral differences. GLLEP has experienced large increases in employment in low-skilled, low productivity areas such as accommodation and food services, transport, and agriculture. These have been offset in part by an increase in higher productivity jobs in sectors such as Manufacturing and IT. This has been compounded by the economic restructuring that occurred post-financial-crisis.

*Figures do not include Rutland and are in 2017 prices. An employee is anyone aged over 16 that an organisation pays from its payroll. Full-time is defined as 30 hours or more.*

# GLLEP in Midlands Engine

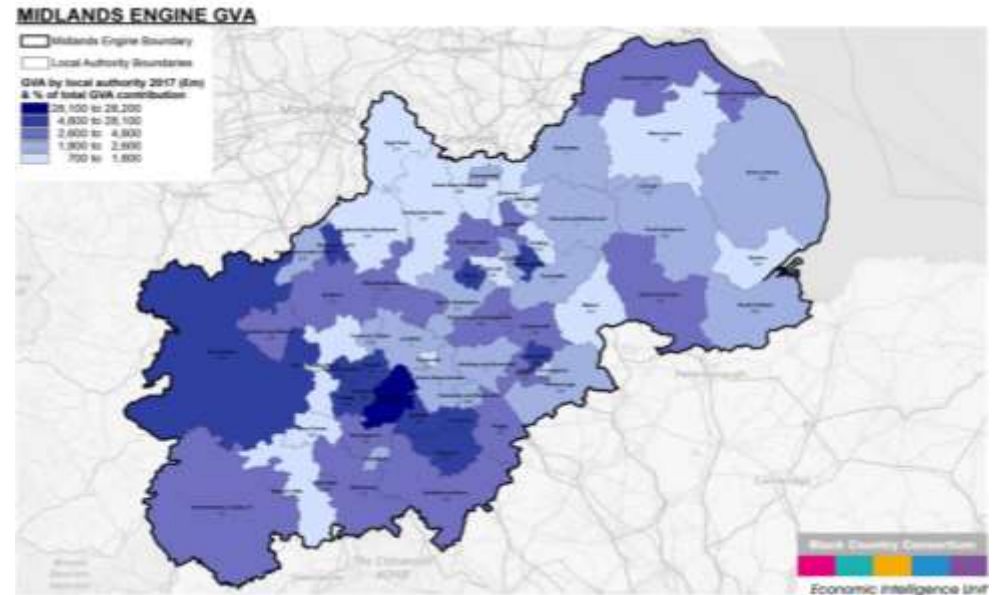
GLLEP is one of 9 LEPs in the Midlands Engine Partnership. Performance varies between LEP areas, however across the region there is a performance gap with the UK.

GLLEP is 7<sup>th</sup> lowest for GVA per hour in 2017 and has seen the least % change in this since 2010. The map on the right is a spatial presentation of GVA at local authority level. Within GLLEP, North and North East Lincolnshire contribute most to the Midlands Engine economy.

The Partnership's strategy 'Vision for Growth' has an ambition to add £54bn to the economy by 2030 and there are a number of pan regional priorities and projects underway.

With the University of Lincoln, GLLEP has been leading work across the Midlands Engine area on a 'Future Food Processing' theme, driving innovation-led growth from 'farm to fork'. This was recognised in the Midlands Engine Science and Innovation Audit as a regional strength.

GLLEP also provides important coastal access for the Midlands Engine for trade, including the region's only ports. Given the importance of manufacturing and supply chains to the regional economy, GLLEP has an important role and connectivity from East to West is a priority.



# SECTORS



# Sectors – summary



A large food manufacturing industry with GVA totalling **£1bn**. Manufacturing is the largest sector by GVA, totalling **£4bn**



**Strengths** (productivity, specialisation and jobs) in the **agri-food sector**, employing **over 9%** workers and the source of 43% of new jobs



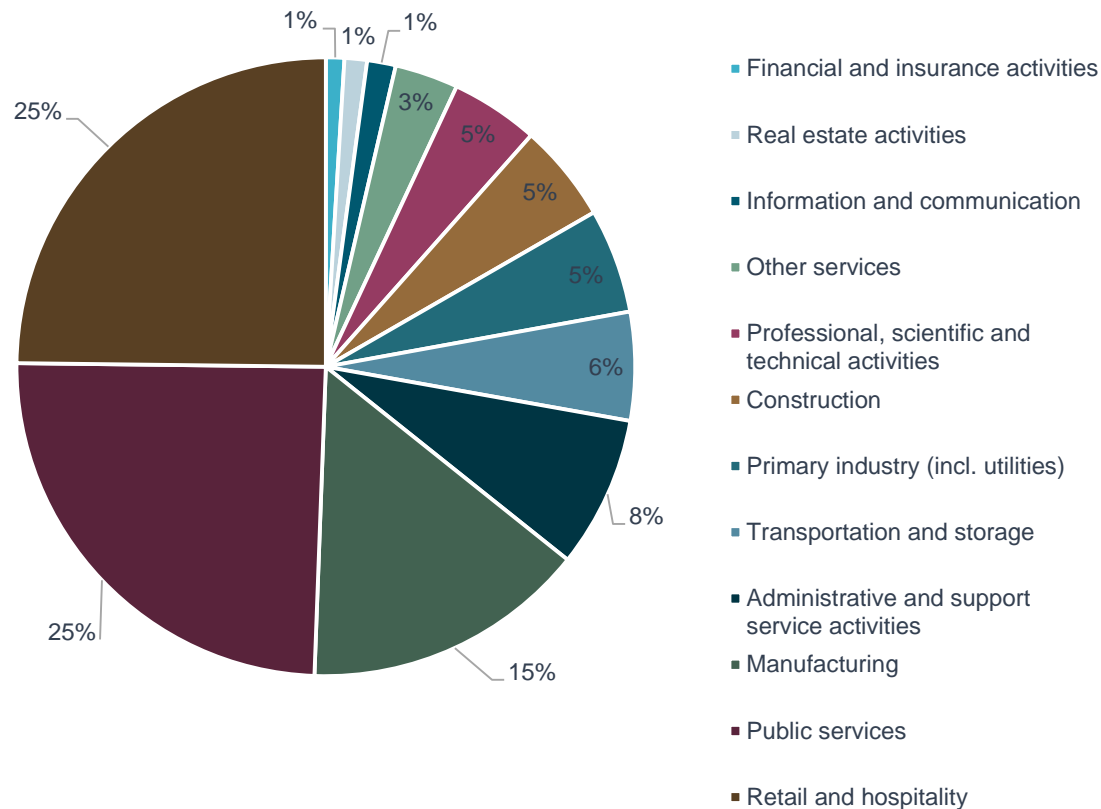
**50%** employed in public services and retail and hospitality



**Job growth needed and skills** to future-proof manufacturing – adapting to automation and new technologies

# Sector make up of the economy

GLLEP employment by broad sector group (2017)



This pie chart illustrates the sector make up of the Greater Lincolnshire economy by showing the share of jobs by broad sector group (using the definitions in the Methodology).

In 2017, there were 468,500 jobs in the GLLEP area\*. The largest broad sector groups are retail and hospitality (111,600 jobs) and public services (111,500 jobs) accounting for 50% of total jobs in the region.

Manufacturing (69,500 jobs) is the 3<sup>rd</sup> highest employer with a roughly even share in GVA between 3 sub-sectors of food & beverage, wood & petroleum, and metals manufacturing.

Among primary industries, agriculture accounts for the highest share (19,000 jobs) compared to energy (1,000 jobs) and water (4,750 jobs). Taken together, the primary industries sector employs 5% of Lincolnshire's population with a GVA of £1.6bn or 5% of the region's total GVA.

More knowledge intensive industries such as Professional, Scientific and Technical Activities (21,500 jobs), Information and Communication (7,000 jobs), along with Admin and Support Activities (37,000 jobs) and Financial and Insurance Activities (4,500 jobs) account for 15% of GLLEP's employment.

A large transportation and storage sector (26,500 jobs) is perhaps linked to GLLEP's ports.

\* The share of jobs by sector quoted in this analysis might not sum to the total number of jobs due to estimates

# Job growth

*Job growth by local authority (2012-17)*

	<b>Jobs (2017)</b>	<b>New jobs (2012-17)</b>	<b>Job growth (2012-2017)</b>
Lincolnshire	307,500	24,000	8.50%
North Lincolnshire	75,000	5,500	7.91%
North East Lincolnshire	70,000	4,500	6.87%
Rutland	16,000	1,500	10.34%
Greater Lincolnshire	468,500	35,500	8.22%
<i>Job growth: New Anglia = 7.91%, Humber= 10.60%, GB = 9.63%</i>			

*Top 10 SIC2 sub-sectors by job growth in GLLEP (2012-17)*

<b>Sub-sector</b>	<b>Jobs (2017)</b>	<b>Job change (2012-2017)</b>
Food and Beverage Service Activities	28,500	8,550
Manufacture of Food Products	25,000	4,880
Human Health Activities	35,000	3,550
Employment Activities	20,500	3,390
Manufacture of Furniture	3,750	2,555
Civil Engineering	6,000	2,215
Land Transport and Transport via Pipelines	13,500	2,175
Accommodation	9,500	2,150
Crop and animal production, hunting and related service activities	18,500	2,000
Warehousing and Support Activities for Transportation	10,000	1,930

The top table shows job growth for GLLEP, its local authorities and comparators. In 2017 there were 468,500 jobs in GLLEP with 66% of jobs in Lincolnshire. North Lincolnshire accounts for 16% of jobs, North East Lincolnshire 15%, and Rutland 1%.

Between 2012-2017, there were 35,500 new jobs created in GLLEP. Lincolnshire (24,000 jobs) had the highest job growth in absolute terms, growing by 8.50%. North Lincolnshire (5,500 jobs) had 7.91% job growth and North East Lincolnshire (4,500 jobs) 6.87%. Rutland (1,500 jobs) experienced the highest job growth in percentage terms with 10.34%. GLLEP's job growth of 8.22% is higher than New Anglia's at 7.91% but lower than Humber's job growth at 10.60% and the UK's job growth of 9.63%.

The bottom table shows the top 10 SIC2 sub-sectors by job growth in GLLEP between 2012 and 2017. High job growth in Food and Beverage Service Activities (8,550 jobs) and Manufacture of Food Products (4,880 jobs) and Crop and Animal Production (2,000 jobs) reflects the LEP's strong agri-food industry. These three sub-sectors account for 43% of total new jobs created.

Human Health Activities has seen an increase of 3,550 jobs. The growth in Employment Activities (3,390 jobs) is seen a trend seen in other LEPs and can indicate a rise in agency workers.

The growth in Civil Engineering (2,215 jobs) is positive providing support for GLLEP's other focus areas such as clean energy, transportation and logistics.

Whilst these job figures are encouraging, there remains substantial shortages particularly in service-intensive occupations. To demonstrate, 33% of health & social work establishments have vacancies. Other factors such as skills shortages must be addressed to unlock GLLEP's full jobs growth potential.

# Levels of specialisation

Location Quotient (LQ) analysis helps to understand specialisation patterns in the sectors in a local economy. LQs are ratios for each sector between the local share of employment and share of employment in Great Britain (GB). Higher LQs correspond to higher levels of specialisation, with an LQ above 1 indicating that the area is more specialised in that sector than GB as a whole. This is a key piece of analysis since building on existing sectoral strengths is likely to increase the chances of economic success.

The bubble charts on the following pages illustrate results of the LQ analysis for SIC2 sub-sectors. On the y-axis are the LQs for 2017 with a higher value indicating a higher degree of specialisation. The right quadrant denotes gains in concentration and the left quadrant represents de-concentration, relative to GB over the period 2012-2017. The size of the bubbles indicates total employment in the sub-sector. The bubble chart on page 21 shows a zoom in of the SIC2 sub-sectors in the blue boxed area on page 20.

## Agri-food

Agri-food (indicated by the green circles) is a strength, and gaining in concentration between 2012-2017. The manufacture of food products (LQ 4.43; 25,000 jobs) is over 4 times as specialised as the UK average. It also has the 2<sup>nd</sup> highest LQ and is the 5<sup>th</sup> largest employer in GLLEP. Crop and animal production (LQ 2.62; 18,500 jobs) is more than twice as specialised as the UK average.

## Manufacturing

Manufacturing (indicated by the grey circles) comes through as a diverse, strong and highly specialised sector in GLLEP. Manufacture of coke and refined petroleum products (LQ 12.5, 1,625 jobs) has the single highest LQ within the SIC2 subsectors, gaining in concentration from 2012-2017.

Other sub-sectors that have gained in concentration are manufacture of furniture (LQ 3.0; 3,750 jobs), paper and paper products (LQ 2.38; 1,875 jobs), machinery (LQ 1.43; 4,000 jobs), machinery installation and repair (LQ 1.61, 3,000 jobs), and metal products (LQ 1.31; 6,000 jobs).

Whilst specialised, the following manufacturing activities became more de-concentrated between 2012-2017: manufacture of basic metals (LQ 3.46; 3,500 jobs), rubber and plastics (LQ 1.87; 5,000 jobs), chemicals (LQ 1.64; 2,375 jobs), and wood and cork (LQ 1.61; 1,750 jobs).

## Logistics and transport

Land transport and transport via pipelines (LQ 1.59; 13,500 jobs) is more specialised and concentrated than the national average.

## Water and waste management

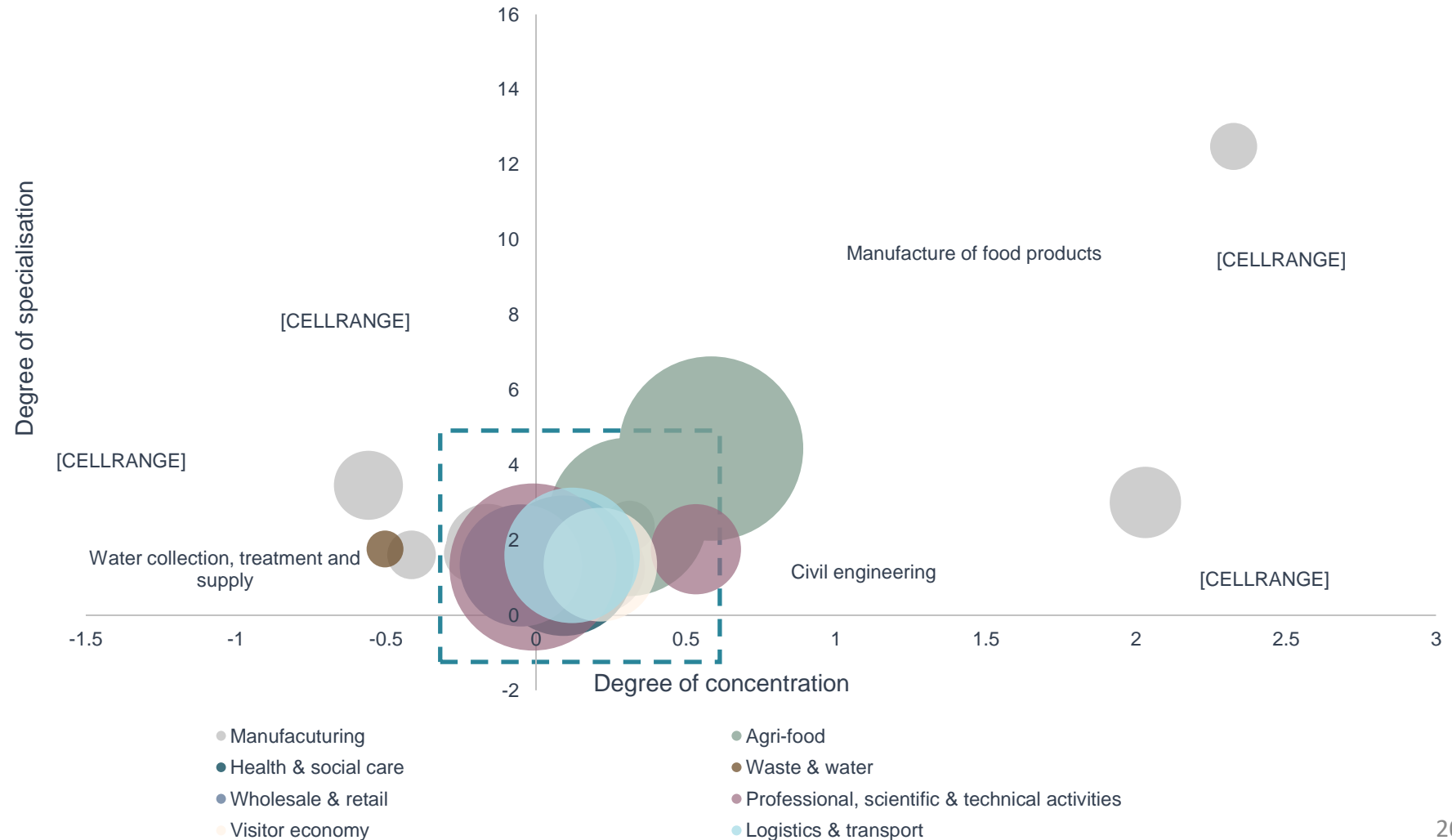
Whilst water (LQ 1.76; 1,000 jobs) and waste (LQ 1.41, 3,000 jobs) management is more specialised than the national average, job growth has been weak and the sub-sectors became less concentrated.

## Other activities

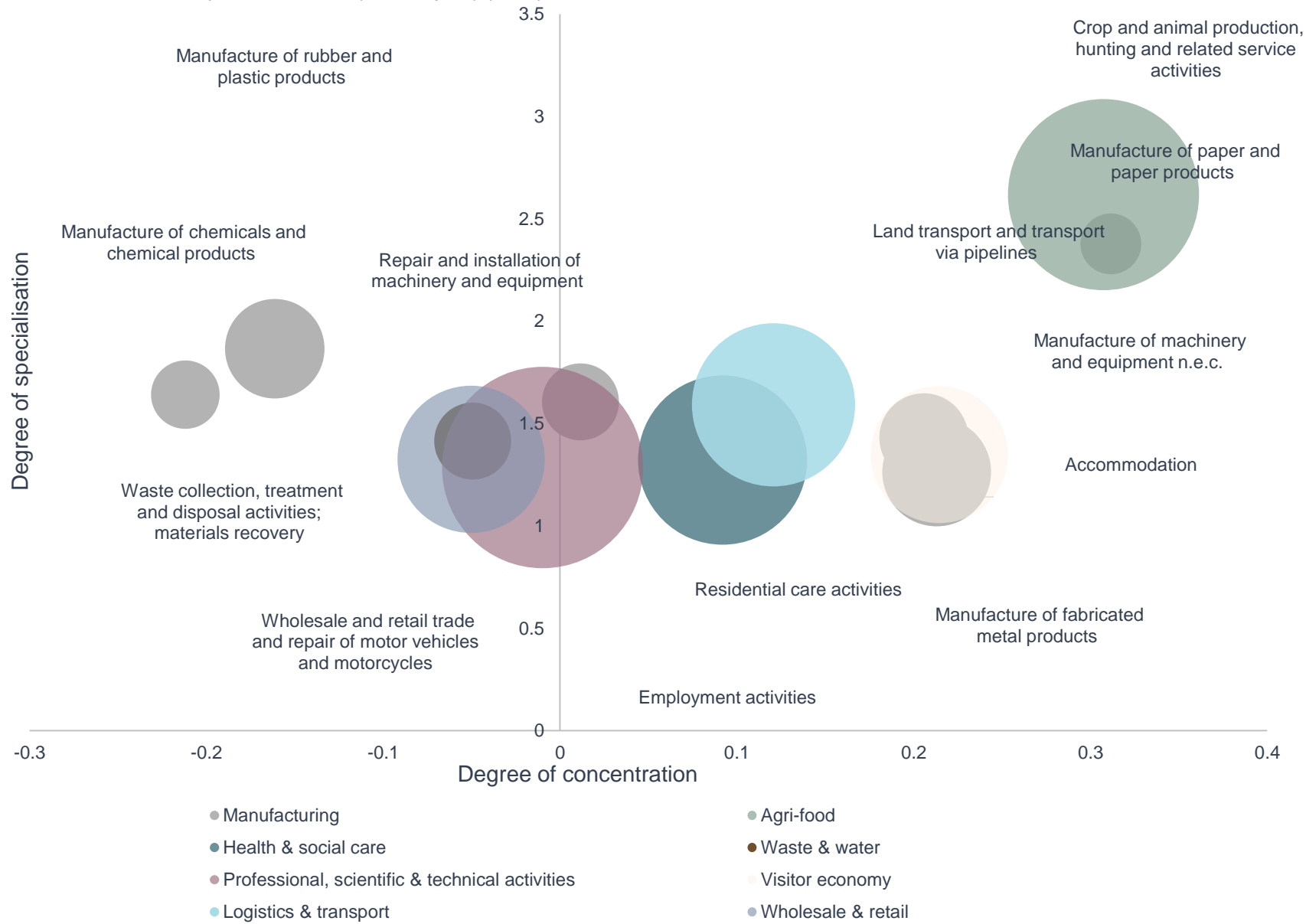
Professional, technical & scientific activities is a strong employer in GLLEP. Civil engineering (LQ 1.76; 6,000 jobs) gained in concentration with 2,215 new jobs. Employment activities i.e. recruitment (LQ 1.29; 20,500 jobs) whilst gaining 3,390 jobs over 5 years, did not keep up with national growth rates. The visitor economy (indicated by the beige circles) has also grown, with accommodation (LQ 1.39; 9,500 jobs) gaining 2,150 jobs. Residential care (LQ 1.32; 14,500 jobs) had small gains in concentration.

# Location Quotients analysis

Top 20 SIC2 sub-sectors by LQ GLLEP 2012-2017 (≥1000 jobs)



Zoom in of Top 20 SIC2 sub-sectors by LQ for GLLEP ( ≥1,000 jobs) (2017)



# Sector growth trends

The graph on the following page shows change in GVA by sectors for GLLEP between 1998 and 2017. Broad sector GVA share for the UK and a comparator LEP are also shown.

The distribution reveals three trends. Firstly, three sectors have increased their GVA share over the time period. Second, manufacturing has been in steady decline. Finally, GLLEP is lagging the UK in more knowledge-intensive sectors.

Skills shortages is a likely cause stagnant GVA growth in certain sectors. Employer surveys showed 61% of vacancies in transport and storage and 44% of vacancies in the construction sector are attributable to lack of skills.

Up-skilling the workforce is vital to ensuring residents can access higher value-added jobs, helping GLLEP to increase its overall GVA across key sectors.

## Sectors with increased GVA share

### 1. Primary industries

Since 2012, primary industries (comprising agriculture; mining; utilities; water & waste management) has doubled its contribution to GLLEP's GVA from 4% to 8%. This is comparable to New Anglia's share of 7% and twice the UK's share at 4%.

As primary industries encompasses a wide range of activities, the GLLEP whilst being highly specialised in agriculture is lagging in the other sub-sectors that make up primary industry.

### 2. Admin and support activities

Since the early 2000s, admin and support activities (comprising real estate rental, leasing & servicing; recruitment; security) has doubled its contribution to GVA from 2% to 4%. This is comparable to the New Anglia and UK share at 5%

### 3. Professional, scientific and technical activities

This sector has also doubled its contribution to GVA since the early 2000s growing from 2% to 4%. This is comparable to New Anglia's share of 5% but only half as much as the UK's share of 8%.

## The decline of manufacturing

Compared to the New Anglia (12%) and UK (10%) average, manufacturing contributes approximately 20% to GLLEP's GVA. This is in line with LQ analysis showing GLLEP's specialisation across a range of manufacturing activities

However, the sector has declined steadily from 1998. This occurred most sharply between 1998-2008, dropping by 4% from 26% in 1998 to 22% in 2008. From 2009-2017, the sector declined more slowly, dropping by 2% from 21% in 2009 to 20% in 2017.

## Lagging sectors

### 1. Finance and insurance

Compared to the UK (7%) and New Anglia (5%) average, finance and insurance makes a small contribution to GVA at less than 2% as of 2017. Finance's contribution to GVA has declined since 2009 following the financial crash, a trend which has also played out in New Anglia.

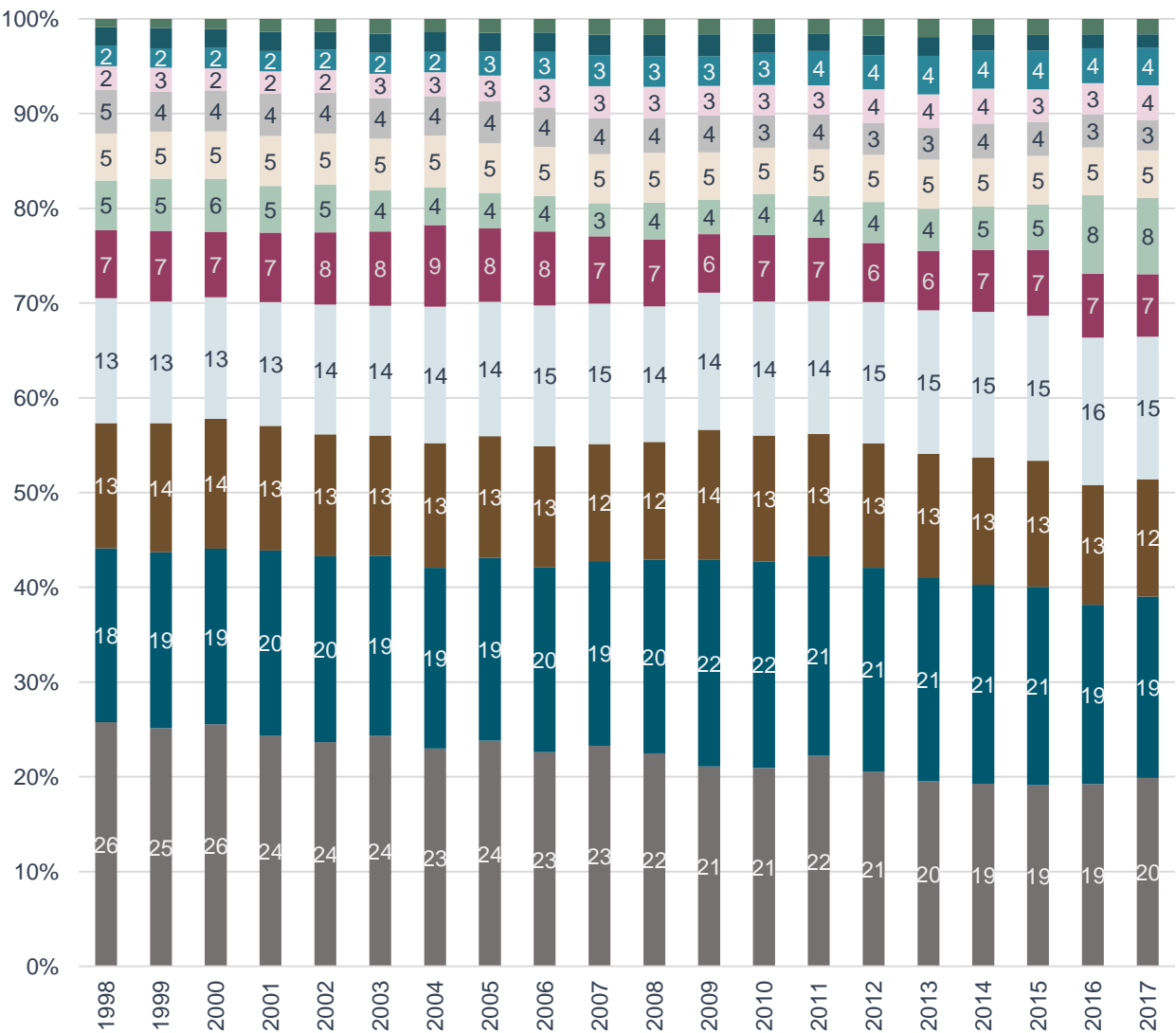
### 2. Information and communication

Despite modest growth since 1998, the information and communication sector makes a small contribution to GVA with less than 2% as of 2017. In contrast, the IT sector contributes twice as much to GVA in New Anglia at 4% and more than three times as much in the UK economy at 7%. More encouragingly, there has been fair job growth in the computer programming and consultancy subsector with 1,745 new jobs created from 2012-2017



# Breakdown of GLLEP GVA

Change in GVA by Industry, GLLEP, 1998-2017



GVA share of comparators in 2017		
Sector	New Anglia	UK
Information and communication	4%	7%
Finance and insurance	5%	7%
Admin and supporting services	5%	5%
Professional, scientific and technical	5%	8%
Other services	4%	4%
Transportation and storage	5%	4%
Primary industry (incl. utilities)	7%	4%
Construction	8%	6%
Retail and hospitality	14%	13%
Real estate activities	12%	14%
Public services	19%	18%
Manufacturing	12%	10%

# Broad sector productivity

Productivity, at LEP level, for sectors can be measured by GVA per job. All sectors in GLLEP underperform productivity wise compared to the GB average and EM averages, except for manufacturing which performs 1% higher compared to the East Midlands. The table on the next page shows GVA per job for broad sector groups (using the definitions in the Methodology). The 4 columns on the right show how each sector's GVA per job compares to the GB and East Midlands average. The table is ordered in descending GVA per job.

## General trends

The most productive sectors are real estate and finance & insurance due to the high value of the goods/service being traded. Real estate though should be treated with caution as figures may look high due to data calculations which include the small jobs count in real estate in GLLEP.

Public services and retail and hospitality, two large regional employers, both have a low GVA per job and are low productivity sectors.

The three sectors which account for over half of GLLEP's GVA share and employment share (manufacturing, retail and hospitality, public services) are all less productive than the GB average by 12% to 25%. Public Services and retail and hospitality are less productive than the East Midlands average.

## Primary industries

Primary industries productivity is lower by 10% with a GVA per job of £65,647 compared to £72,356 in GB. However, its contribution to GLLEP's GVA has increased in recent years.

Productivity growth in primary industries between 2012-2017 was strong with GVA per job increasing by 86%. Jobs growth has been more modest with 125 new jobs created, suggesting that productivity was driven by technological innovations rather than labour.

## Manufacturing

Manufacturing has a GVA per job of £59,683. This is marginally higher than the East Midlands average of £58,797 but lower than the GB average of £71,821 by 12%. Manufacturing accounts for 15% of regional employment with 68,500 jobs and 20% of GLLEP's GVA. Concerningly, productivity has decreased by 12% since 2012.

## Retail and hospitality

Retail and hospitality is also a large regional employer with 116,000 jobs. It has one of the lowest GVA per job at £27,043. It is less productive than the GB average of £33,866 and the East Midlands average of £32,264. More encouragingly, productivity is increasing - by 3% from 2012 – 2017.

## Public services

Public services has GVA per job of £34,748, decreasing by 6% since 2012. This is 12% lower than the GB average of £38,923 and 5% lower than the East Midlands average of £36,586. The sector accounts for 25% of GLLEP employment with 115,000 jobs.

## Transportation and storage

Transportation and storage has a GVA per job of £39,509, which decreased by 8% from 2012-2017. It is a large employer with 26,500 jobs. Productivity is 34% lower than the GB average of £52,797 and 5% lower than the East Midlands average of £36,586.

# Productivity by broad sector group

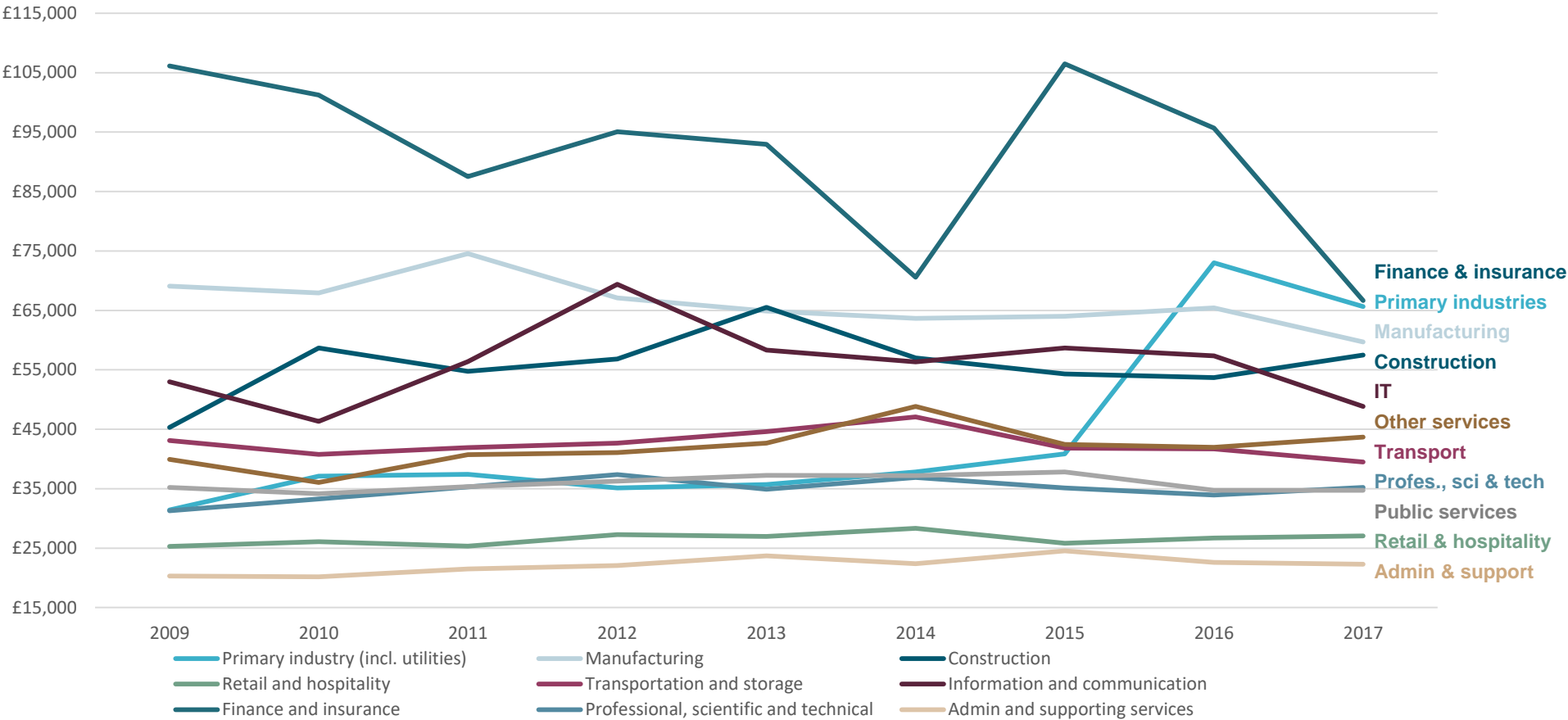
*Productivity by broad sector group GLLEP 2017*

Broad sector group	GLLEP GVA 2017 (£m)	GLLEP Jobs 2017	GLLEP GVA per job 2017	GLLEP GVA per job growth	GB GVA per job 2017	Difference to GB average	East Midlands GVA per job	Difference to EM average
Real estate activities	£594	5,500	£110,545	-13%	£135,671	-23%	£126,308	-14%
Finance and insurance	£300	4,500	£66,667	-29%	£121,792	-83%	£77,667	-17%
Primary industry (including utilities)	£1,674	25,500	£65,647	86%	£72,356	-10%	£70,324	-7%
Manufacturing	£4,148	69,500	£59,683	-12%	£71,821	-20%	£58,797	1%
Construction	£1,380	24,000	£57,500	-11%	£72,499	-26%	£73,624	-28%
Information and communication	£342	7,000	£48,857	-10%	£88,857	-82%	£55,508	-14%
Other services	£677	15,500	£43,677	4%	£49,719	-14%	£51,295	-17%
Transportation and storage	£1,047	26,500	£39,509	-8%	£52,797	-34%	£40,567	-3%
Professional, scientific and technical	£757	21,500	£35,209	1%	£52,286	-48%	£39,783	-13%
Public services	£3,996	115,000	£34,748	-6%	£38,923	-12%	£36,586	-5%
Retail and hospitality	£3,137	116,000	£27,043	3%	£33,866	-25%	£32,264	-19%
Admin and supporting services	£825	37,000	£22,297	7%	£31,604	-42%	£24,473	-10%

Source: ONS Balanced GVA by industry – country and region; combined authorities, city regions and other economic and enterprise regions of the UK (2012-17), ONS Business Register and Employment Survey (2012-17)

# GVA per job by broad sector over time

GVA per job from 2009-17 GLLEP



Building on the information presented in the table on the previous page, the graph above shows how GVA per job has changed over time for broad sector groups. Feedback from GLLEP and analysis of other supporting information suggests that the substantial variance in GVA per job for Finance & Insurance (from 2014 to 2015) and Primary Industries (from 2015 to 2016) is due to how information is captured and is unlikely to represent the reality of how GVA per job has changed over time in GLLEP in these broad sector groups.

# High productivity sub-sectors

Having set out productivity by broad sector groups, this next section goes further by analysing productivity at the sub-sector level. This allows us to dig below the broad sectors to identify strengths.

The table overleaf gives a more detailed breakdown of productivity for the top 14 sub-sectors (either single SIC2s or groups of one or more aggregated SIC2s, depending on data availability). In most cases, GLLEP GVA per job is still behind the East Midlands and GB average

By combining this analysis with Location Quotient (LQ)\* and employment analysis, we can identify sector strengths.

## Primary industries and agri-food

A lack of available data means it was not possible to analyse sub sectors within primary industries (agriculture, mining, electricity, gas, water and waste). It is also not possible to isolate manufacture of food and beverages as they are grouped with manufacture of textiles and clothing.

Manufacture of food, beverages, textiles has a GVA per job of £47,422. This is 38% lower than the East Midlands average (£65,703) and 40% lower than the GB average (£66,538). GLLEP GVA per job declined 7% from 2012 - 2017. Since data at the local level is grouped, it is not possible to suggest whether this decline was due to textiles and clothing or food and beverages.

## Land, water and air transport

GLLEP's transportation sector has a GVA per job of £46,821. This is 5% higher than the East Midlands average (£44,496) but 46% lower than the GB average. GLLEP productivity declined by 11% since 2012.

This combined with high employment share suggests that GLLEP transportation sector remains labour intensive and can benefit from adoption of new technologies

## Civil engineering

Civil engineering is a productive sector with GVA per job of £69,500. This is 17% lower than the East Midlands average (£81,538) and 45% lower than the GB average (£101,004). GLLEP has a fairly strong specialisation (LQ 1.76) in this area and it has seen recent job growth (2,215 new jobs).

## Manufacturing sub-sectors

Manufacture of wood, petroleum, chemicals and minerals is aggregated due to data availability reasons at the local level. GVA per job (£89,160) is 38% larger than the East Midlands average (£55,096) and 5% greater than the GB average (£85,510). However, the small number of oil refinery sites nationwide distorts this figure in favour of places such as GLLEP.

## Social work, public administration and defence

Social work was included despite small GVA per job (£24,571) because it reveals important demographic trends. GLLEP GVA per job is 20% higher than the GB average (£19,549) and 3% higher than the East Midlands average (£23,756). GVA per job in public administration and defence (£66,552) is 14% higher than the East Midlands and 7% greater than GB. However, this sector is less specialised than the national average, with an LQ of 0.75, and it has lost jobs since 2012.

\* LQs are a measure of specialisation. It measures the share of employment in a sector in the local economy as a ratio of the share of employment in the same sector in the UK. Higher LQs correspond to higher levels of specialisation. An LQ above 1.0 indicates that the area is more specialised in that sector than nationally.

## Sectors

### Top 14 sub-sectors by productivity (2017)

Sub-sector	GVA 2017 (£m)	Jobs (2017)	GLLEP GVA per job (2017)	LQ (2017)	Job change (2012-17)	GVA per job growth (2012-17)	East Midlands GVA per job	UK GVA per job
Real estate activities	£594	5,500	£110,545	0.66	810	-13%	£126,308	£135,671
Manufacture of wood, petroleum, chemicals and minerals	£1,460	16,375	£89,160	23.13	165	-15%	£55,096	£85,510
Civil engineering	£417	6,000	£69,500	1.76	2,215	-22%	£81,538	£101,004
Financial and insurance activities	£300	4,395	£68,259	0.62	105	-28%	£77,398	£121,792
Public administration and defence	£965	14,500	£66,552	0.75	-500	-12%	£57,315	£61,702
Agriculture, mining, electricity, gas, water and waste	£1,674	25,500	£65,647	15.00	1500	86%	£70,324	£72,356
Other personal service activities	£314	5,000	£62,800	0.27	-710	45%	£67,268	£56,695
Construction of buildings	£341	5,500	£62,000	0.78	-210	1%	£96,148	£94,526
Manufacture of metals, electrical products and machinery	£1,093	18,500	£59,081	9.02	785	-1%	£58,415	£69,683
Rental and leasing activities	£101	2,000	£50,500	0.85	-300	8%	£129,565	£116,436
Specialised construction activities	£622	12,500	£49,760	0.99	225	14%	£58,942	£52,389
Information and communication	£342	7,145	£47,866	2.41	2,240	-32%	£55,485	£88,858
Manufacture of food, beverages, textiles and clothing	£1,261	26,580	£47,422	6.66	5,115	-7%	£65,703	£66,538
Land, water and air transport	£648	13,840	£46,821	2.24	1,685	-11%	£44,496	£68,495

GVA is deflated to give values in 2017 terms.

Source: ONS Regional gross value added (balanced) reference tables (2012-17), ONS Business Register and Employment Survey (2012-17)

# GLLEP's Priority Sectors

GLLEP has developed an Evolving Opportunities Framework which sets out to understand and describe key areas that build on existing competencies and emerging technologies in the context of local challenges and opportunities for Greater Lincolnshire. It builds on a Smart Specialisation asset led approach used in Saxony, Germany.

This process has led to the identification of five focus areas each of which has an agreed vision. These focus areas are underpinned by two cross-cutting themes: housing and skills. The table below, which presents information provided in GLLEP's Evolving Opportunities Framework, sets out what these focus areas are. Through the work to develop the evidence base, we have assessed each of these focus areas, drawing on the analysis in all parts of this document.

The following slides provide detailed information on each priority sector and also include information on manufacturing. This is because this remains the largest part of GLLEP's economy, despite recent falls in both GVA and productivity.

Focus area	Future proofing the agri-food industry	A rural innovation test bed for energy and water	New solutions for supporting people to live well for longer in rural areas	A high-quality, inclusive visitor economy	An adaptive ports and logistics industry driving greater connectivity
Sector	Agrifoods	Energy and water	Health and care	Visitor economy	Ports and logistics
Vision	<ul style="list-style-type: none"> <li>New jobs in higher skilled occupations (engineering, software, digital, production management) are created</li> <li>Increased productivity and investment in innovation</li> </ul>	<ul style="list-style-type: none"> <li>Greater Lincolnshire is a rural test bed demonstrator and accelerator for new commercial models of energy generation and storage, new approaches to rural grid management and sustainable water storage</li> </ul>	<ul style="list-style-type: none"> <li>More people living well for longer</li> <li>More efficient use of public resources</li> <li>More involvement of SMEs working in partnership with public providers</li> <li>Development of new healthcare solutions</li> </ul>	<ul style="list-style-type: none"> <li>Less seasonality in the sector</li> <li>Better quality employment</li> <li>A tourism offer that attracts higher spending visitors throughout the year underpinned by a vibrant creative and cultural offer</li> </ul>	<ul style="list-style-type: none"> <li>Increasingly automated processes</li> <li>Greater efficiency and productivity</li> <li>Redundant workers (e.g. drivers) retrained</li> <li>Greater Lincolnshire recognised as important export / import hub</li> <li>New solutions for developing infrastructure in a dispersed economy</li> </ul>



# Spotlight on the priority sector:

## Agrifood



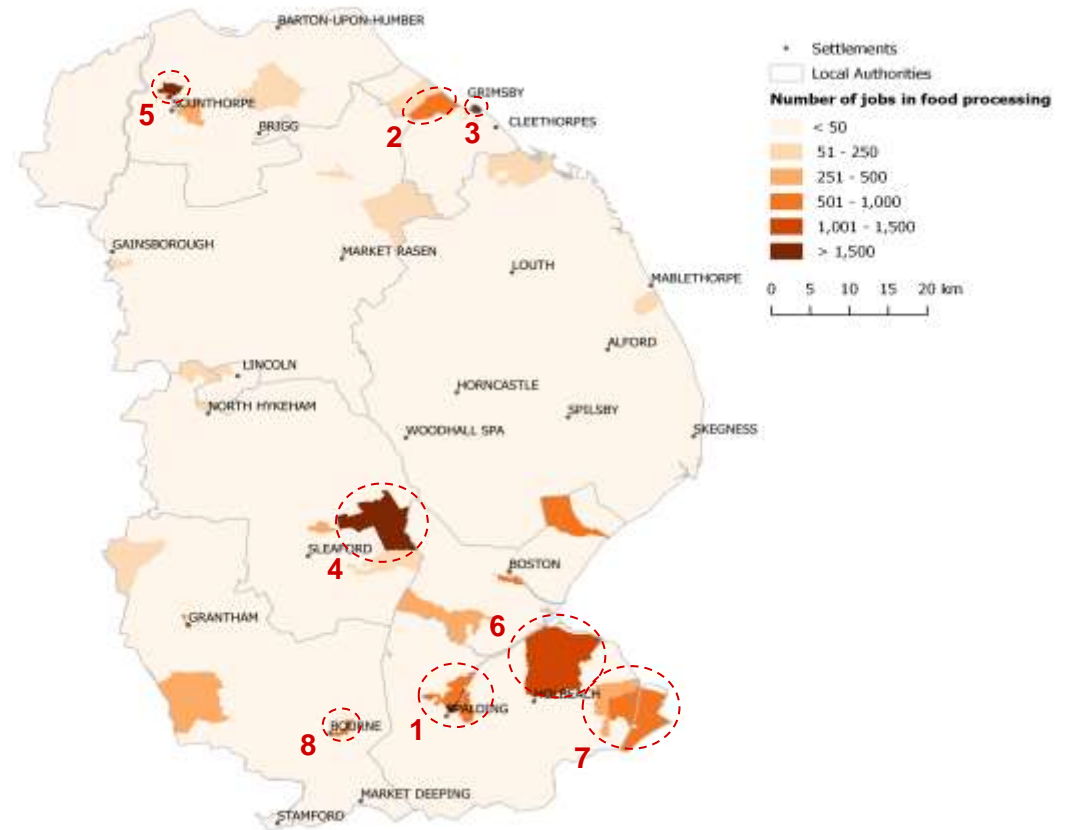
<p>GVA per employee of over <b>£30,000</b></p>  <p><b>75,000</b> Jobs</p>  <p><b>4,700</b> businesses</p>  <p><b>2<sup>nd</sup></b> largest number of patents in GLLEP in Food Chemistry</p> 	<p>The largest concentration of food processing and food chain logistics in the country. Highly specialised in:</p> <p> <b>Fish processing</b></p> <p> <b>Packaging materials</b></p> <p>Large companies in Grimsby, Scunthorpe and Boston</p> <div>      </div>	<p><b>10%</b> of English agriculture is in the GLLEP area. GLLEP accounts for <b>70%</b> of the fish processing market</p> <p>University of Lincoln '<b>Lincoln Agri Robotics</b>' will create the world's first centre of excellence in Agri-Robotics, with the largest team of researchers in Europe</p> <p>Exports of <b>£187m</b> food and animal stock, with over <b>80%</b> exported to the EU</p>  <p><b>Local assets</b></p> <ul style="list-style-type: none"> <li>• The Agri-food centre of Excellence</li> <li>• 25% of UK's Grade 1 agricultural land</li> <li>• Three Food Enterprise Zones</li> <li>• Lincoln Institute for AgriFood Technology the UK's largest centre for food chain automation and robotics</li> </ul> <p><b>LEP sector leadership</b></p> <ul style="list-style-type: none"> <li>• GLLEP Food Board</li> <li>• AgriFood Sector Plan</li> </ul>
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# Food processing jobs in GLLEP

The table and map below show the spatial distribution of jobs in food processing across GLLEP. The map shows the total number of jobs in food processing by lower-level super output area or 'LSOA' (the smallest geographical unit at which such statistics are available). The darker colour represents a higher number of jobs. Across GLLEP, there are eight concentrations with more than 1,000 jobs in food processing (these are indicated by the red circles). The largest of these are in Spalding and north west Grimsby. Food processing is just one element of GLLEP's agrifoods priority sector and the information below does not capture the full extent or spatial distribution of agrifoods jobs across Greater Lincolnshire.

	Geographic area	Total no. jobs	No. jobs in sub-sectors	Example companies
1	Spalding	3,750	Prepared meals: 1,750, Meat: 1,200, Vegetables: 350	Bakkavor, Greencore, Dalehead Foods
2	NW of Grimsby	2,550	Fish: 1,950, Prepared meals: 500	Icelandic Group UK, Havelok, R & J Seafoods
3	Grimsby Fish Dock	1,875	Fish: 1,250	Young's Seafood, Flatfish, Arctic Breeze Fish Products
4	NE of Sleaford	1,750	Meat: 1,750	Moy Park, Tulip
5	Foxhills Industrial Estate, Scunthorpe	1,640	Meat: 1,500, Vegetables: 140	2 Sisters Food Group, New Century Foods, Abbeydale Food Group
6	NE of Holbeach	1,500	Prepared meals: 700	Frontier, Manor Foods, Q V Foods
7	SE of Holbeach	1,500	Vegetables: 1,100, Prepared meals: 400	Bakkavor Meals, Wingland Foods, Princes
8	E of Bourne	1,020	Vegetables: 1,000, Meat: 20	Bourne Prepared Produce and Bourne Salads (Bakkavor)

*Spatial distribution of food processing jobs in GLLEP\**

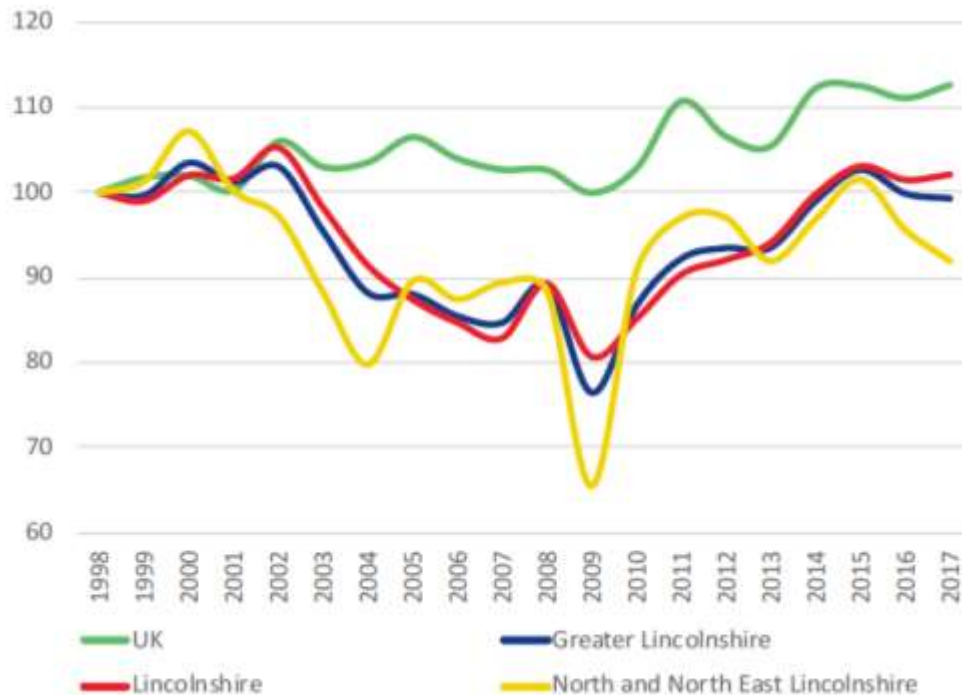


\* Excludes Rutland

# GVA growth in Agrifood

Change in GVA 1998-2017 in Agrifood

1998 = 100



This chart is taken from GLLEP existing analysis and shows the change in GVA in agrifood since 1998.

At the national level the trend in the sector had been one of growth. Locally the sector declined in terms of the value it was creating until around 2009, and then subsequently picked up from that point. The overall effect of this is that effectively the Agrifood sector in Lincolnshire is the same size in 2017 as it was in 1998.

Beneath these figures, and certainly for Lincolnshire, the food and drink manufacturing element of the Agrifood sector has shown continual growth in value since 1997 and performed well above the national average.

# Spotlight on the priority sector: Energy and Water



**5,900**  
jobs



**210**  
businesses

**64%**  
of energy  
consumed  
in industrial  
and  
commercial  
sectors



Specialised in:

**Engineering  
activities and  
related technical  
consultancy**



**Offshore Wind**



Large companies in all major towns



**£2bn** worth of projects in offshore wind completed or in construction close to the Humber estuary  
Plans to increase offshore wind capacity by 2030 could bring **£60bn** of investment.

## Key assets:

- 2 Distribution Network Operators (DNOs) in the GLLEP area
- A network of gas pipelines which supply energy across the UK
- Race Bank Wind Farm has the 6<sup>th</sup> largest capacity of any offshore wind farm in the world
- North East Lincolnshire has the largest operational and maintenance supply base in the UK
- The East Lincolnshire Low Carbon Hub tests new ways of integrating low carbon generation on to electricity distribution networks
- A new framework for the delivery of better utilities that are currently lacking and hampering housing and employment potential.

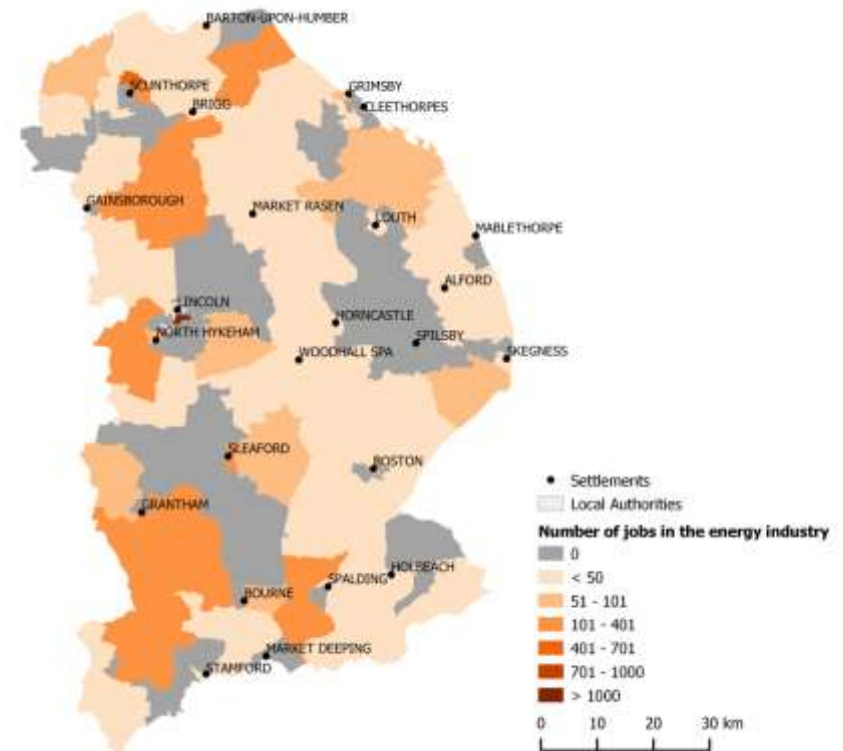
# Energy Sector jobs in GLLEP

The table and map below show the spatial distribution of jobs in the energy sector across GLLEP. The map shows the total number of jobs in the energy sector by mid-level super output area or 'MSOA' (the smallest geographical unit at which such statistics are available). The darker shade of red represents a higher number of jobs. Jobs in the energy sector are concentrated around Lincoln, with other clusters around Scunthorpe and Grantham. Actual energy jobs may be higher than the numbers below due to cross-sector employment – for example, a farmer who operates an AD digester in his farm. Especially in the renewables sector, new jobs such as manufacturing batteries for electric vehicles might be captured under existing categories such as 'vehicles manufacturing', therefore underestimating the actual number of jobs. GLLEP estimates there are 3,100 jobs<sup>1</sup> across 150 companies in the renewables sector across a diverse range of activities, including, but not limited to, installation and manufacturing of solar PV panels, plastics recycling and electric vehicles battery manufacturing.

Geographic area	Total no. jobs	No. jobs in sub-sectors	Example companies
1 South of Lincoln	1,025	Water Collection, Treatment and Supply: 800, Sewerage: 125, Waste collection, treatment and disposal: 100	Grimsby operations limited, ERIKS, Hyrax solar, Jacobs
2 North of Scunthorpe	425	Waste collection, treatment and disposal: 400, Electricity, gas, steam and air conditioning: 25	Siemens, Biffa, Segro Electrical, National Grid
3 Grantham	325	Waste collection, treatment and disposal: 325	CEF, Western Power Distribution, Environcom England

\* Excludes Rutland

*Spatial distribution of Energy Sector jobs in GLLEP\**

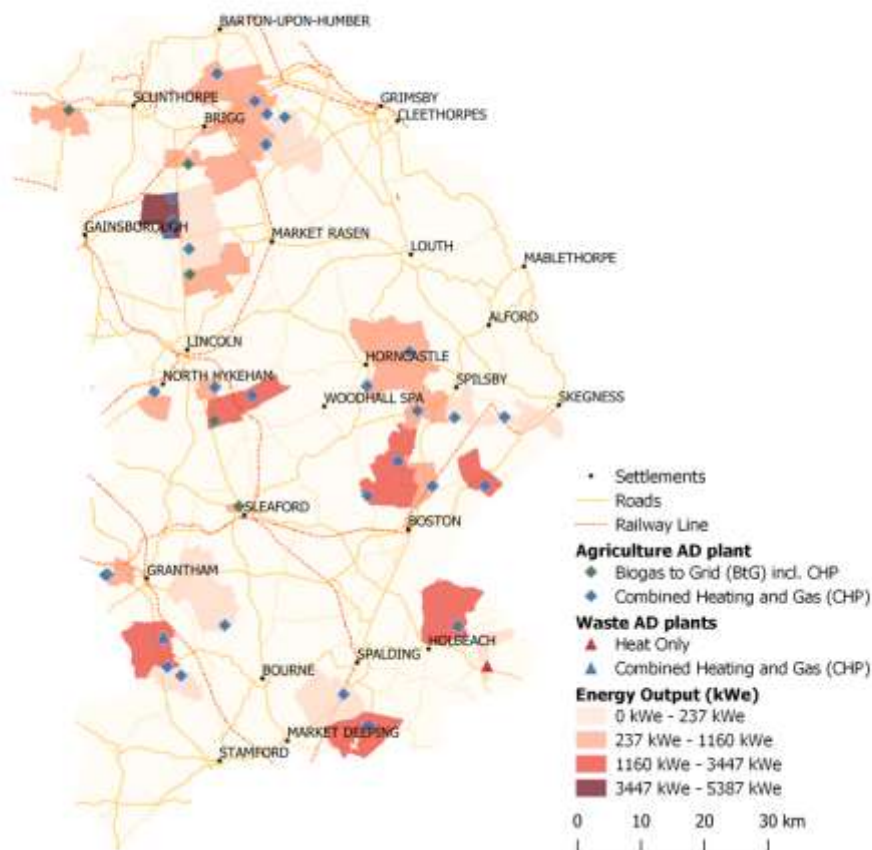


Source: GLLEP Implications of Brexit analysis – Metro Dynamics  
1: Lincolnshire Research Observatory Renewables Jobs



# Anaerobic Digestors

*Agricultural and Waste AD Plants in GLLEP 2019*



GLLEP is a hub for harnessing energy through non-traditional methods, including anaerobic digestion (AD). AD takes plant-based biomass and converts it to gas for heating and power using bacteria. AD is commonplace in water & waste management. In recent years, AD's use outside of the waste industry, typically on farms, has increased. This can help alleviate capacity constraints resulting from high energy provision costs to dispersed rural areas.

The map on the left shows active AD plants in GLLEP by **type**; with agricultural plants in diamonds and waste plant in triangles and **output**; with CPG plants in blue, BtG plants in green and Heat Only plants in red. There are 35 (excluding the heat only plant with reported capacity of 0) operating ADs in Lincoln<sup>1</sup>. Their combined capacity is over 22 megawatts equivalent to over 22,000 kWe.

East of Gainsborough generates roughly 3.4 – 5.3 megawatts of energy from three AD plants. Other AD hubs generating 1 to 3 megawatts of energy are to the North of **Holbeach** where a Food Enterprise Zone is in development and HQ to the National Centre for Food Manufacturing; **Market Deeping**, and the areas around Scunthorpe and Lincoln.

North Hykeham and Newlincs Energy from Waste (EfW) plants have a combined capacity of 220 kilotons per annum. Both are operating at full capacity as of 2017. There is enough energy in a 25-mile radius of Lincoln to power the city twice over, purely by anaerobic digestion.

Agricultural plants outnumber Waste plants in GLLEP. The majority of GLLEP's AD plants are CPD plants, with a smaller number of BtG plants. CPD plants can be up to 80% energy efficient<sup>2</sup> due to simultaneously capturing electricity and usable heat.

Farms commonly employ AD using food-waste and other agricultural by-products as fuel. Using AD helps farms become more energy self-sufficient. End-uses of AD can be on-site for immediate consumption or biogas can be linked into national grids when possible, such as through District Heating Networks (DHNs).

There are 4 DHNs in GLLEP<sup>3</sup> with 2 located in Lincoln (1 for residential and 1 for hospital use); 1 located in Boston (for hospital use) and 1 in Sleaford. Supporting more DHNs will be vital in delivering energy to support growth. The Government's Decarbonising Agenda provides funding to update heat works and scale-up existing ADs through the £320m Heat Networks Investment Project; £4.5bn via the Renewable Heat Incentive; £315m via the Industrial Energy Transformation Fund and £18m via the Industrial Heat Recovery Support Programme.

# Low carbon industries

The low carbon industry is large and growing across GLLEP. It includes activities such as the installation of solar PV panels, plastics recycling and the manufacturing of electric car batteries. It can be difficult to aggregate these different activities into a single 'renewables industry' basket because they are typically counted as forming part of other activities, such as agriculture and engineering. GLLEP benefits from its expanding renewables sector in a number of ways, including through enhanced skills, new markets, and an increase in energy capacity.



## Skills

Renewable energy's role is becoming ever more important to other sectors in the UK, as well as across the LEP. The low-carbon industry requires skilled workers, and can be used as a sector to attract workers from outside Greater Lincolnshire or as an incentive for GLLEP's residents to acquire relevant new skills. For example, Germany employs 40,000 people in the solar sector alone – highlighting the potential for job growth in the sector.



## New Markets

The manufacturing of electric car batteries is providing the UK's manufacturing sector with a new specialism. These products are something the LEP can benefit from as it aims to lead the UK – North East Lincolnshire aims to be the UK's leading region for low-carbon energy and the UK capital for renewable energy by 2032.

Anaerobic Digestion is a growing market nationally, as well as across Greater Lincolnshire. This provides opportunities for the more agricultural rural economy to engage in developing a specialist market.



## Increase in Capacity

The ability to store energy harnessed from wind farms and solar panels provides the LEP with extra capacity to meet periods of high energy demand. This also helps the sectors that rely heavily on energy, such as manufacturing and ports and logistics. Over the coming years, this will reduce the LEPs reliance on energy imports of coal and biomass, which it also exports across the UK. While this presents a challenge to the ports and logistics industry, it provides an opportunity for the energy sector as it looks to supply the UK with renewable energy.



# Trends in the utilities industry

The following information is sourced from GLLEP's Better Utilities Study (2017). Providing the utility infrastructure to support existing and new commercial and housing sites is critical for the continued prosperity of GLLEP. The experience of developers, businesses and local authorities across Greater Lincolnshire suggests that utilities constraints are stalling and holding back development. A new LEP-wide utilities framework aims to ensure that the utility network's coverage is increased to meet new infrastructure developments across Greater Lincolnshire (e.g. new housing and business units). This framework will deliver more housing that can support future employment growth in sectors that are being driven by the energy industry.



Trends affecting the electricity market include:

- Increase in demand of significant amounts of electricity at non-traditional times for electric vehicles and heat pumps
- Increase of micro-generation of electricity by households and small businesses, e.g. solar panels, which the electricity companies (DNOs) are required to feed any excess into the network
- Increase in use of energy storage e.g. batteries.

Each of these factors mean the traditional way of managing supply and demand of electricity, i.e. linear flow from the point of generation to the end user, is changing. Active Network Management (ANM), a new infrastructure framework to support alternative energy sources are underway.

GLLEP is working with WPD, the main energy DNO to roll out 11 new zones supporting ANM by 2023. These projects followed testing in the Low Carbon Hub for East Lincolnshire which closed in 2015; demonstrating how GLLEP is fulfilling their ambition to become a test-bed for new energy management techniques.



The decarbonisation agenda will change the sector considerably. This will introduce new methods of energy, such as hydrogen and biogas. Both methods are to produce less overall carbon than the electricity and transport industries, for which gas produces the same level as. Gas provides approximately 80% of the UK's heat needs at peak times, and so is heavily relied upon.

GLLEP's Better Utilities Study notes the need to work with planners, developers and utility companies to best plan where growth is most likely to occur and ensure that the infrastructure is in place to meet those needs.



# Spotlight on the priority sector: Health and Care



**62,000**  
employees



**2,450**  
businesses



Ageing  
population

A **£1.3bn**  
sector.  
Ambitions of  
**£1.89bn**  
by 2025



Highly specialised in:

**Human Health**

Constitutes **50%**  
of the sector's  
total employment



Businesses in Greater Lincolnshire



TILLOTTS PHARMA



NOVARTIS



The Orders of  
**St John**  
Care Trust

## Key assets

- A new medical school at the UoL
- Schools of Life Sciences and Pharmacy at the Lincoln Science and Innovation Park
- University research labs, such as the Joseph Banks Laboratories and the Sarah Swift Building
- Development of a LEP Health & Care Enterprise Board
- National Centre for Rural Health and Care, tasked with shaping health and care provision in rural communities

## Changing demographics

- Proportion of over 55s projected to increase 20% more than the national rate between 2014 – 2025
- A 46% rise projected in the number of residents over 75 years old in the same time period

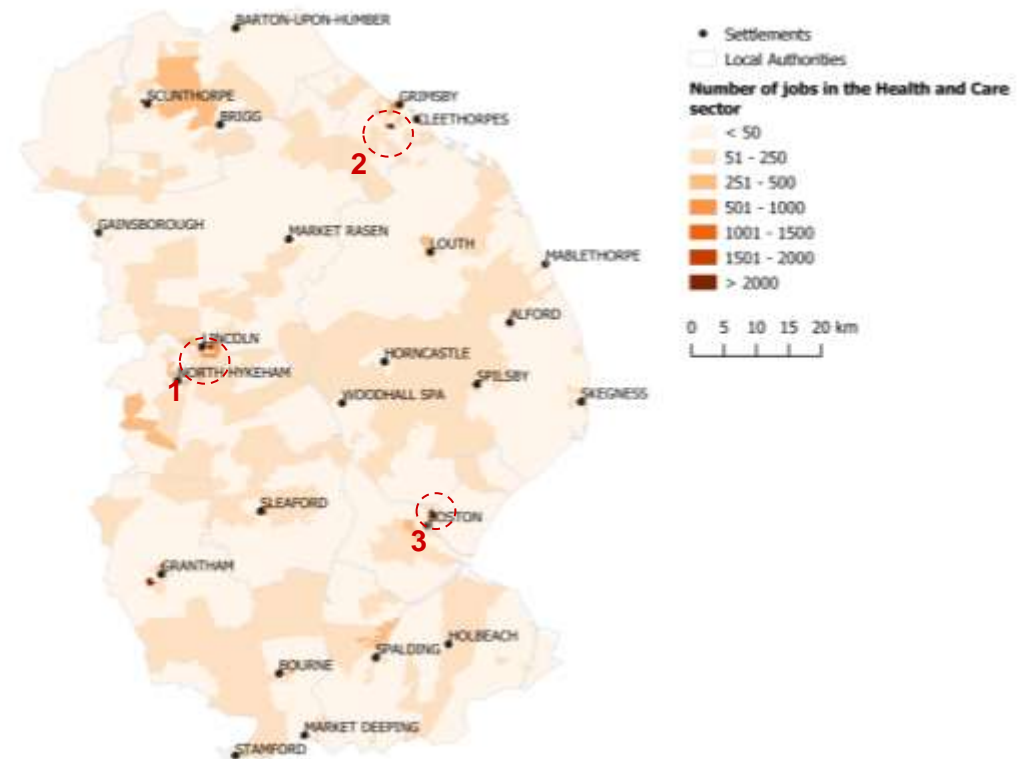
# Health and Care jobs in GLLEP

The table and map below show the spatial distribution of jobs in health and care across GLLEP. The map shows the total number of jobs in health and care by lower-level super output area or 'LSOA' (the smallest geographical unit at which such statistics are available). The darker colour represents a higher number of jobs. Across GLLEP, jobs in health and care are dispersed throughout the region, with concentrations in Lincoln, South of Grimsby and North East Boston. Jobs in the adult Social Care across the LEP are estimated to be 27,400 (not including NHS provided care).

Jobs in the adult Social Care across the LEP are estimated to be 27,400 (not including NHS provided care). There are also areas with high vacancy rates in this sector, ranging from 3.4% to 11% (North Lincolnshire and Rutland, respectively) Although the turnover rate in this industry is low, there is to be an estimated 13,000 employment gap in the coming years unless the skills gap is addressed.

*Spatial distribution of Health and Care jobs in GLLEP\**

	Geographic area	Total no. jobs	No. jobs in sub-sectors
1	East of Lincoln	5,095	Human health activities: 5000, Social work activities: 80, Residential care activities: 15
2	South of Grimsby	3,520	Human health activities: 3500, Social work activities: 20
3	North East Boston	3,100	Human health: 3000, Residential care: 75, Social work activities: 25

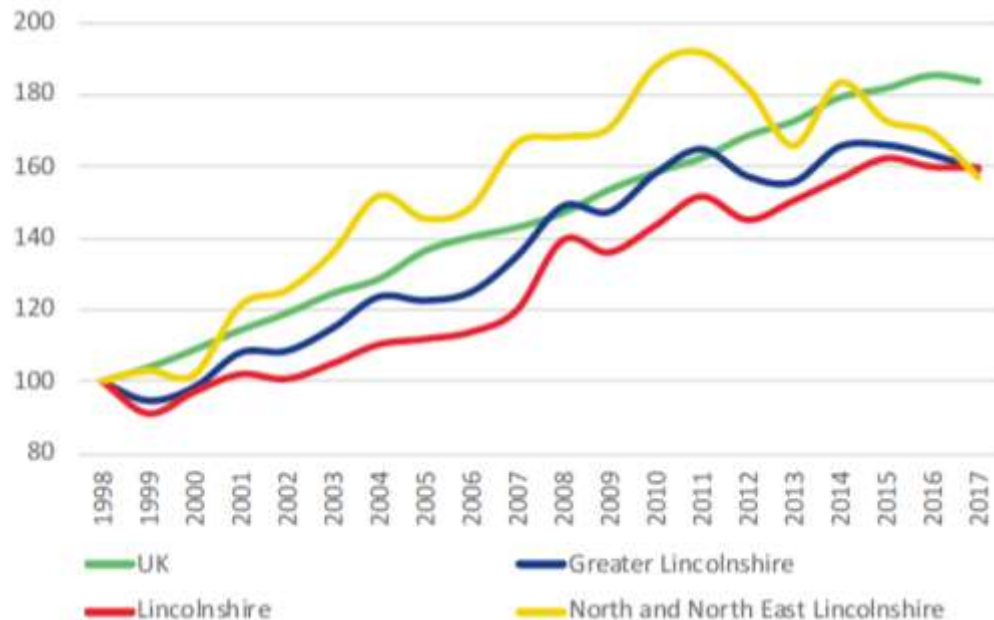


\* Excludes Rutland

# GVA growth in Health and Care

Change in GVA 1998-2017 in Health and Care

1998 = 100



This chart is taken from GLLEP existing analysis and shows the change in GVA in health and care since 1998.

Performance has been similar both nationally and locally across all areas until around 2015/16 where it levels out. Ultimately, at the national level the sector has outperformed the growth seen at the local level.

GVA is based on current prices in 2017. Rutland is not included as this is taken from a GLLEP document

Source: Economic Growth in Greater Lincolnshire, Research Report, Lincolnshire Research Observatory, ONS data

# Challenges and opportunities in health and care

The nature of the health and care sector is changing in the face of evolving technological capabilities and a shifting demographic. Because the health and care sector underpins the wellbeing of a place's people, effectively meeting challenges and opportunities in the sector helps to ensure success in other sectors. A number of these are outlined below.

## Opportunities

- **Digitalisation of the health sector:** The sector is moving increasingly towards digitising its processes. The efficiency gains of moving digital are large and are an opportunity for the LEP to service a larger population with fewer resources and provide a better service. Examples from across the UK include patient interaction through digital channels, such as e-prescribing.
- **The University of Lincoln Medicine Course:** The University will welcome its first cohort of Medicine undergraduates in September 2019. Recruiting students from across the UK, who will later qualify as healthcare professionals, provides an avenue for recruitment and alleviates slightly the pressure of recruiting locally.

## Challenges

- **A move to an older demographic:** By 2041, the over 65 population is estimated to grow by 38.4%. This will be accompanied by an increase in demand for health and care services. The working population is estimated to decline by 2.7% over the same period, representing lesser human capital.
- **More appropriate homes are required:** The housing sector must also adapt to provide appropriate housing for an older population. In 2011, one-bed properties accounted for only 7% of the LEPs housing stock, compared to three-bed properties which accounted for 47%. The LEP's local authorities recognise the demographic changes to come and have developed strategies to address these issues.
- **Skills shortages:** As a proportion of the population, Greater Lincolnshire has fewer people with NVQ level 4 qualifications than New Anglia, the East Midlands and the UK.

# Spotlight on the priority sector:

## The Visitor Economy



**£1.47bn**

Economic  
Impact  
in Lincolnshire  
(2017)



**7.3%**  
growth in  
economic  
output 2016-  
2017

**110** hotels

A capacity  
for 3.4m  
overnight  
stays per  
year



As many attractions as Cornwall and Isles of Scilly with the latter attracting almost 4m visitors per year. These numbers suggest that Greater Lincolnshire has potential to grow and increase the number of people visiting per year.

Attractions and Companies in Greater Lincolnshire



LINCOLNSHIRE  
SHOWGROUND



### Key assets:

- 37 visitor attractions
- A heritage city - Lincoln Cathedral and city centre leisure offer
- £22m investment in Lincoln Castle
- International Bomber Command Centre and North Sea Observatory
- 50 miles of coastline and coastal towns
- Lincolnshire Wolds AONB
- Planning for new Tourism Sector Deal underway

### Infrastructure and Geography

- Midlands Engine Trade Corridor – increasing ease of access into Lincolnshire
- Teal Park - planning consent allows for public house/restaurant, hotel, leisure

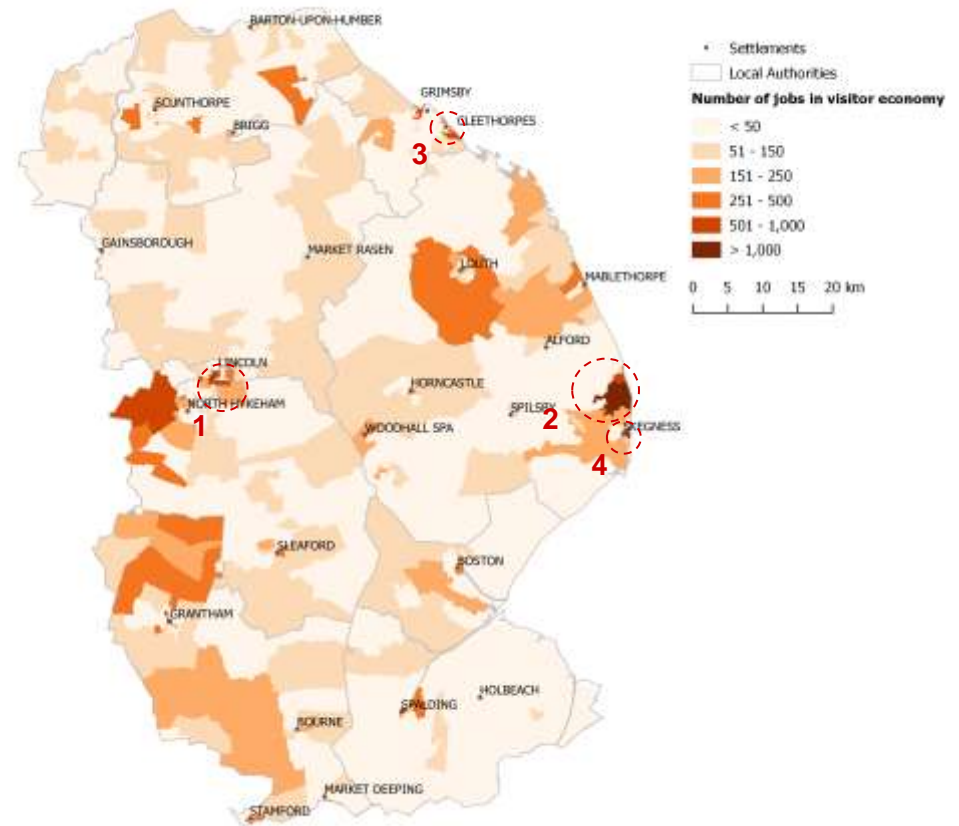


# Visitor Economy jobs in GLLEP

The table and map below show the spatial distribution of jobs in the visitor economy across GLLEP. The map shows the total number of jobs in the visitor economy by lower-level super output area or 'LSOA' (the smallest geographical unit at which such statistics are available). The darker colour represents a higher number of jobs. Visitor economy jobs are well-dispersed across GLLEP, with particular concentrations around Lincoln, Skegness and Louth.

Geographic area		Total no. jobs	No. jobs in sub-sectors	Example companies
1	Lincoln	6,215	Restaurants and cafes: 2,130, Hotels: 990, Pubs and bars: 810	[Multiple small companies]
2	Coast north of Skegness	2,925	Holiday centres and villages: 1,275, Campsites: 775, Restaurants and cafes: 255, Pubs and bars: 255	Butlins, Blue Anchor Leisure
3	Cleethorpes	2,075	Campsites: 400, Restaurants and cafes: 370, Pubs and bars: 210, Hotels: 140	Cleethorpes Showground Caravan Park, Beachcomber Holiday Park, Thorpe Park Holiday Centre
4	Skegness town centre	1,560	Restaurants and cafes: 425, Hotels: 315, Take-aways: 140, Pubs and bars: 135	[Multiple small companies]

*Spatial distribution of Visitor Economy jobs in GLLEP\**



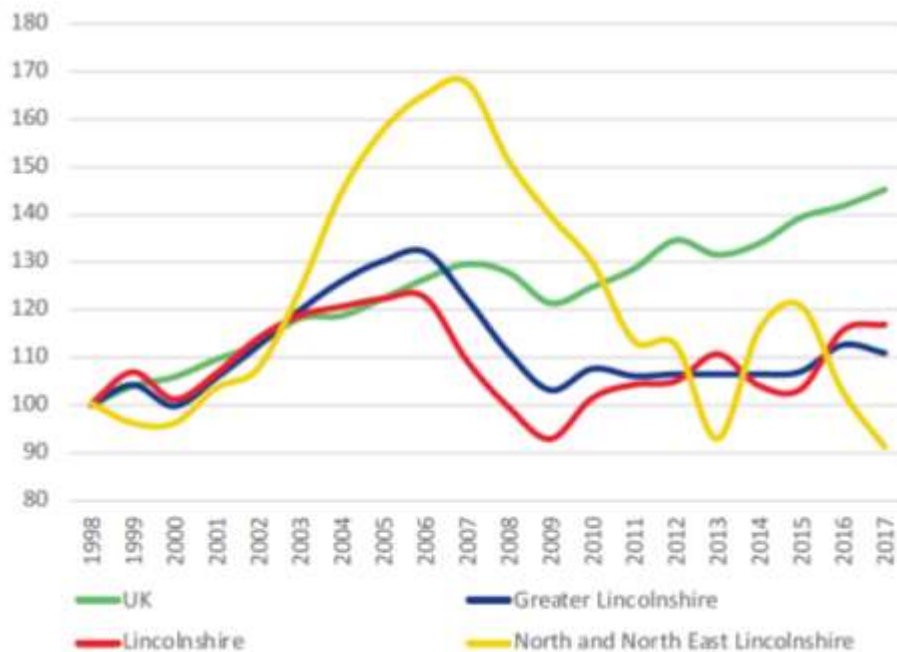
\* Excludes Rutland



# GVA growth in Visitor Economy

Change in GVA 1998-2017 in Visitor Economy

1998 = 100

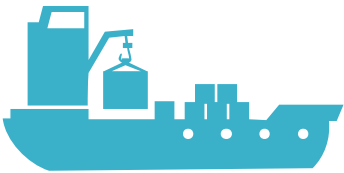













This chart is taken from GLLEP existing analysis and shows the change in GVA in the visitor economy since 1998.

This shows a different picture of performance locally compared to nationally. The first half of the 2000's shows local performance either in line or above national performance (considerably so for North and North East Lincolnshire).

From around 2007 there are drops in local performance. Lincolnshire, and subsequently Greater Lincolnshire, flatline from around 2010 with an upturn in performance from around 2015 onwards. Performance in North and North East Lincolnshire is much more volatile from 2011 onwards and ultimately the sector in 2017 is smaller than it was in 1998.

# Spotlight on the priority sector: Ports and Logistics



<p><b>19,590</b> jobs</p>  <p> <b>4</b> ports across the LEP</p>	<p>Highly specialised in:</p> <p><b>Freight Transport by Road</b></p>   <p><b>Other transportation support activities</b></p>  <p><b>Water transportation</b></p> 	<p><b>£50m</b> of investment in Immingham container terminal to increase capacity. <b>£26m</b> of investment in Grimsby River Terminal</p>
<p><b>3,055</b> businesses across Greater Lincolnshire</p> <p>Ports and Logistics sector has an economic value of <b>£700m</b> to the Lincolnshire economy</p>	<p>Large companies in Grimsby and Immingham</p> <div></div> <div></div>	<p><b>Key Facts</b></p> <p>GLLEP can serve over <b>75%</b> of the UK population within a four hour drive time</p> <p>GLLEP handles over <b>59m</b> tonnes of cargo per year. The port of Immingham is the UK's largest port by tonnage, handling <b>46m</b> tonnes of cargo every year</p> <p><b>12%</b> of all UK cargo handled in North East Lincolnshire</p> <p>GLLEP's ports account for over <b>25%</b> of UK rail freight</p>

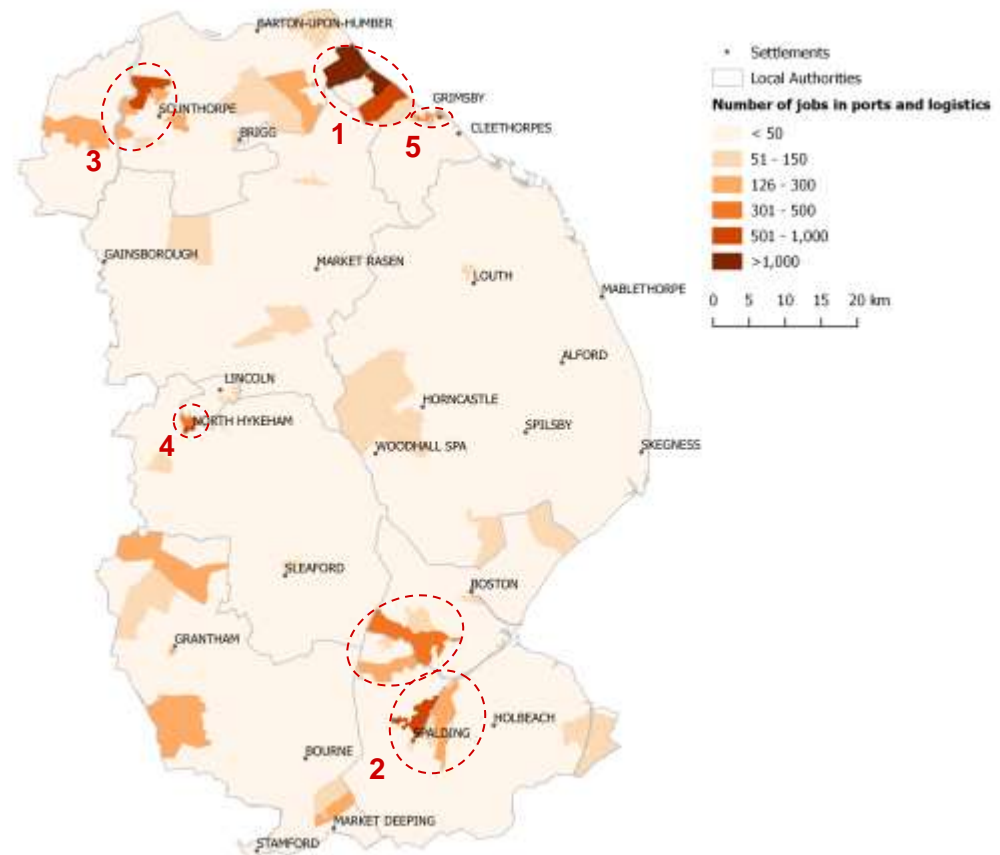
Figures for number of jobs are for 2018 from LEP Brexit Report; number of businesses are for 2017 from UK business count; Innovate UK is to date – September 2018 and refers to funding allocated to infrastructure systems, which is mainly for energy projects. Economic value from Lincolnshire Research Observatory. All sources are quoted on the relevant pages.

# Ports and Logistics jobs in GLLEP

The table and map below show the spatial distribution of jobs in ports and logistics across GLLEP. The map shows the total number of jobs in ports and logistics by lower-level super output area or 'LSOA' (the smallest geographical unit at which such statistics are available). The darker colour represents a higher number of jobs. Ports and logistics jobs are concentrated around GLLEP's ports and associated infrastructure – particularly Immingham and Grimsby but also in other centres like Spalding and South West of Boston.

Geographic area		Total no. jobs	No. jobs in sub-sectors	Example companies
1	Immingham	4,220	Water transport service activities: 1,470, Other transport activities: 1,000, Freight transport by road: 925, Warehouse/storage for land transport: 585	DFDS Logistics, DFDS Seaways, NTEX
2	Spalding	1,460	Freight transport by road: 1,420	Freslinc, Fowler Welch, Gist, Garn Transport
3	Scunthorpe	1,420	Warehouse/storage for land transport: 875	Clugston Group, FJG Logistics
4	North Hykeham	1,140	Warehouse/storage for land transport: 710, Freight transport by road: 370	Cartwright Brothers
5	Grimsby	1,275	Other transport activities: 490, Warehouse/storage for land transport: 310	GB Shipping and Forwarding, Evans European Transport
6	SW of Boston	635	Freight transport by road: 630	Turners Soham, Mason Bros Transport

*Spatial distribution of Ports and Logistics jobs in GLLEP\**

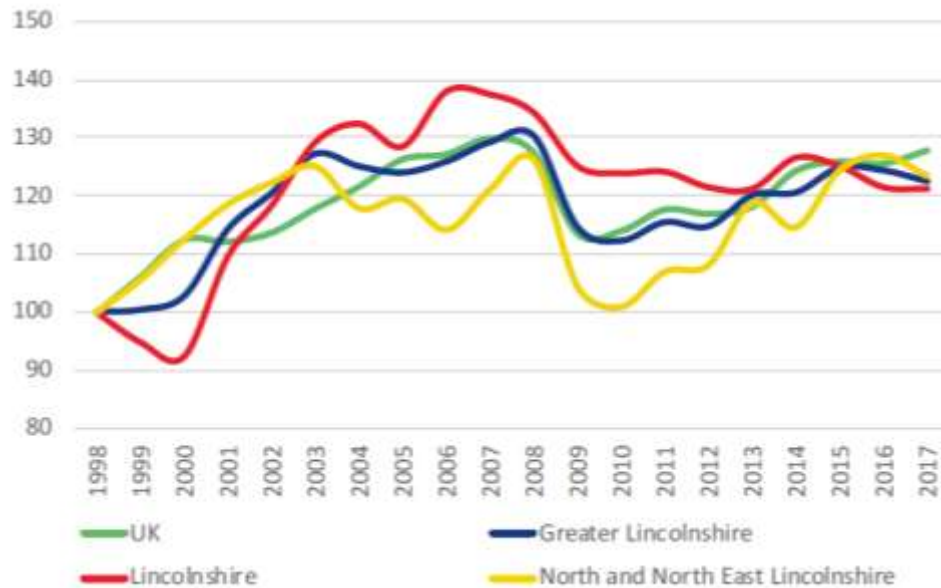


\* Excludes Rutland

# GVA growth in Ports and Logistics

*Change in GVA 1998-2017 in Ports and Logistics*

*1998 = 100*



This is taken from GLLEP existing analysis and shows the change in GVA in Ports and Logistics sector since 1998.

It shows that performance has been very similar both nationally and locally, and that the sector has grown in real terms across all the areas in question.

# Spotlight on the priority sector:

## Manufacturing

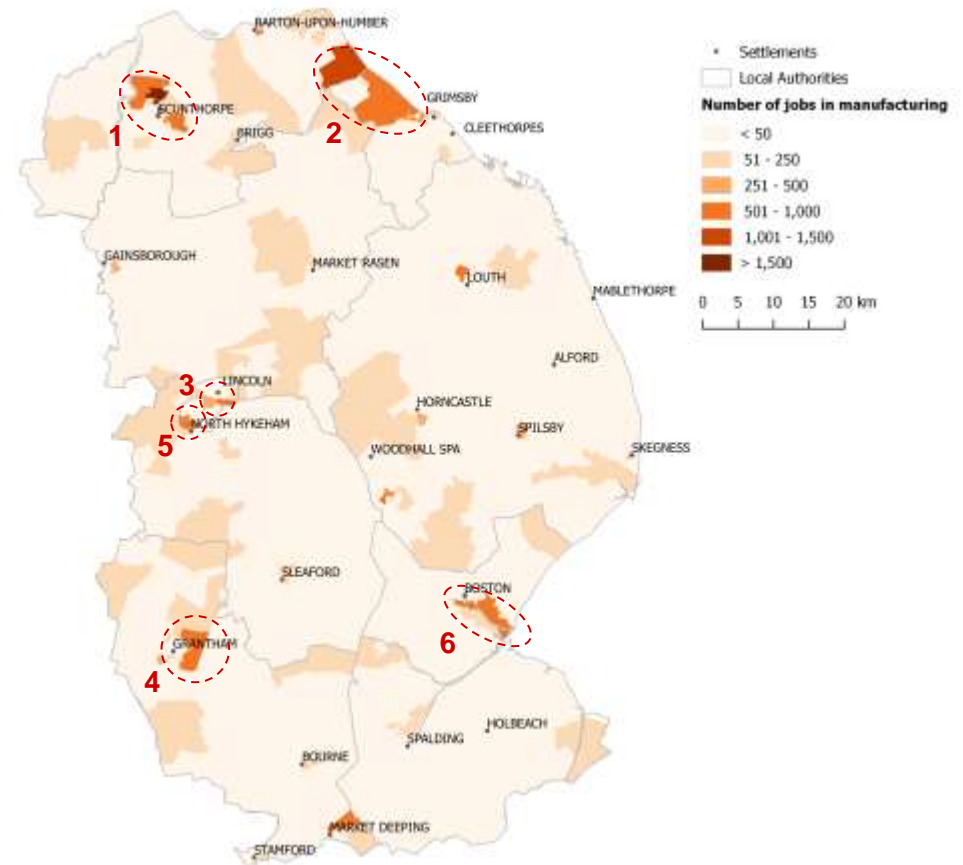
<p><b>£3.97bn</b> GVA per year</p>  <p><b>69,500</b> jobs</p> <p><b>2,370</b> businesses</p> 	<p>Highly specialised in:</p> <p>Manufacturing of coke and refined petroleum </p> <p>Manufacturing of basic metals </p>	<p>The value of the manufacturing sector in GLLEP has declined by <b>6%</b> in real terms since 1998. The value of the sector is <b>20%</b> less than the UK average.</p>
<p><b>20.1%</b> of people in North Lincolnshire work in the Manufacturing sector compared to <b>9.8%</b> nationally</p>	<p>Companies operating across Greater Lincolnshire</p>     	<p><b>£9.5m of innovate UK grants in manufacturing</b></p> <p><b>Key assets:</b></p> <ul style="list-style-type: none"> <li>• 3 high value manufacturing centres</li> <li>• The School of Engineering (SoE) at the University of Lincoln (the first to open in the UK for more than 20 years)</li> <li>• The SoE is only one of 16 school that Siemens are partnered with</li> <li>• Local education facilities in manufacturing (University Technical College)</li> <li>• Geographically close to 75% of UK markets with good distribution links</li> </ul>

# Manufacturing jobs in GLLEP

The table and map below show the spatial distribution of jobs in manufacturing across GLLEP. The map shows the total number of jobs in manufacturing by lower-level super output area or 'LSOA' (the smallest geographical unit at which such statistics are available). The darker colour represents a higher number of jobs. Across GLLEP, there are six concentrations with more than 1,000 jobs in manufacturing (these are indicated by the red circles). The largest of these are Scunthorpe and Grimsby / Immingham.

Geographic area	Total no. jobs	No. jobs in sub-sectors	Example companies
1 Scunthorpe	7,470	Metals: 4,430, Plastics: 975, Wood: 855, Machinery: 205	British Steel, Can-pack, Lebus, Wren Kitchens
2 Grimsby/Immingham	5,335	Machinery: 1,130, Plastics: 540, Metals: 470, Wood: 50	Dunlop Oil and Marine, Ultimate Packaging, Delta Engineering Group
3 Lincoln	2,050	Machinery: 865, Plastics: 525, Metals: 215, Wood: 35	Bifrangi, Siemens, Micrometric, Ermine Engineering
4 Grantham	1,770	Wood: 535, Metals: 255, Plastics: 240, Machinery: 160	Autocraft Drivetrain, Winfield Engineering, Vaderstad
5 North Hykeham	1,390	Machinery: 540, Metals: 160, Plastics: 60	NMB Minebea UK, Imperial Machine Company, Britannia Kitchen Ventilation
6 The Haven, SW of Boston	1,245	Wood: 375, Machinery: 85, Metals: 55	Metsa Wood, Dynamic Cassette International, Clarke Group Construction

*Spatial distribution of Manufacturing jobs in GLLEP\**



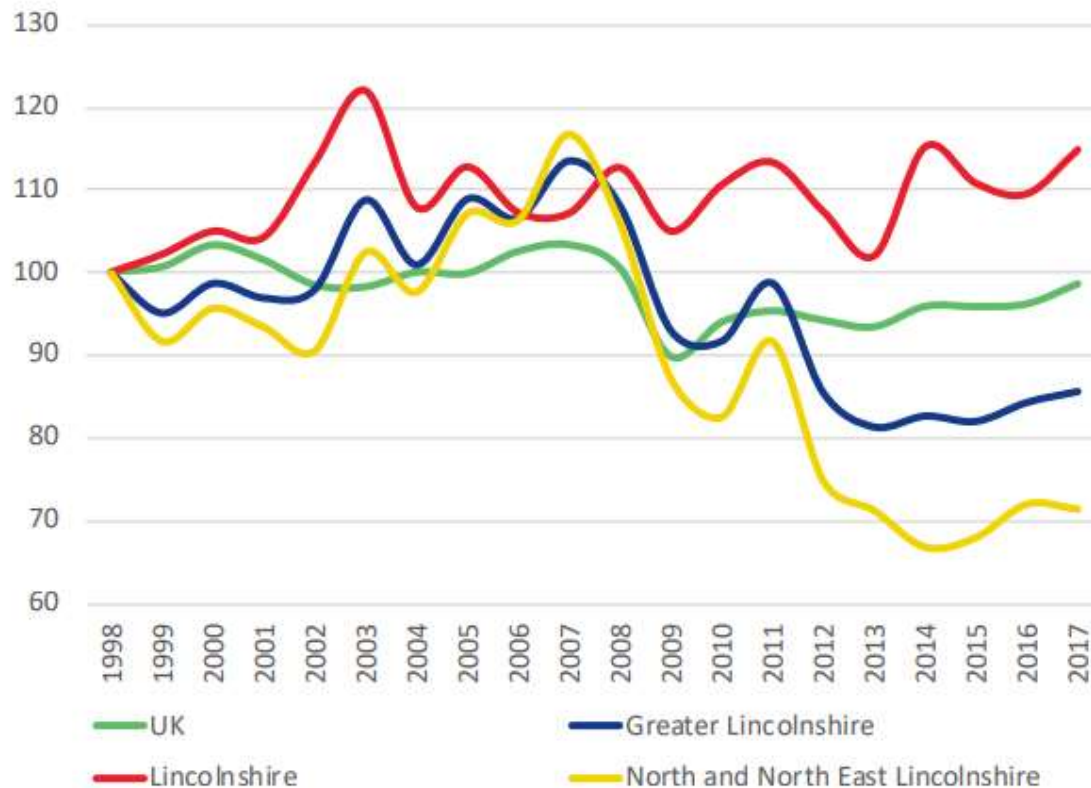
\* Excludes Rutland



# GVA growth in manufacturing

Change in GVA 1998-2017 in Manufacturing

1998 = 100



The graph to the left illustrates the relative changes by place in the value of the non-food manufacturing sector. In real terms the value of the GLLEP manufacturing sector has declined by 6% (1998-2017), with a large decline in value in the manufacture of wood, petroleum, chemicals and minerals subsector, alongside the manufacturing of metals, electrical products and machinery.

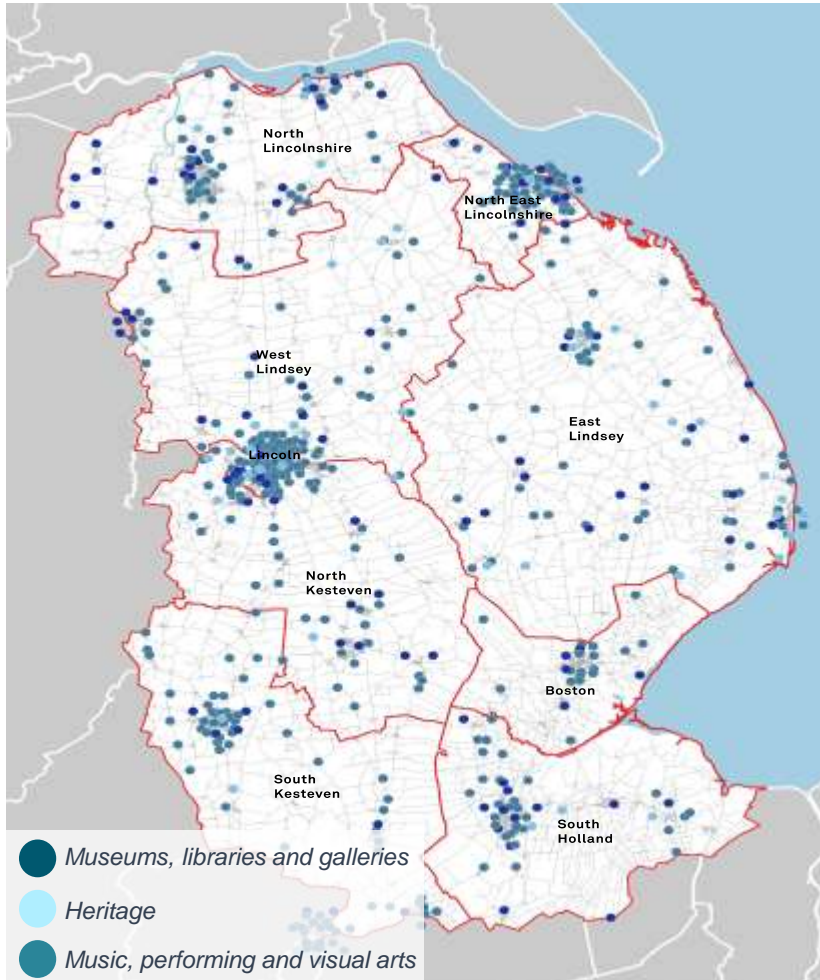
The one manufacturing subsector to grow in size has been repair and installation – not unsurprising given the large amount of manufacturing infrastructure across the LEP.

A similar trend of decline has occurred the UK over, although not on the same scale (observing the average).



# Creative Industries

*Creative assets in Greater Lincolnshire, 2017*



The map on the left shows how creative assets are distributed across Greater Lincolnshire. Creative assets, including museums, libraries and galleries; heritage assets; and music, performing and visual arts assets, exist throughout GLLEP but are concentrated in the towns, particularly Lincoln and Grimsby. There are also concentrations in Grantham, Scunthorpe, Boston and Spalding.

The creative / digital industries are a small but growing part of GLLEP's economy. Independent research commissioned by GLLEP identified in 2017:

- 3,000 creative, cultural and digital businesses
- Employment in the sectors estimated at 10,710. 2,300 in Lincoln, 1,970 in North Kesteven and 2,260 in South Kesteven
- Creative, cultural and digital sector employment 2.4% of overall employment for GLLEP.
- Creative, cultural and digital sector employment has grown by 7% between 2015 and 2017.

# Defence Industry

*Defence industry assets in Greater Lincolnshire, 2017*



GLLEP has a strong aviation heritage. Lincoln was the one the largest aircraft production areas in the world at its peak.

Today, there are a 5 active stations. **RAF Scampton** is home to the Red Arrows Aerobatic Team. **RAF Waddington, RAF Cranwell and RAF Coningsby** are major bases with hugely valuable supply chain and heritage. **RAF Digby** is another active station in GLLEP.

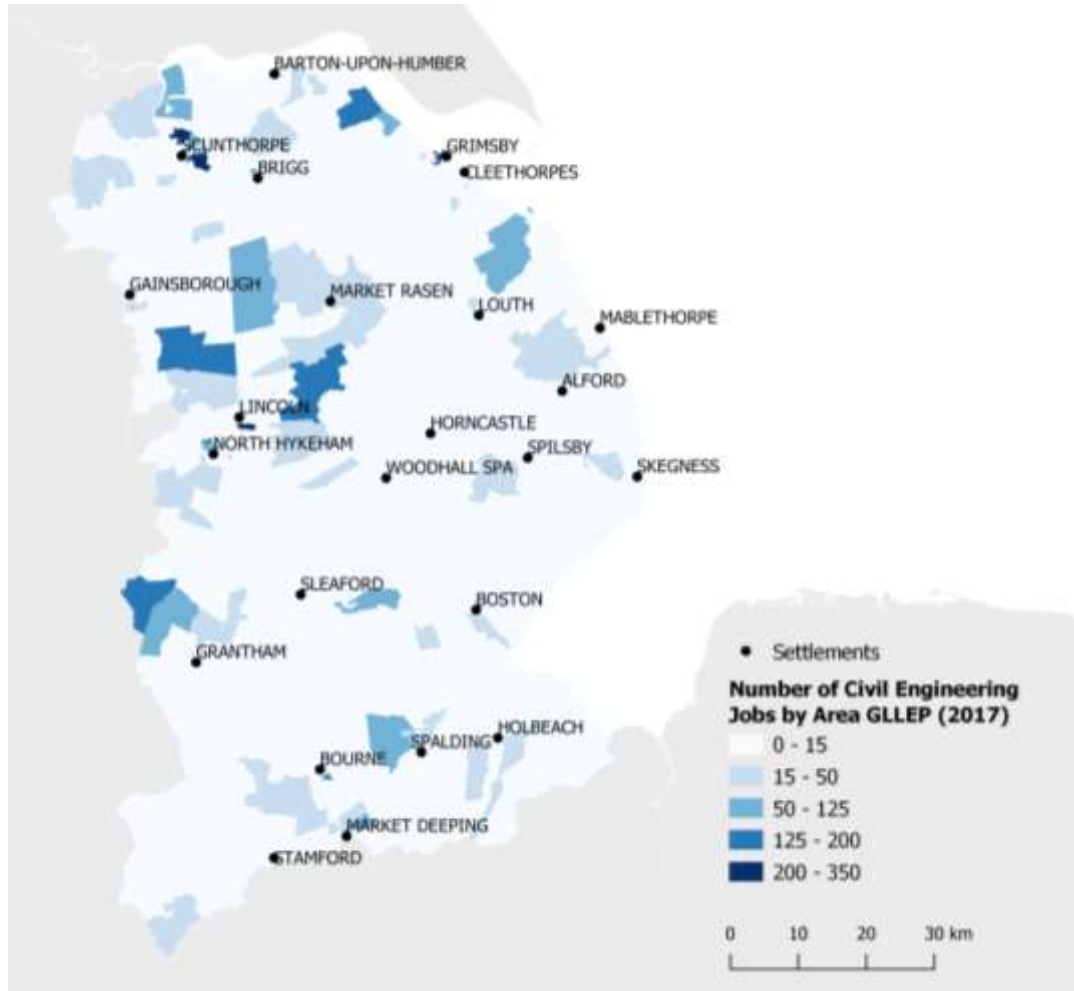
Under current plans, there will be significant RAF investment in the Lincolnshire area, with several hundred additional service personnel and their dependants arriving at RAF Cranwell, RAF Waddington and RAF Coningsby over the next five years. In addition, a number of civil service and contractor posts will be created in order to support the development of these core sites.

2016 marked the opening of the **Lincoln Air Defence Career College** providing employer-led education and technical training for 16-19 year olds. Graduates are also employed in the private sector in companies such as Anglian Water, Mercedes Benz, ITP Engineering and Minebea Engineering.

Lincoln Air Defence College has three streams available to students with sub-streams available within them: **Engineering** (comprising of 3 specialisations Mechanical, Avionics, General, and Vehicle Engineering), **Computer Science** (comprising Cyberspace Communication Specialist and Avionics Technician) and **Catering** (comprising of Logistics Chef and Hospitality Specialist).

# Civil Engineering

*Distribution of civil engineering jobs across GLLEP (2017)*



The map to the left shows the spatial distribution of civil engineering jobs in GLLEP. In 2017, there were 6,000 civil engineering jobs in GLLEP, with 2,215 new jobs added over the period 2012 – 2017.

Jobs are most concentrated (200 – 350 jobs) in the areas to the north of Grimsby, around Scunthorpe, and the region south of Lincoln. Other pockets with high counts of civil engineering jobs in the range of 125-200 are between Barton-Upon-Humber and Grimsby, south of Gainsborough, east of Lincoln and west of Grantham.

Civil engineering jobs can support construction and/or development firms around commercial activities such as housebuilding or other infrastructure for public use e.g. roads and bridges.

In the North of Grimsby, the high civil engineering job count is likely to be for operations and maintenance staff to support offshore wind turbines. The Grimsby Towns Deal has received £67 million in funding as of June 2018. The deal established Enterprise Zones which has attracted Orsted, who are building the UK's largest operations base for offshore wind at Grimsby's Royal Dock.

In 2011 the University of Lincoln opened the new Engineering School; one of the first of its kind to open in the last 20 years. The School is partnered with Siemens Industrial Turbomachinery, providing strong industrial linkages to support GLLEP's engineering sector.




# Potential Brexit exposure

GLLEP undertook work in 2018 to assess potential risks to the local economy from Brexit.

In particular this highlighted:

Food processing is anticipated to have the largest trade impacts of any sector, in part due to the extent of trade between the UK and EU (60.0% exports and 77.1% imports), but also the size of tariff and non-tariff barriers.

The exposure of the visitor economy to Brexit is likely to be highest in terms of the implications for the sector's workforce. There is a very high reliance on EU workers in this sector, particularly in some occupations such as waiting staff where 75% of workers are EU migrants. EU workers often work in hard-to-fill vacancies, which are prevalent in the sector.

		Size of employment and specialisation, and strategic importance in GLLEP	BREXIT EXPOSURE			POTENTIAL IMPACT IN GREATER LINCOLNSHIRE LEP ECONOMY
			 Trade & regulations	 Workforce	 Funding & investment	
Key sectors considered in detailed analysis	Food processing	Very large	High	High	Medium	Very high
	Manufacturing (excluding food)	Very large	High	High	Medium	Very high
	Ports and logistics	Very large	High	High	Lower	High
	Visitor economy	Large	Lower	High	Lower	Medium
Other sectors considered in high-level analysis	Health and social care	Large	Lower	High	Lower	Medium
	Agriculture	Very large	High	High	Medium	Very high
	Offshore wind (low carbon)	Large	Lower	Medium	Medium	Medium
	Life sciences and medical research (including pharma)	Medium	Medium	High	High	Lower
	Construction	Very large	Medium	High	Medium	High

# Links to national sector deals to date



## Rail

Reduce peripherality of region, a long-term barrier to growth.  
Improve connectivity to markets for people and goods

Links to Midlands Connect Strategy. Land transport is a specialised sector with high employment



## Life Sciences

Better, longer, more independent lives. Enhanced self-management of chronic conditions particularly in remote regions

Links to planned new medical school building at University of Lincoln. Supports growing healthcare sector



## Offshore Wind

Increase use of renewables.  
Enhance supply-chain links to transition toward low-carbon, low-cost, flexible grid systems

Links to Lincs Wind Farm 8km away from coast of Skegness. Coastal nature of region provides scope for further development



## Tourism

Tourism Zones to increase off-season visits, digital skills training, T levels, Apprenticeships

Support for coastal and seasonal tourism, upskilling and hotel investment



# Potential to contribute to the Clean Growth Grand Challenge



**Maximise advantages for UK industry from the global shift to clean growth**



**GLLEP's focus: Become a test bed for new forms of harnessing energy, particularly wind**

- **Opportunities:** existing competencies in clean energy and water management, and anaerobic digestion; above average employment in manufacturing
- **Challenges:** distribution & connectivity infrastructure; lack of smart-grid infrastructure; stagnant levels of job growth in waste & water management
- The majority of energy consumption in Greater Lincolnshire is from industrial and commercial activities (64%), almost double that of New Anglia LEP (33.6%).
- Proximity to offshore wind-farms: Lincs Windfarm in operation since 2013 and only 8km away from Skegness. Triton Knoll Windfarm in development with 4,000 to 10,000 potential new jobs.
- Examples of existing local energy innovation in businesses such as Butlins and Fantasy Island
- Existing regional specialisation and growing levels of employment in supporting sectors such as engineering, transportation and warehousing activities.
- Potential to exploit cross-sector links. Agriculture is a consumer, provider, and manager of water and energy resources.
- Scope for collaborating with sub-national bodies such as Water Resources East or neighbouring LEPs to promote commercial viability, scale, and diffusion.
- Over the last six years, local authorities across Greater Lincolnshire have revoked 8 AQMAs, mainly in relation to poor air quality caused by industrial and road transport sources, reflecting the better air quality across the LEP.

# Potential to contribute to the Ageing Society Grand Challenge



**Harness the power of innovation to meet the needs of an ageing society**



**Mission: Ensure people can enjoy at least 5 additional years of healthy life by 2035, while narrowing health inequality**

- Health and Care is one of the sectors focused on by the LEP
- Home to the National Centre for Rural Health and Care, tasked with shaping health and care provision in rural communities
- £9m of local innovate UK grants are in Ageing Society, Health & Nutrition
- Proportion of over 55s projected to increase 20% more than the national rate between 2014 – 2025 and a 46% rise projected in the number of residents over 75 years old in the same time period
- 48% live in rural areas compared to 18% England
- Coastal areas – three people over 60 moving in for every two 16-24 year olds moving out
- Possible to build on the work by the University and link to the planned medical school expansions. The medical school at Lincoln will deliver a Lincolnshire focused curriculum, with a focus on innovation and industrial partnerships
- Lincoln Institute for Health – ‘bench to bedside’ and ‘cell to community’ approach – underpinned by the concept of the Lincoln Living Lab
- Economic value of the industry is very significant. Increasing demand (predicted rise of 33% in consultations – comprising GPs, hospitals and adult care – by 2035) coupled with innovation can have social as well as economic impact.
- 2450 businesses working in this space in the region
- **Opportunities:** existing assets and National Centre, rural configuration of the LEP, the rising older population, digitisation of health
- **Challenges:** Health Trusts and Care Providers struggle to attract and retain staff; need for further market support and development; will require more work to bring together the sector to lead this GC mission, potential risks of company relocation



# Supporting UK development of other Grand Challenges



## AI and data

Put the UK at the forefront of the AI and data revolution

Use data, AI and innovation to transform prevention, early diagnosis and treatment of chronic disease

**Opportunities:** robotics; precision-agriculture; agriscience

**Challenges:** skills; limited AI/ big data assets



## Future of mobility

Become a world leader in the way people, goods and services move

Put the UK at the forefront of the design and manufacturing of zero emission vehicles

**Opportunities:** Midlands Connect; increased funding on transport infrastructure

**Challenges:** peripherality; weak existing infrastructure; reliance on car; long distances



## Industry engagement

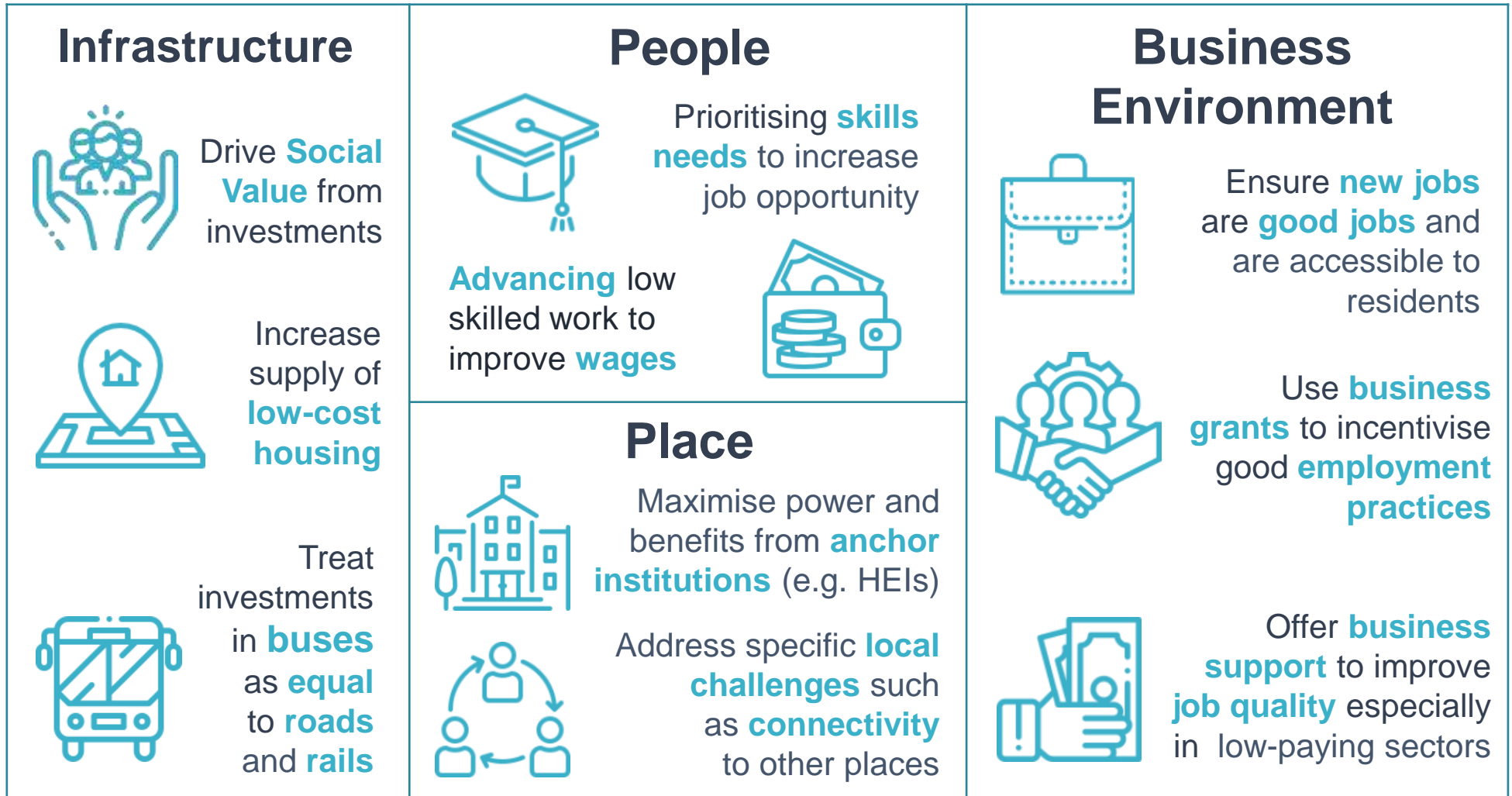
Although the AI and Data and Future of Mobility Grand Challenges are unlikely to be core features of GLLEP's Local Industrial Strategy, it should be noted that GLLEP's industries are responding to the challenges and opportunities they provide.

There are an increasing number of Electric Vehicles (e.g. Camel) charging point serving businesses and consumers.

The Global Centre of Excellence in Agri-robotics at the University of Lincoln received £6.4m in government funding. The agri-robotics doctorate programme has cross-border collaborate with the Universities of Cambridge and East Anglia, illustrating GLLEP's strategic cooperation.

# Spotlight on cross-cutting priorities:

## Inclusive Growth



# Opportunities for cross-border collaboration

The table below distills information from the Strategic Economic Plans for GLLEP and the six LEPs in close proximity. Each LEP's Strategic Economic Plan identifies priority sectors which the LEP intends to focus on. As the table shows, there are a number of priority sectors which are shared across LEPs, and these shared priorities may present opportunities for cross-border collaboration. GLLEP shares agri-food, clean energy and transport and logistics priority sectors with all neighbouring LEPs. Conversely, GLLEP is the only LEP in the region to nominate waste and water as a strategic priority.

	GLLEP	Humber	Cambridge & Peterborough	D2N2	Leicester & Leicestershire	New Anglia	Sheffield
Agri-food	✓	✓	✓	✓	✓	✓	✓
Clean energy	✓	✓	✓	✓	✓	✓	✓
Waste and water	✓						
Transport and logistics	✓	✓	✓	✓	✓	✓	✓
Visitor economy	✓	✓		✓	✓	✓	
Health and social care	✓		✓		✓		✓
Engineering & advanced manufacturing	✓	✓			✓	✓	✓
Creative / digital industries		✓	✓	✓	✓	✓	✓
Textiles manufacturing					✓		
Sports & physical activity					✓		✓
Professional & finance			✓		✓	✓	✓
Life sciences			✓	✓		✓	
Construction				✓		✓	✓
Transport equipment manufacturing				✓			
Chemicals		✓					

# FOUNDATIONS OF PRODUCTIVITY IDEAS



Metro — Dynamics

# Ideas – summary



**Business led R&D - €112** spend on R&D per person – **80%** by businesses. GLLEP's total expenditure on R&D equates to 0.2% of local GVA



Strengths in **Veterinary Science and Agriculture**

**Innovate UK**

**£29m** Innovate UK funding from 2004 - 2018:  
**£9.5m** – Manufacturing; **£9.0m** – Ageing Society, Health & Nutrition



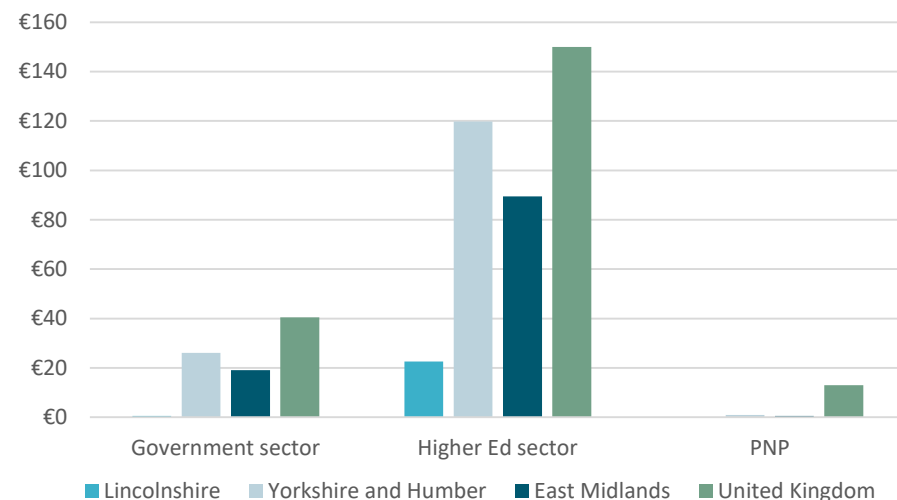
**University of Lincoln** – recipient of 27% of total Innovate UK funding to GLLEP. Ranked in the top 50 UK universities

# Research and development

*Intramural R&D expenditure: GERD and BERD – spend per inhabitant (€, 2015)*



*Intramural R&D expenditure: GovERD, HERD and PNP\*\* – spend per inhabitant (€, 2015)*



Gross domestic expenditure on research and development (GERD) is a measure of research and development (R&D) activity. It refers to R&D performed in and funded by four sectors of the economy: business enterprise (BERD), government, including research councils (GovERD), higher education (HERD), and private non-profit organisations (PNP)\*\*.

The top left graph shows GERD and BERD spend per inhabitant, whilst the bottom left graph shows GovERD, HERD and PNP spend per inhabitant for 2015. This shows the extent to which Lincolnshire invests and participates in innovation, and the channels through which this occurs. This is the latest data available and may hide recent developments at LEP level.

Lincolnshire's gross domestic expenditure on R&D in 2015 was €82.9m, or €112 per inhabitant. Per head, Lincolnshire is the third lowest NUTS 2 region in the UK, ahead of Cornwall and the Isles of Scilly (€90.7) and Outer London – East and North East (€84.1). R&D spend per inhabitant in Lincolnshire is 21% of the East Midlands average (€539.3) and 18% of the UK average (€618.3 per inhabitant).

79.6% of R&D expenditure per inhabitant in Lincolnshire is by businesses, which is similar to the 79.8% of R&D expenditure in the East Midlands and substantially above the UK value of 67.1%.

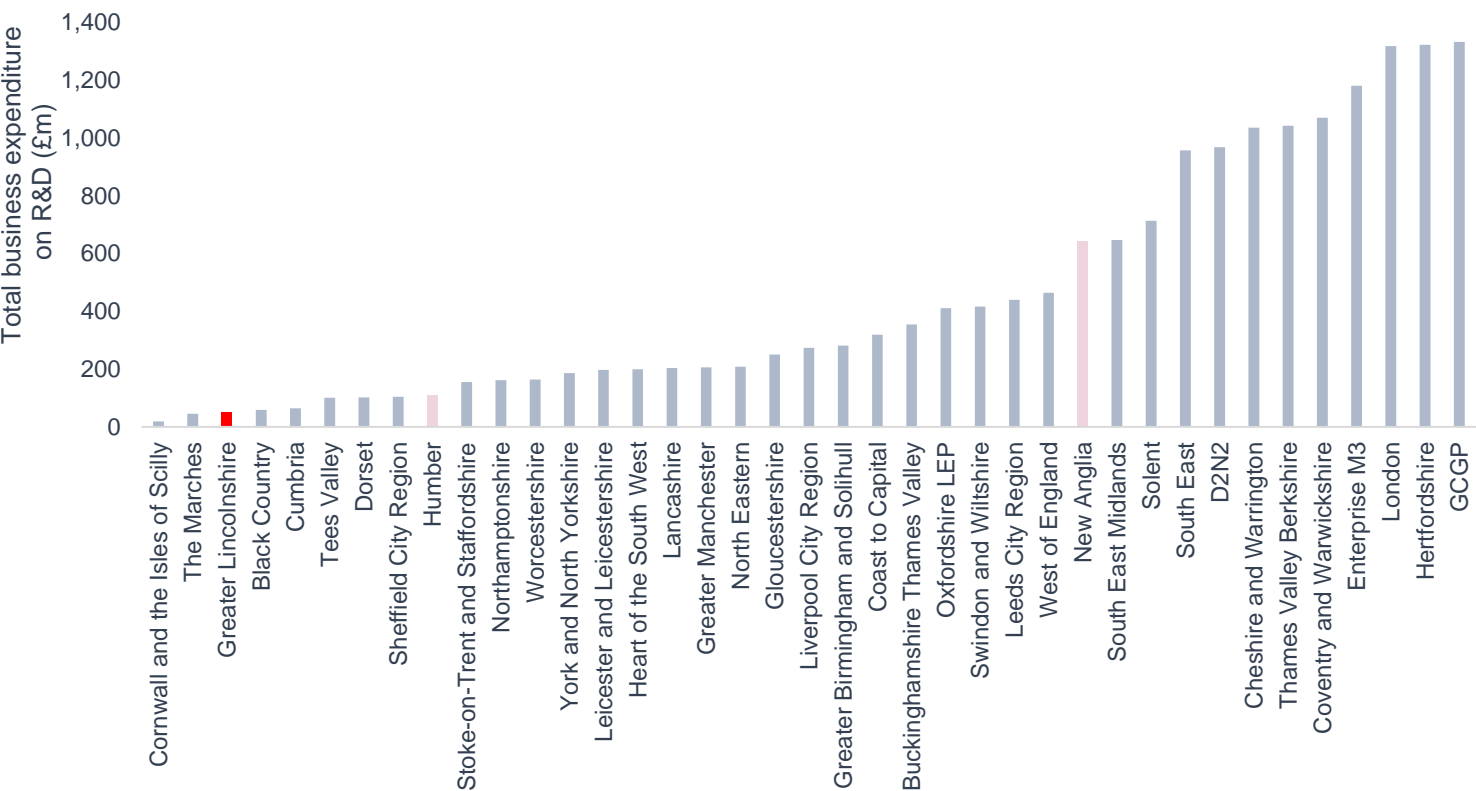
Higher Education providers account for 20.1% of R&D expenditure per inhabitant in Lincolnshire, compared to 16.6% in East Midlands and 24.3% across the UK. This likely demonstrates the contribution made by the University of Lincoln to research and development in the region.

Per inhabitant, Government Sector research and development expenditure makes up less than 1% of the total for Lincolnshire, compared to 3.5% across the East Midlands and 6.5% across the UK.

\* Information is for Lincolnshire only, rather than GLLEP. \*\*The values for PNP for Lincolnshire, Humber and East Midlands are below €1 and therefore appear to be very small.

# Business R&D expenditure

Total business expenditure on research and development (2013)



This chart shows the spending of businesses on R&D by LEP. This uses a different dataset to the one used on the previous page and is only available for 2013. Again, this may mask recent developments at LEP level.

Greater Lincolnshire was ranked as the third lowest LEP for total business expenditure on R&D. In 2013, businesses in Greater Lincolnshire spent £50m on R&D, below regional comparators Humber LEP (£109m) and New Anglia (£641m).



# R&D tax credits

Summary of R&D tax credits (2015-16)\*

	Number of claims	Amount claimed (£m)	Expenditure (£m)
Lincolnshire	275	£10	£60
North Lincolnshire	30	<£5	£10
North East Lincolnshire	50	<£5	£5
Rutland	10	<£5	<£1
<b>GLLEP</b>	<b>365</b>	<b>£10 - £25</b>	<b>£75</b>
Humber LEP	350	<£5	£30
New Anglia LEP	790	£30	£145
East Midlands	2,430	£145	£885

R&D tax credits support companies working innovatively to advance science and technology. It is essential that projects advance the overall field, rather than just for the purpose of the business. Relief is made available for both SMEs and large companies.

Overall, in 2015-16, there were 365 claims made from entities in Greater Lincolnshire. The majority of these claims originated from Lincolnshire, which likely reflects R&D activity emanating from Lincoln University and associated businesses. In all local authorities the majority of claims are made via the SME R&D scheme.

The average amount claimed per R&D claim appears to be higher in Greater Lincolnshire LEP than in comparator LEPs. A similar number of claims originated from Greater Lincolnshire LEP and Humber LEP, however the average amount claimed and average expenditure per claim are substantially higher in Greater Lincolnshire.

Twice as many claims originated from New Anglia LEP as from GLLEP.

Due to suppressed values in the data it is not possible to provide precise estimates of how the average value of claims varies across regions.

\* Values are suppressed where a number is less than 5, or an amount is less than £5 million, and in other cases where necessary for dominance and disclosure reasons.

# Innovate UK funding by sector

Innovate UK funding (2004 – June 2019)

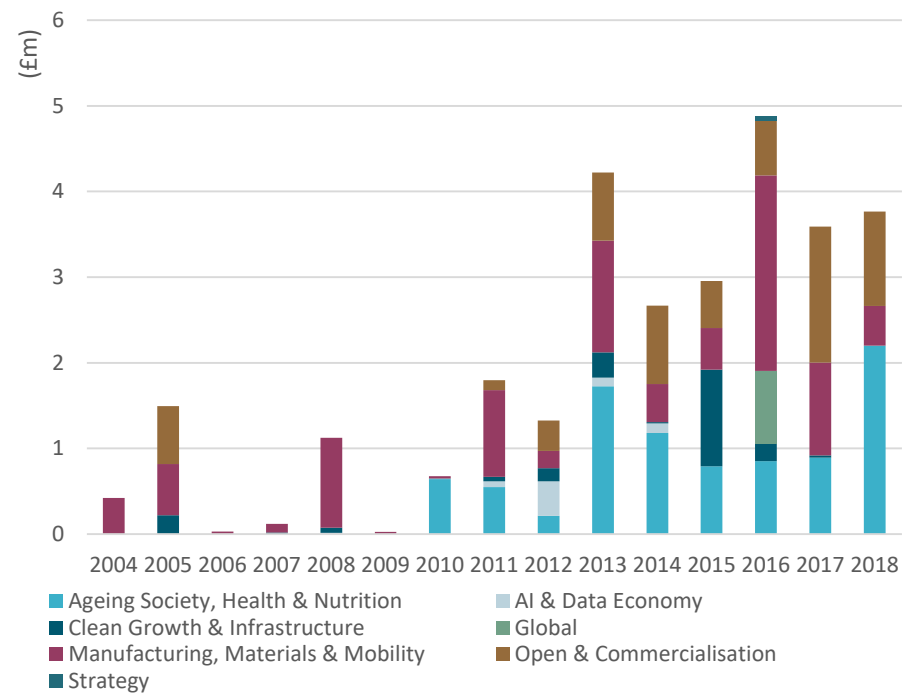
	Funding allocated (£m)
Greater Lincolnshire*	£29.0
New Anglia	£41.3
East Midlands	£430.3
United Kingdom	£9,239.1

Innovate UK, the innovation agency for the UK, is part of UK Research and Innovation. It works with individuals, companies and other organisations to drive innovation in science and technology with the aim of growing the economy. The table on the left shows a summary of funding allocations and spending for Greater Lincolnshire and regional comparators.

Between 2004 – June 2019 Greater Lincolnshire has been offered £29.0m in funding, which represents 6.7% of the total allocation to the East Midlands and 0.3% of total UK funding. By comparison, New Anglia has received £41.3m in funding from Innovate UK to date, which is £12.3m more than Greater Lincolnshire and represents 0.45% of total UK funding.

Funding allocations to Greater Lincolnshire have increased over time, as the graph on the left shows. The sectors which attract the most funding are Manufacturing (32.8% of total) and Ageing Society, health & nutrition (31.1% of total).

Innovate UK funding to Greater Lincolnshire by sector, 2004 - 2018



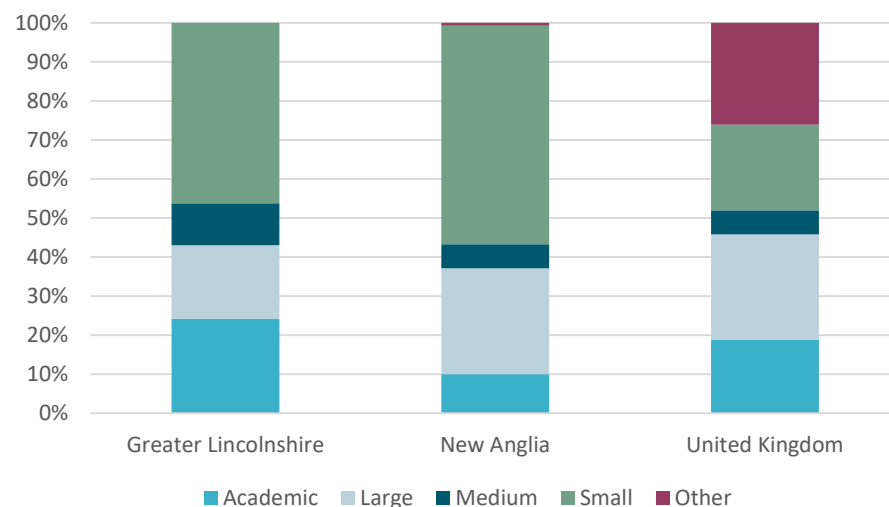
Innovate UK funding to Greater Lincolnshire by sector (2004 – 2018)

Sector	Grants offered	Total funding (£m)
Manufacturing, Materials & Mobility	93	£9.54
Ageing Society, Health & Nutrition	110	£9.04
Open & Commercialisation	134	£6.74
Clean Growth & Infrastructure	18	£2.17
Global	6	£0.85
AI & Data Economy	10	£0.70
Strategy	1	£0.05
Total	372	£29.08

\* Includes £2.3m of grants which are listed as being offered to 'Greater Lincolnshire; Humber' LEP.

# Innovate UK funding by enterprise

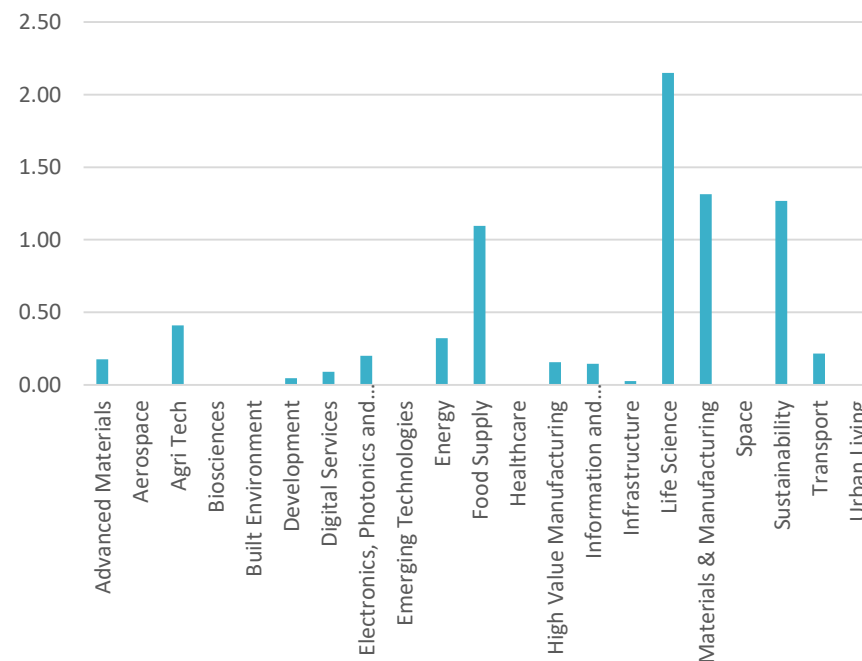
*Innovate UK funding allocation by enterprise type (2004 – 2018)\**



The standout feature of Innovate UK's funding allocation to Greater Lincolnshire is the proportion of funding going to Academic institutions (28.4% of total funding) relative to New Anglia LEP (9.7% of total funding) and the United Kingdom (18.8%) as a whole.

Of this funding, most goes to the University of Lincoln (£7.8m out of £8.3m for academic institutions), highlighting its contribution to innovation in the region. The University of Lincoln ranks 3rd in total funding allocations of East Midlands academic institutions, behind the University of Nottingham and Loughborough University.

*Grants offered by Innovate UK from 2014/15 to March 2018 - Benchmarked against average (=1.00)*

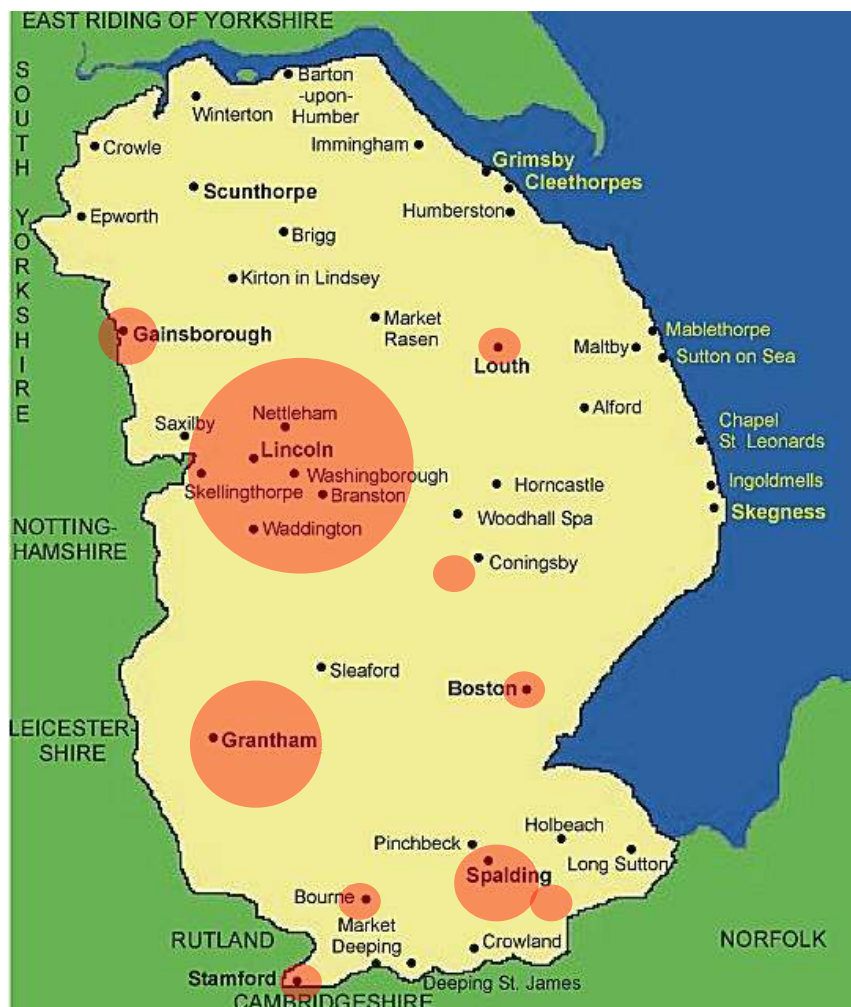


\* 'Other' includes catapult, charity, PSO, PSRE, non-UK.

# Top innovators in Lincolnshire

*Innovate UK grant application location (2014 – 2018)\**

Using Innovate UK grant application 2014/15-18 as a proxy, we can see where and who are the top innovators in GLLEP. Below are the top ten by value in this time period and all are mapped opposite. Whilst InnovateUK provides publicly available data, there are likely innovative organisations with a dedicated R&D department who do not receive public funding and are unaccounted for



Organisation	Value of projects (£)	Location	Activity
University of Lincoln	4,711,144	Lincoln	
Dynex Semiconductor Limited	1,878,156	Lincoln	Manufacture of electrical components
GREAT BRITISH SPORTS CARS LIMITED	1,542,144	Lincoln/ Newark	Manufacture and sale of motor vehicles
THE TECHNOLOGY RESEARCH CENTRE LIMITED	1,300,806	Grantham	Other professional, scientific and technical activities not elsewhere classified
Castlet Limited	986,910	Lincoln	Manufacture of other electrical equipment
Terravesta Assured Energy Crops Ltd	813,295	Lincoln	Wholesale of other fuels and related products
LARKFLEET LIMITED	807,046	Bourne	Construction of domestic buildings
A.M. PACKAGING LIMITED	779,663	Gainsborough	Manufacture of machinery for food, beverage and tobacco processing
INTELLIGENT FRUIT VISION LIMITED	713,924	Spalding	Manufacture of electronic measuring, testing etc. equipment, not for industrial process control
EMINOX LIMITED	624,901	Gainsborough	Manufacture of other fabricated metal products not elsewhere classified

# Local Innovation Programme

*Greater Lincolnshire Innovation Landscape review (2016)*

Element	Indicator	Overall Rank / 39	Rural Rank / 6
Money	R&D expenditure – Business Enterprise R & D expenditure (BERD) by FTE, 2013.	38	5
	Innovate UK grants – Innovate UK - Total Grants, £s per FTE, 2010-15	34	5
Talent	% of all in employment who are in 'science, research, engineering and technology' professions and associated professions, July 2013 – June 2014	38	6
	% of residents qualified to level 'NVQ 4+', 2013	38	6
	Number of full time postgrads who are non-UK, enrolments 2013/14	28	3
	Number of STEM first degrees with honours, qualifiers, 2013-14	26	2
	Number of STEM Doctorates (that meet criteria for a research based award), 2013-14	27	3
Knowledge Assets	Inventor population (with patents 5 to 10 years old), up to October 2014	34	3
	Total Publication Output – (“past 2 years”)	32	4
	HE-BCI – Total Reported Income per HE Academic FTE - 2010/11 - 2012/13 - 3 year average	32	6
Structures & Incentives	% of FTE in 9 of 11 Industrial Strategy Sectors, 2012	31	3
	% of FTE in the 5 Science & Technology Sectors, ONS definitions, 2013	38	5
Broader Environment	Net Business Birth and Death Rate, 2012	27	2
	Employment rates, 16-64s, October 2013 – September 2014	19=	4=
	Halifax Quality of Life Survey, 2014, ranking based on median rank of each LEP's constituent Local Authorities	23	3
	Mean gross full time earnings, workplace-based, 2014	35	4
	Broadband Super-Fast Broadband Availability, 2014	32	3
	Broadband, Average Download Speed, 2014	26	2
	Take-up of lines > 30 Mbit/s (number of lines) by Local Authority - % of households/premises, 2014	25	2
	Travel to work times, 2012	7	4
Innovation Outputs	GVA per capita, 2013	33	5
	GVA per hour worked, £s, 2013	31	2
	UKCIS – Product or Process Innovation, % of enterprises, 2008-10	33	4

The University of Lincoln commissioned a report to baseline business uptake of innovation funding in GLLEP. The report draws on 23 innovation indicators to compare innovation performance and identify local strengths across all LEP areas.

For the purpose of this report Greater Lincolnshire is categorised as a Rural area along with 5 other LEPs; Oxfordshire, Cornwall and the Isles of Scilly, York and North Yorkshire, The Marches and Cumbria. GLLEP's ranking out of these 6 LEPs is shown in the right-hand column of this table

The ranking data make clear that in 2016 Greater Lincolnshire was towards the bottom of the table of 39 LEPs in almost every indicator and generally mid placed within the 6 Rural LEPs.

It should be noted that this data is for 2016, and therefore does not capture progress in business innovation which may have occurred since then.



# Innovation programme enrolment

*Innovation programme enrolments in Greater Lincolnshire (2016)*



This map shows the location of businesses and other institutions which have enrolled in and accessed innovation focussed grant support within the general innovation landscape in Greater Lincolnshire.

Enrolled organisations are distributed broadly throughout the LEP's geography, including in more rural areas, although most are concentrated in larger towns.

Significant clusters exist in Lincoln and its surrounding area, as well as in Grimsby and around Scunthorpe.



# Innovation benchmarks



## Innovation Benchmarks: 2014-16

■ Highest ■ Lowest □ Greater Lincolnshire

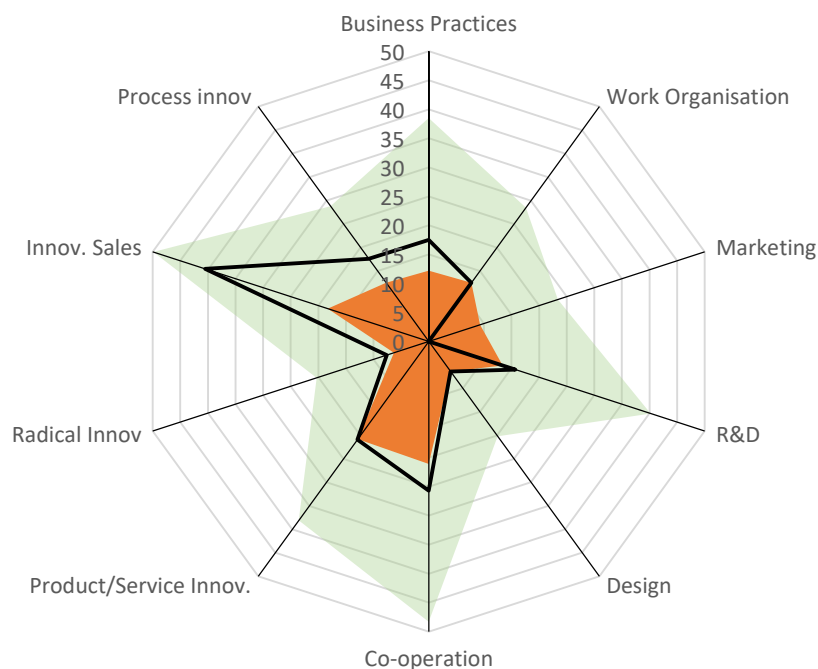


Chart covers the period 2014-16 and are derived from the UK Innovation Survey. Details of derivation of data can be found in the ERC Innovation Benchmarks Report

This chart is taken from the ERC report which provides innovation benchmarks for local areas in England.

The benchmarks are based on a new analysis of data from the 14,000 firms which responded to the UK Innovation Survey 2017, including 171 from GLLEP. The analysis is designed to provide representative results for each local economic area but there is margin for error.

For each of the indicators, GLLEP is ranked out of the LEPs included for that specific analysis. The analysis shows that GLLEP performs well on commercialization of innovative products, ranked 14<sup>th</sup> out of all LEPs.

Introduction of new business practices by local economic area (% of firms)	17.5%	38/39
Introduction of new methods of work organisation by local economic area (% of firms)	12.5%	39/39
Percentage of firms undertaking R&D by local economic area (% firms)	15.7%	35/38
Percentage of firms undertaking design investment for innovation by local economic area (% firms)	6.4%	36/36
Collaboration for innovation by local economic area (% of innovating firms)	25.7%	35/39
The proportion of firms undertaking product or service innovation (% of firms)	20.9%	38/39
New to the market product and service innovation by Local Area (% firms)	7.6%	27/35
Sales of innovative products and services by Local Area (% sales of innovating firms)	40.5%	14/39
Process innovation by local economic area (% of firms)	17.6%	20/38

# Smart specialisation hub LEP profile

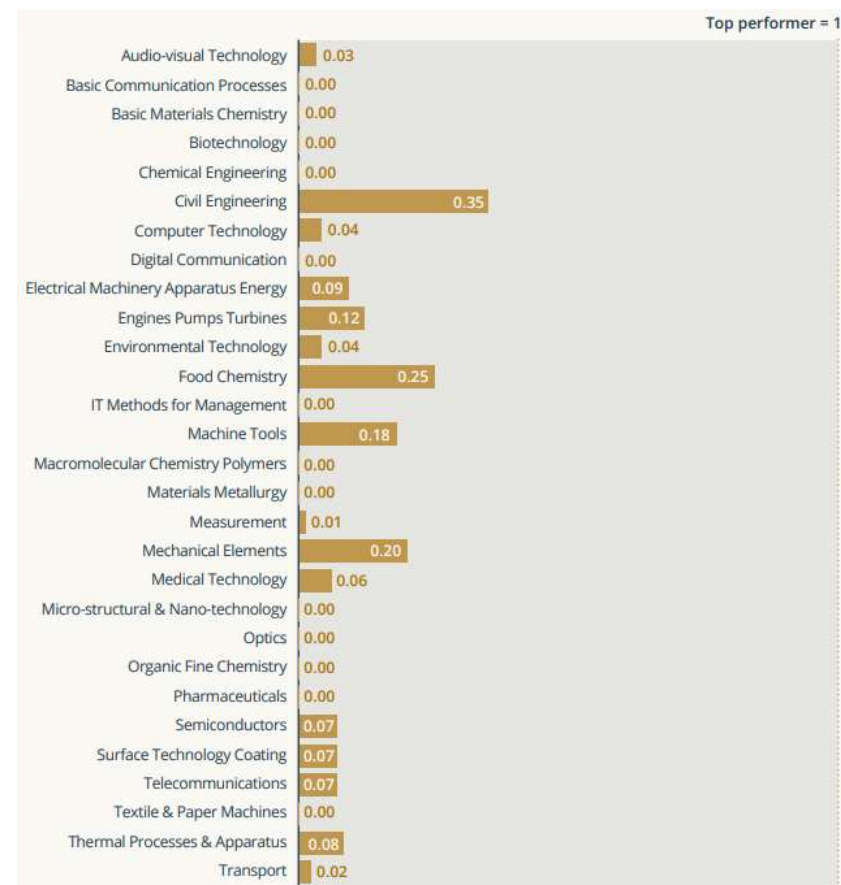
The Smart Specialisation Hub's profile on Greater Lincolnshire identifies sectoral and innovation capabilities using benchmarking with the performance of other LEPs.

The chart shows a score for the number of inventors on patents across a variety of science and technology areas where 1.0 is the top performer. The highest score for GLLEP is for civil engineering (0.35), followed by food chemistry (0.25). This shows that there are relatively low levels of patent activity in Greater Lincolnshire.

The report also indicated (all where 1 = top performer):

- Below average Higher Education spending on R&D; and
- Below average of Indicator of Staff Submitted for Involvement in Innovative Research Production to the Research Excellence Framework (REF), activity evidence as follows:
  - Medicine & Dentistry (0.14/1)
  - Biological Sciences (0.47/1)
  - Veterinary Science & Agriculture (0.78/1)
  - Computer Science (0.28/1)
  - Engineering & Technology (0.13/1)
  - Architecture (0.47/1)
- No Publication Output for Innovate UK Priorities, other than Agriculture & Food (0.01/1)
- No Publication Output by the Eight Great Technologies, other than Agri-Science (0.01/1) and Robotics & Autonomous Vehicles (0.04/1), with 1 = top performer
- No interactions between HE institutions & business (for consultancy research - SMEs, contract research - SMEs and consultancy research - large businesses).

*Number of inventors on patents across various technology areas*



# Higher Education Institutions

## University of Lincoln

The University of Lincoln is now ranked in the top 50 in the UK and is one of the fastest growing universities in the UK. The University has grown rapidly since its inception and has a considerable physical, economic, cultural and social footprint. Independent reports estimate that the total quantifiable economic contribution of the University in 2015/16 was £430 million in the UK.

The University is estimated to support more than 5% of all jobs in Lincoln, and more than 1 in every 6 working age residents in the city is either a student, a direct employee or their job is indirectly linked to the University.

There has been £275 million in capital investment over the past 20 years, with on average one building constructed each year.

The university has opened six new STEM schools since 2011: engineering; physics and maths; chemistry; pharmacy; geography; and life sciences.

### Timeline of the University of Lincoln's Development



## Indicators of University of Lincoln's impact:

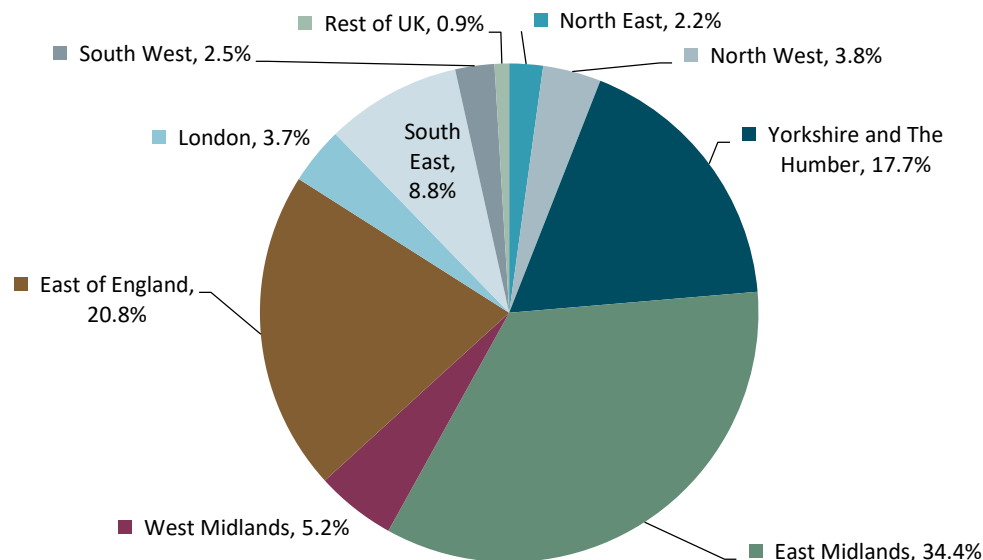
- The University's 2015/16 Higher Education Innovation Fund allocation per academic was **higher than the Universities of Oxford, Cambridge, Manchester, King's College London and Imperial College London**.
- Lincoln was shortlisted three times over the last four years for the Times Higher Education Entrepreneurial University of the Year.
- The University won the Lord Stafford Award for Open Collaboration in 2011.
- To date, Sparkhouse and Think Tank (internal business units) have supported more than 346 businesses, creating more than 411 jobs.
- There were 52 active graduate start-ups in 2014/15, employing 66 FTEs. **63% of Lincoln's active graduate start-ups had survived more than 3 years in 2014/15 compared to just 41% on average at UK universities.** These start-ups received 58% of all external investment received by start-ups from East Midlands HEIs.

## Bishop Grosseteste University

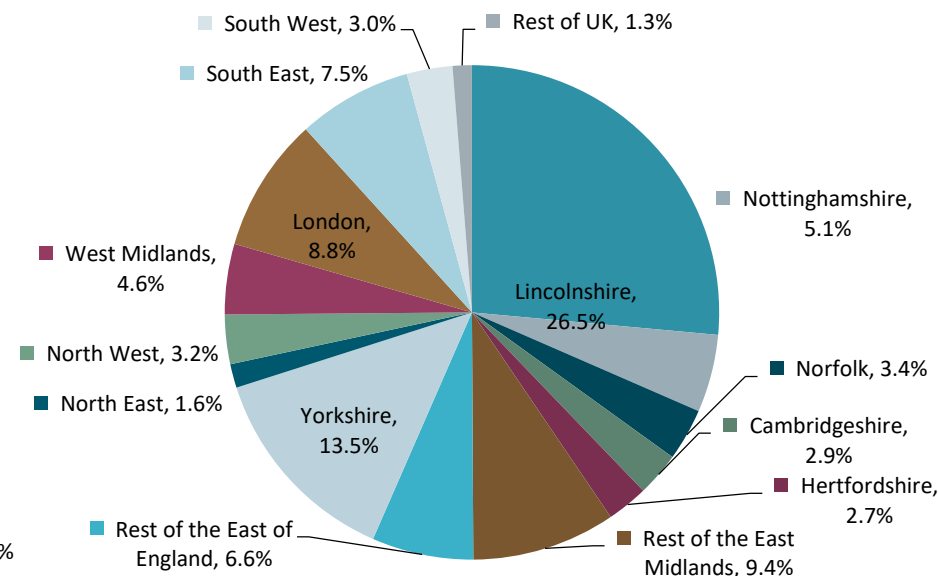
Bishop Grosseteste University is in Lincoln, and has an established reputation as a teacher training college. The University's expansion plans aim to grow student numbers to 2,800 by 2020/21 (from 2,000 currently).

# University of Lincoln graduates

*Place of **origin** for University of Lincoln graduates in employment (2016)*



***Destinations** for University of Lincoln graduates in employment (2016)*



**Origins:** 73% of the institution's employed graduates originally came from the East Midlands, East of England or Yorkshire.

**Destinations:** 1,670 UoL graduates had a known UK employment location after six months. A quarter (26%) were working in Lincolnshire, much the largest group of graduates. Nottinghamshire was the next most common local authority or metropolitan city region of employment, but accounted for just 5% of employment of graduates.

**Graduate Outcomes:** From 2013 to 2016 at the University of Lincoln:

- The **employment or further study rate** increased by 3.1% (to 95.6%). This is 1% higher than the sector benchmark, and places Lincoln 39th out of 128 institutions
- The **graduate employment or further study rate** increased by 10.7% (to 81.4%). This is 4.2% higher than the sector benchmark, and places Lincoln 34th out of 128 institutions
- The **average graduate salary** increased by 8.2% (to £20,060). However, the average graduate salary remains significantly below the levels of the sector, maintaining a £2,000 to £3,000 difference. This places Lincoln 108th out of 128 institutions

# University of Lincoln business engagement

The University of Lincoln is recognised as setting a blueprint for excellence in its approach to working with industry. The university's links with industry have helped enhance its reputation on a national and international scale. Examples of such engagement include:

## SIEMENS

In collaboration with Siemens, the University of Lincoln established the first new Engineering School to be created in the UK for more than 20 years. The £37m project has won a number of awards including a Lord Stafford Award and a Times Higher Education Award. Lincoln is one of only a handful of top UK universities to hold Siemens Global Principal Partner status and benefits from industry input in their course content.



The Lincoln Science and Innovation Park was created as a joint venture between the University of Lincoln and Lincolnshire Co-op. The science park provides a hub for innovation in science and technology in Lincoln, combining research, teaching and commercial space in the £20m facility. The Joseph Bank laboratories are home to more 1,000 staff and students in science subjects, while the nearby Boole Technology centre provides commercial space for innovative high-tech businesses.

# FOUNDATIONS OF PRODUCTIVITY PEOPLE



Metro — Dynamics



# People – summary



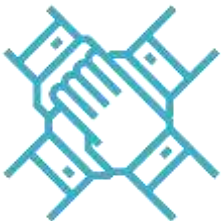
**1.12m** residents with **69%** in Lincolnshire – **0.63%** growth compared to **1.81%** nationally (2016-17)



An older age profile. Around **22%** of residents aged 65 and over. A projected **38% growth** in the population **aged over 65** by 2041.



Significant **spatial disparity** in educational attainment. **Progression** a concern across all age groups



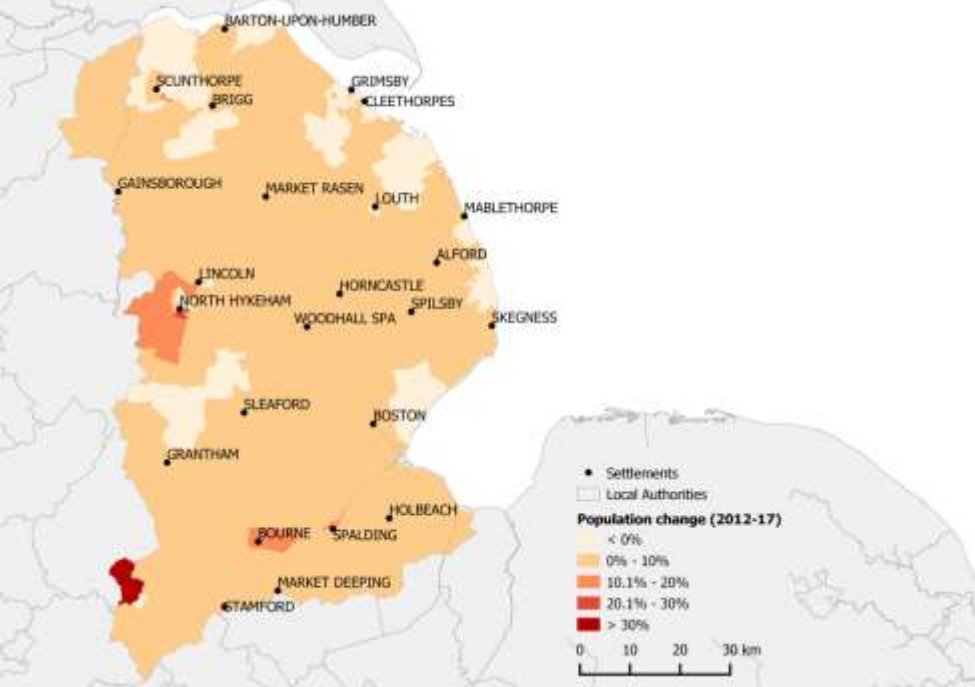
Inclusive growth challenges with over **30%** of workers earning **below the living wage** |

# Population change

Population change by local authority (2012-17)

	Population (2017)	Population growth (2012-17)
Lincolnshire	751,171	4.45%
North Lincolnshire	171,294	1.75%
North East Lincolnshire	159,826	0.02%
Rutland	39,474	6.41%
Greater Lincolnshire	1,121,765	3.4%
Population growth 2012 - 2017: EM = 4.46%, UK = 3.7%		

Population change (2012-17)



There are approximately 1,121,765 people living in Greater Lincolnshire. 67% of residents live in Lincolnshire.

Between 2012 and 2017, Greater Lincolnshire experienced lower population growth of 3.4% than the UK average (3.7%). It also grew by considerably less than the East Midlands (EM) average (4.46%). Population growth in the East Midlands is considerably higher than in Greater Lincolnshire and across the UK. The highest population growth was in Rutland, with population growth exceeding that of the region, while Lincolnshire has experienced a 4.45% increase in the population, which is greater than the national average and in line with the East Midlands.

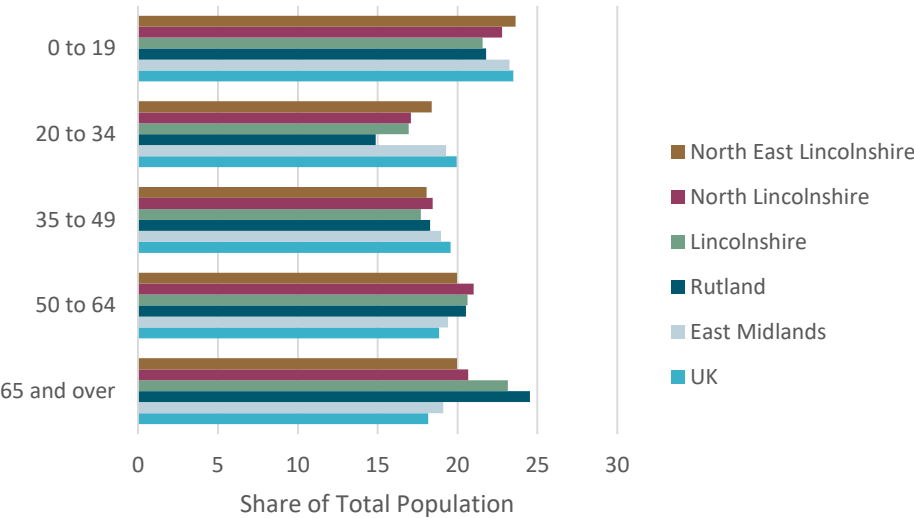
The map to the left depicts population change between 2012 and 2017 in Greater Lincolnshire. Much of the map, particularly parts of southern and eastern Lincolnshire surrounding Lincoln city have population growth of between 3-5%.

The map also shows areas of slower growth in North and North East Lincolnshire. North and North East Lincolnshire has seen very little population growth (0.02%), and even population decline in Grimsby and Cleethorpes. Large areas of East Lindsey have also experienced population decline (specifically along the coast). This sharply contrasts with high growth in the South and South East of the LEP.

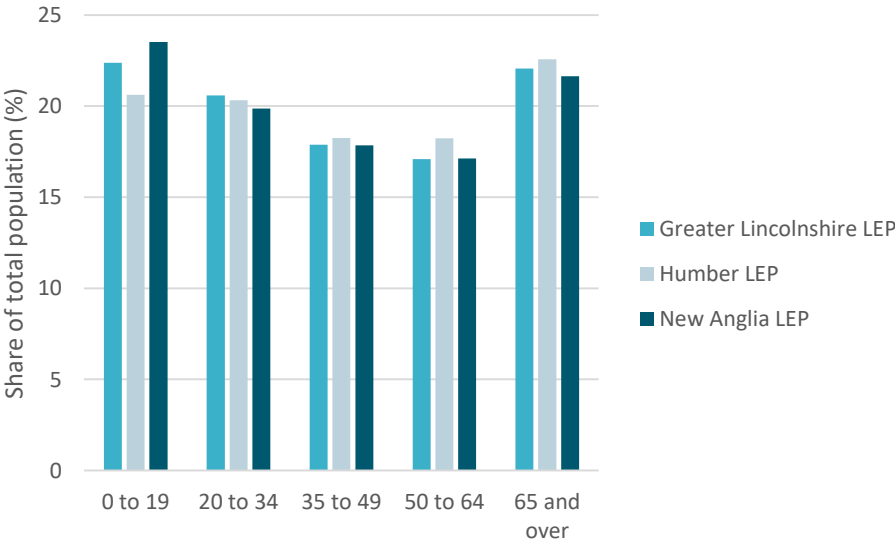
Analysing the figures for individual settlements shows that Lincoln and Boston have experienced population growth of 4.13% and 5.60% respectively (2012-17). These levels are consistent with the growth in their relevant local authorities.

# Age profile

Age structure (2017)



Age structure for LEPs (2017)



Ratio of retirement age to working age residents (2017)

	Ratio of retirement age to working age residents
East Lindsey	0.53
Rutland	0.42
South Holland	0.41
North Lincolnshire	0.34
North East Lincolnshire	0.33
<i>GL= 0.37, NA = 0.37, HMB = 0.37, EM = 0.31, UK = 0.29</i>	

Compared to the East Midlands and the UK, Greater Lincolnshire has an older population. There is a higher proportion of residents at retirement age. Over 22% of Greater Lincolnshire residents are aged 65 and over compared to 19.1% in the East Midlands and 18.2% in the UK. Of the local authorities, East Lindsey has the highest proportion of residents in the retirement age bracket at 29%, followed by Rutland with 25%.

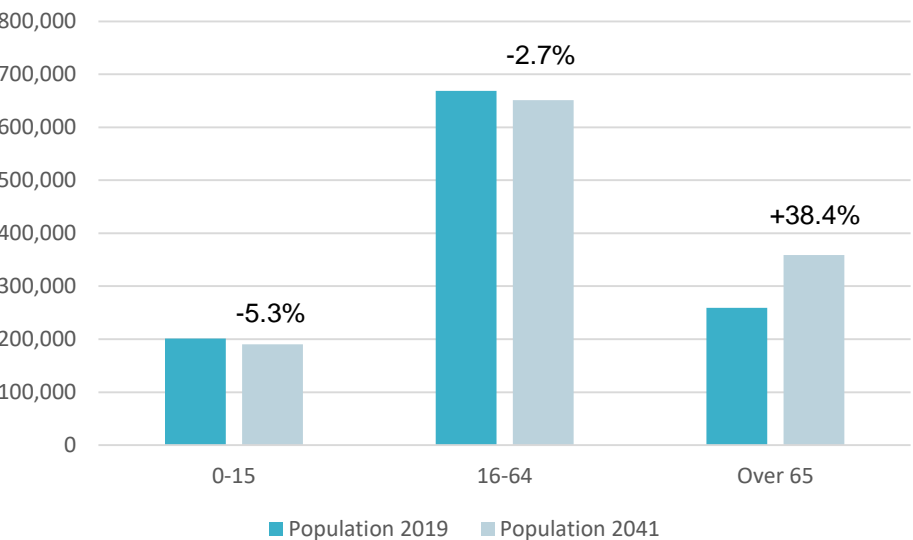
Equally, there is a lower proportion of younger residents in Greater Lincolnshire with 22% of residents aged 0 to 19 compared to 23.3% regionally and 23.5% nationally. This is more pronounced for the 20 to 34 age group, which represents 17.1% of Greater Lincolnshire's population compared to 19.3% in the East Midlands and 19.9% in the UK.

Comparing GLLEP to New Anglia and Humber LEP shows that it has an older age profile than both, specifically concentrated around the 50 to 64 age band.

The age profile of Greater Lincolnshire is reflected in the higher ratio of retirement age to working age residents. In GLLEP, the ratio of retirement age to working age residents is 0.37, the same across New Anglia and Humber LEP, while in the East Midlands and the UK, the ratio is 0.31 and 0.29 respectively. Greater Lincolnshire like its comparator LEPs has a large retirement age population relative to its working age population. 79

# Predicted population growth

GLLEP predicted population growth by age category, 2019 - 2041



The graph to the left presents predicted population growth for GLLEP from 2019 to 2041 using ONS population projections.

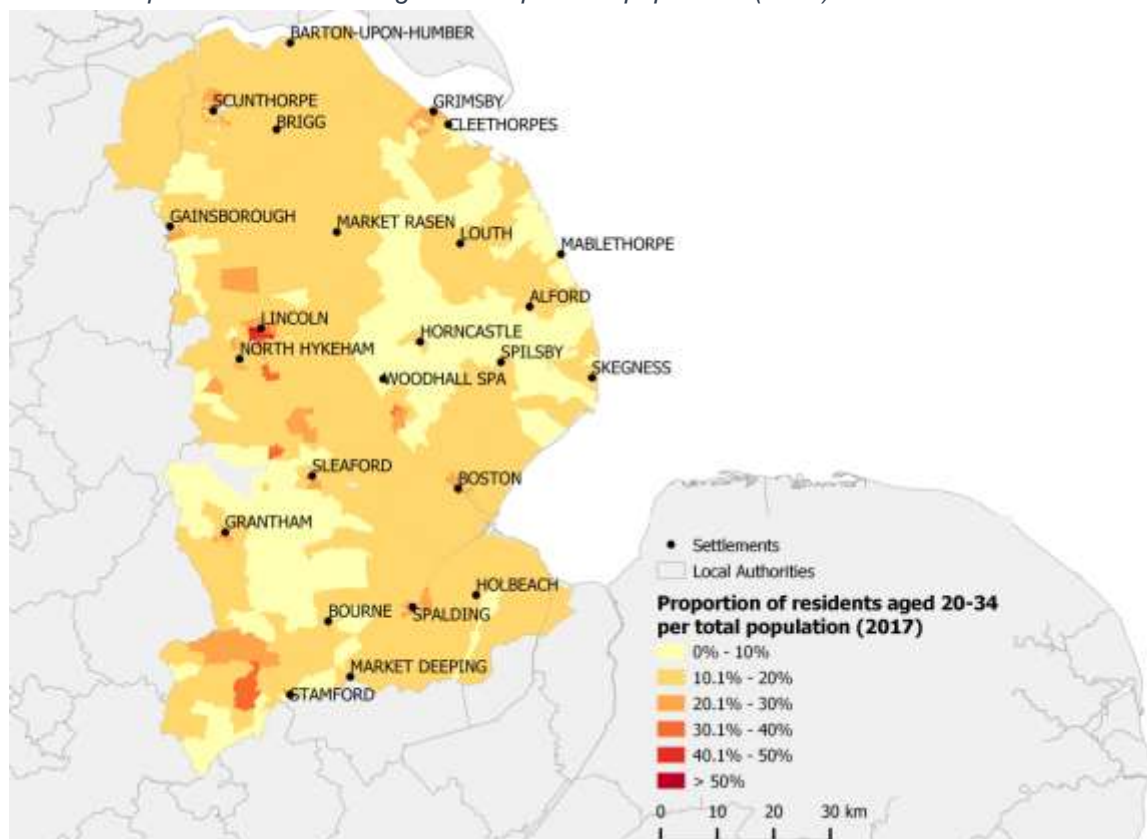
The total population is predicted to increase from 1.12m in 2019 to 1.20m by 2041, however this increase is skewed heavily towards population growth in the 65+ age category.

A 38.4% increase in the retirement age population, compared to 44.4% in the East Midlands, is a large increase and will present a new set of challenges around social care and the provision of public services.

The proportion of over 65s is predicted to increase more in South Kesteven and Rutland, with increases of 53% and 46.4%, respectively. A decline in the working age population (-2.7%) will also illicit fresh challenges. North East Lincolnshire for example is predicted to experience a decline of 8.97% in the 16-64 cohort.

# Spatial distribution of young people

*Proportion of residents aged 20-34 per total population (2017)*



The map to the left illustrates the spatial distribution of young people across Greater Lincolnshire. The proportion of residents aged 20 to 34 per total population is shown by mid-level super output area with the darker colour representing a higher proportion of this age group.

Across Greater Lincolnshire it is the areas not in proximity of a major town or city that have the lowest proportion of 20-34 year olds (excluding areas surrounding Grantham). This is true of East Lincolnshire where this cohort amounts to only 5-15% of the demographic.

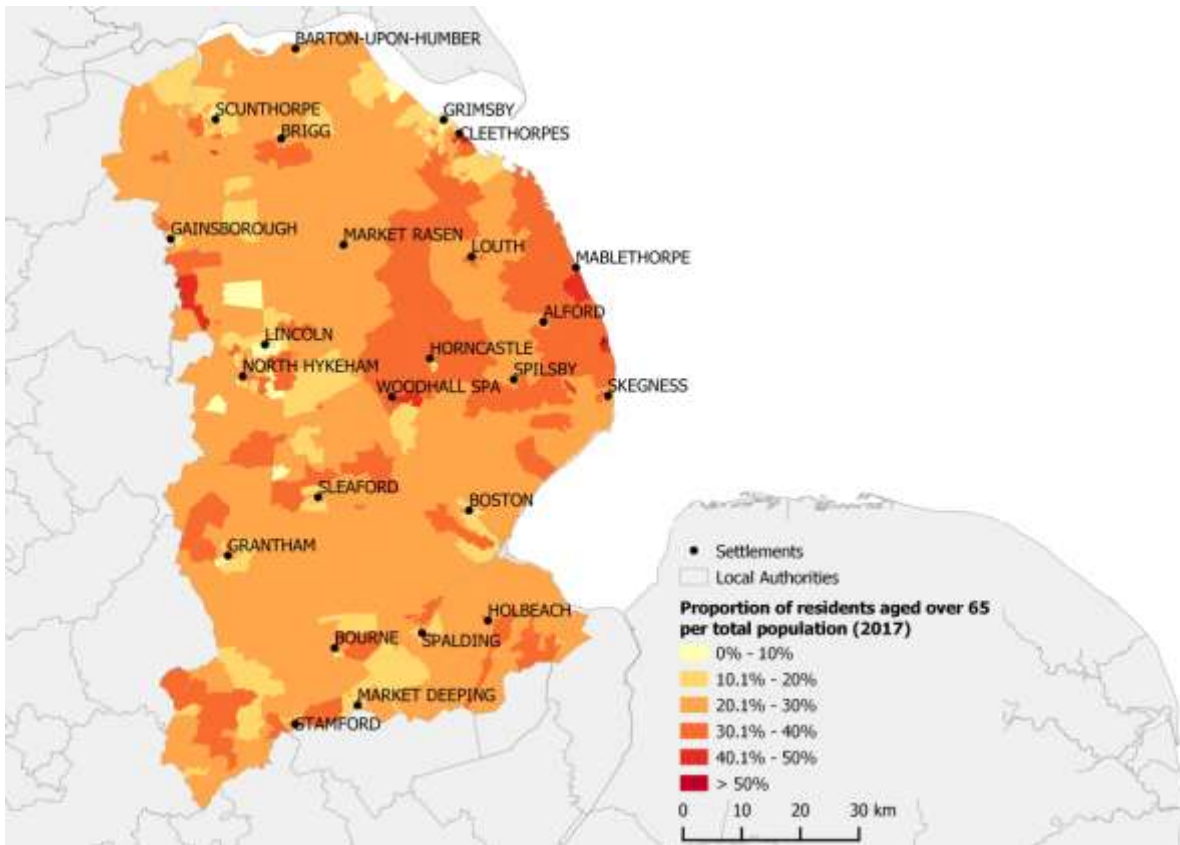
There are typically a higher proportion of young residents living in towns. The highest proportion of 20-34 year olds reside in areas within Lincoln district, with some areas having between 30-50% of the population comprised of 20-34 year olds. Other towns like Scunthorpe, Boston and Grimsby have proportions between 20-30%.

The high concentration of young people in Lincoln is not surprising given its city status and universities. However, there are not large numbers of 20-34 year olds in neighbouring areas, and so the number of individuals remaining in GLLEP (outside of Lincoln) is likely to be low.

Outside of Lincoln, parts of Scunthorpe have the next highest proportion of 20-34 year olds with 34%, while an area of Mablethorpe (East Lindsey) is the area with the lowest proportion, 6.4%.

# Spatial distribution of over 65s

*Proportion of residents aged Over 65s per total population (2017)*



The map to the left shows the proportion of the population that is aged over 65, using the same scale as the previous page. The over 65s constitute a larger proportion of the population across much of Greater Lincolnshire than do 20-34 year olds – illustrated by the darker tone of the map.

The representation of over 65 cohort in the major settlements across the LEP is non-negligible. This demographic still make up 10-25% of the population in some areas of the LEPs major settlements. Lincoln has a relatively higher proportion of older residents than Boston and Scunthorpe, for example.

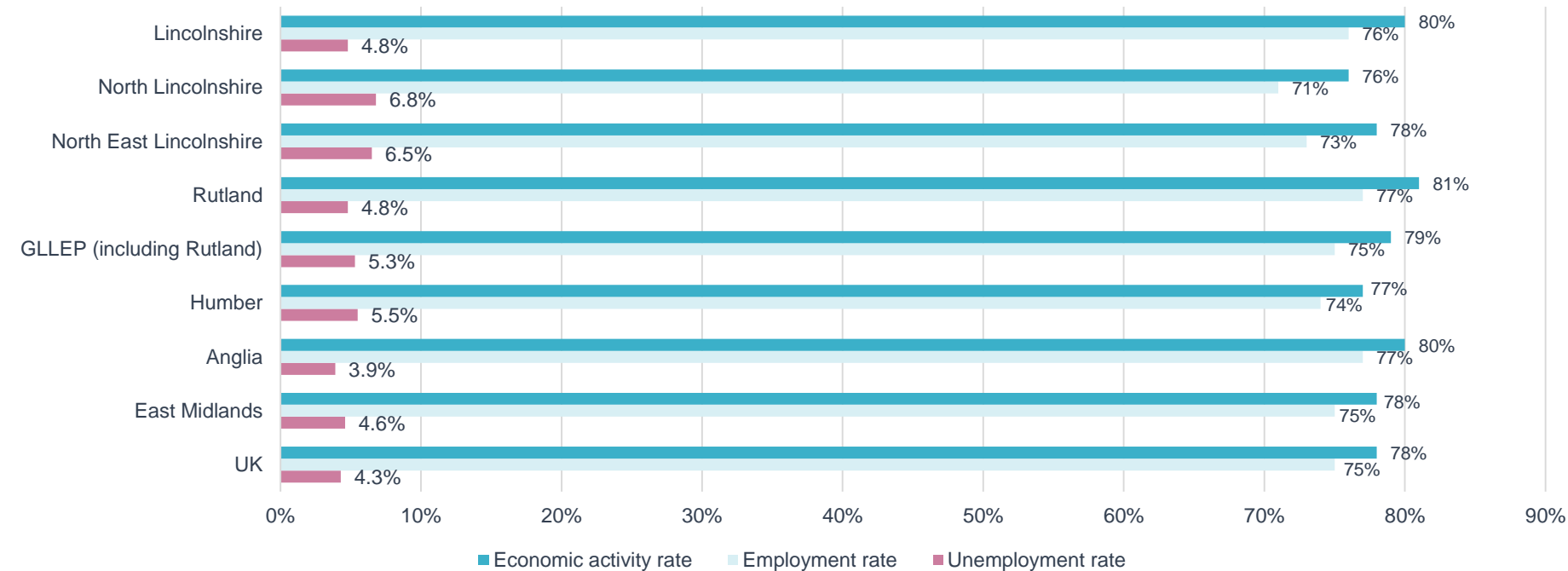
The majority of the map is shaded in a darker colour, highlighting that the majority of GLLEP has a high proportion of over 65s. This is most true in areas towards the coast and within the Lincolnshire Wolds, where the over 65 population comprises over 48% of the total population in some areas.

A demographic divide exists in the spatial distribution of young people Greater Lincolnshire. Higher levels of young people reside in the West of the LEP while the Eastern coast of the LEP is home to a higher proportion of older residents.



# Employment profile

*Employment and economic activity of residents aged 16-64 (2018)*



The table above shows economic activity, employment and unemployment rates.

Economic activity (shown in blue) indicates the size of the labour market. Economically inactive people, including students, the long-term sick and carers, are outside of the labour market, as they are neither in employment or are unemployed. The employment rate measures how many people in the population have a job.

Unemployment rate (shown in pink) is a measure of the health of an economy, as it responds to recession and growth. Unemployed people are those without a job who have been actively seeking work in the past four weeks and those who have found a job and are waiting to start. The chart

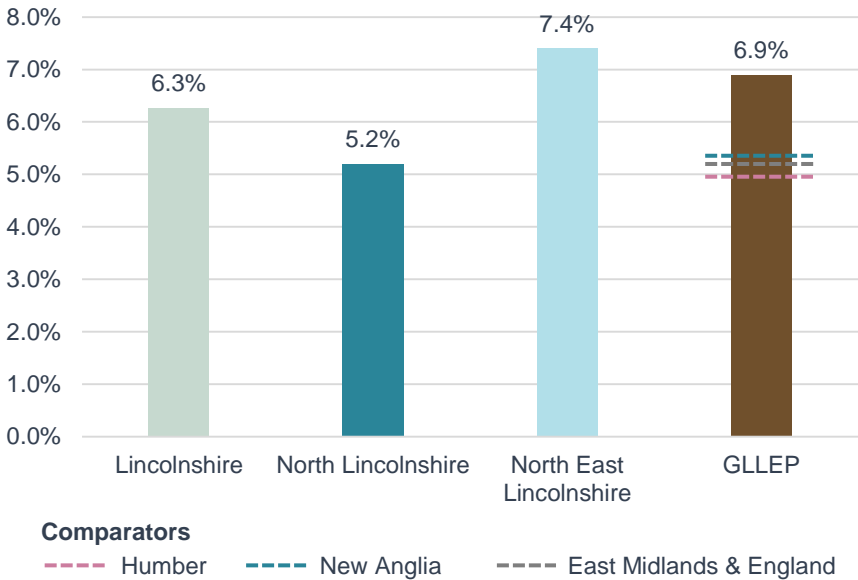
reveals important geographic distributions in economic activity. The unemployment rate is the highest in North Lincolnshire (6.8%) and North East Lincolnshire (6.5%). This is roughly 2% higher than in Lincolnshire and Rutland (4.8%).

North Lincolnshire has the lowest employment rate (71%). This is 4% points lower than GLLEP, 5% points lower than Lincolnshire, 2% points lower than NE Lincolnshire and 6% points lower than Rutland.

GLLEP has a higher unemployment rate (5.30%) compared to New Anglia (3.9%), East Midlands (4.60%), and UK average (4.30%). Its employment rate (75%) is lower than New Anglia's (77%) but equivalent to East Midlands and UK average (75%).

# Economic inactivity profile

GLLEP\* share of 16-17 y/o not in education, employment or training (NEET) incl. those with activities unknown 2018



The graph on the left shows the share of 16/17 year old NEETS in GLLEP's local authorities. The GLLEP's\* overall NEET share of 6.9% is higher than all comparators. It is almost 1% higher than the shares for New Anglia (6.1%), East Midlands (6%) and England (6%).

Of the local authorities, North East Lincolnshire has the poorest performance, with the highest share of NEETs, at 7.4%. North East Lincolnshire's high NEET share is consistent with the figures for earnings and deprivation, which also show high deprivation and low earnings in North East Lincolnshire's main town Grimsby.

Lincolnshire county's NEET share of 6.3% is only marginally higher than its comparators. North Lincolnshire has the lowest NEET share at 5.2%, lower than comparators.

GLLEP share of economically inactive residents aged over 16 by reason 2018



The table on the right shows GLLEP's economically inactive population aged over 16 by reason\*\*. Illness includes both chronic and short-term illness.

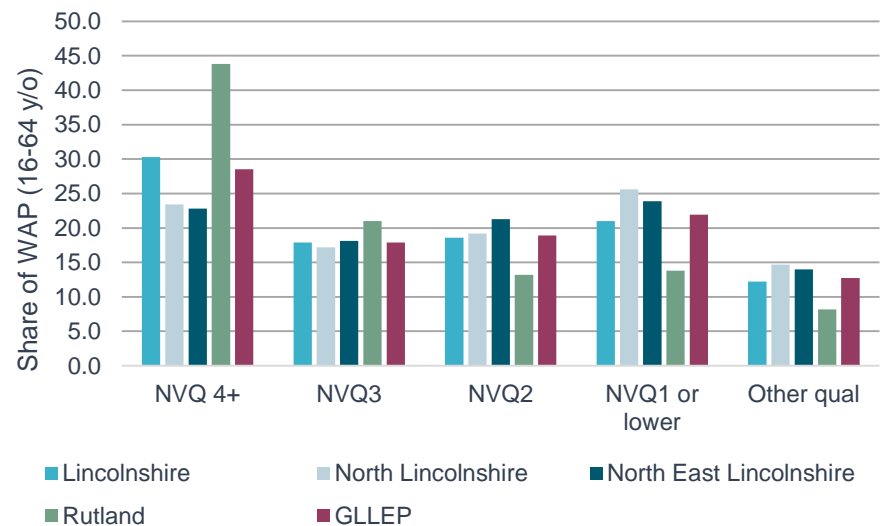
Illness is a significant cause of economic inactivity in GLLEP. Apart from Rutland, the remaining local authorities all have higher inactivity by illness share than New Anglia (23.2%), East Midlands (27.2%), and UK (24.8%), although illness is a similar concern in Humber LEP.

GLLEP has a smaller student population than its comparators particularly in North Lincolnshire. It generally has a higher population of retirees, especially in Rutland. It has a comparable share of home-related inactivity to neighbouring LEPS, regional, and national figures.

\* Excludes Rutland NEET share as data is only available at county level.  
\*\*Some figures for inactivity causes have a low confidence threshold due to small sample size

# Skills profile

GLLEP working-aged population (WAP) qualifications profile (2018)

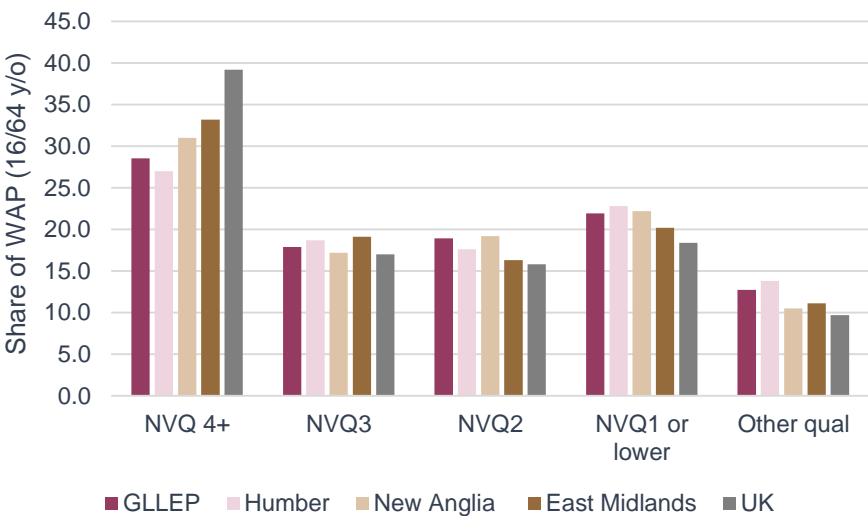


The graphs above show qualification attainment levels for GLLEP’s population and comparators, and can provide insight into the level of skills available in the employment base.

The graph on the left shows differences in the skills profile within GLLEP. Rutland has a more qualified population. It has the lowest share of those with NVQ 1 or lower (13.8%) and highest share of those with NVQ 4 and above (43.8%). The remaining analysis will consider the other 3 local authorities on the chart.

GLLEP working-aged population with NVQ 1 or lower ranges from a 21% in Lincolnshire to a high of 25.6% in North Lincolnshire. The education attainment gap narrows at NVQ 2 and NVQ 3 where (except for Rutland), the remaining 3 local authorities are within 2% to 3% from one another roughly compared to a range of 5% in the NVQ 1 or lower category.

Qualifications profile of WAP GLLEP and comparators



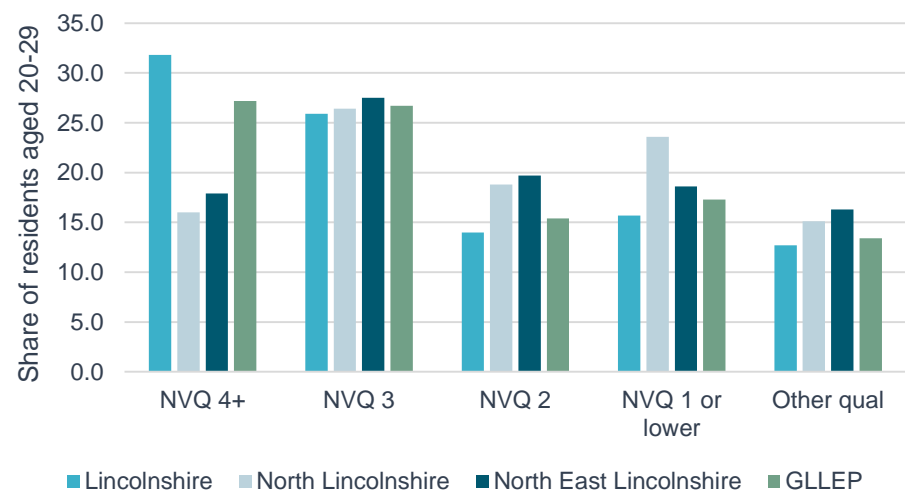
After NVQ3, the attainment gap widens roughly twice as much to a high of 30.3% in Lincolnshire and roughly 23% in North and North East Lincolnshire. This is consistent to prior GLLEP analysis highlighting limited education progression after KS4.

The graph on the right shows GLLEP working-aged residents’ qualification attainment levels against comparators. GLLEP residents with NVQ 1 or lower (21.9%) is marginally lower than New Anglia (22.2%) and Humber (22.8%) However, it is higher than the East Midlands (20.2%) and UK (18.4%).

The education gap between GLLEP and comparators widens after NVQ 3. GLLEP NVQ 4 attainment (28.5%) is lower than New Anglia (31%), East Midlands (33.2%) and UK shares (39.2%). There is over 10% difference between GLLEP and UK attainment.

# Skills profile young people

Young residents qualifications profile GLLEP\* (2018)

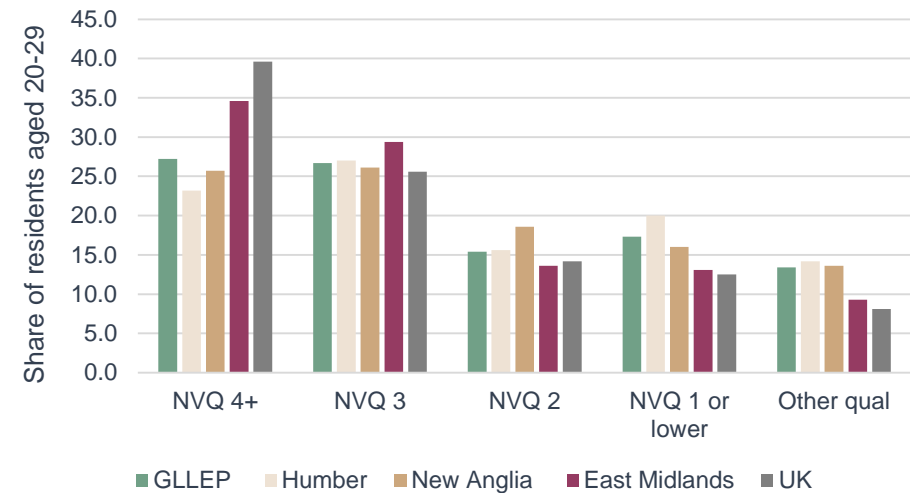


To further understand GLLEP skills profile, qualifications levels are presented here split by age group.

The chart on the left shows the qualifications profile for young residents (20-29 year olds), across each local authority. The chart on the right shows GLLEP\* qualifications compared to neighbouring LEPs, regional and national averages.

The data indicates that almost a third of Lincolnshire’s younger residents (31.8%) are the most likely to have university or further education degrees. This is nearly twice the share of North Lincolnshire where only 16% have further education degrees. Lincolnshire also has the lowest share of young residents with NVQ 1 or no qualifications (15.7%).

Young residents qualifications profile GLLEP\* and comparators (2018)



North Lincolnshire has the highest share of 20-29 year olds with NVQ1 or no qualifications (23.6%). NVQ 3 qualifications are relatively even among the 3 local authorities, with roughly a quarter of residents achieving A-levels or equivalent.

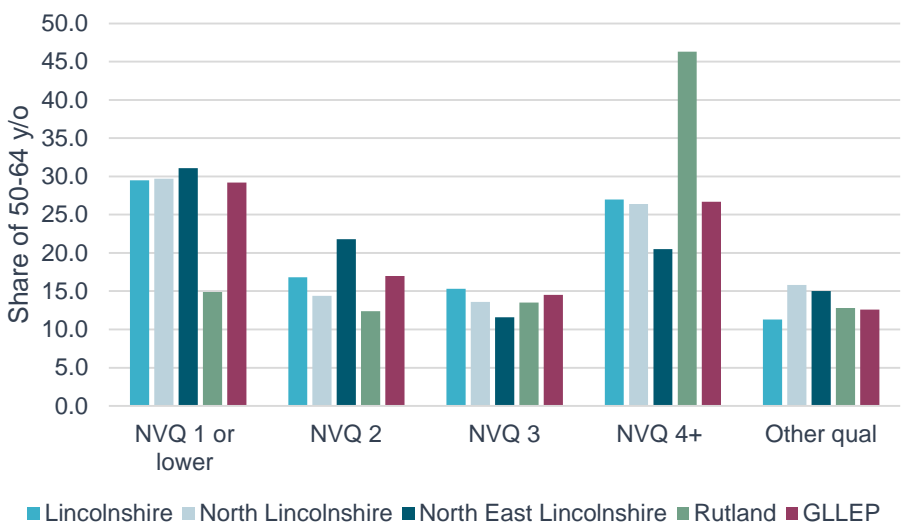
GLLEP has a higher share of residents with NVQ 1 or no qualifications (17.3%) compared to the New Anglia (16%), East Midlands (13.%) and UK share (14.2%).

27% of GLLEP’s 20-29 year olds have NVQ 4+ qualifications. This is higher than the share in New Anglia (25.7%) and Humber (23.2%) but lower than the East Midlands (34.6%) and UK share (39.6%). GLLEP NVQ 3 share (26.7%) is quite similar to East Midlands (29.4%) and UK (25.6%).

\* Rutland data unavailable due to small sample size

# Skills profile 50-64 year olds

Qualifications profile 50-64 y/o GLLEP (2018)



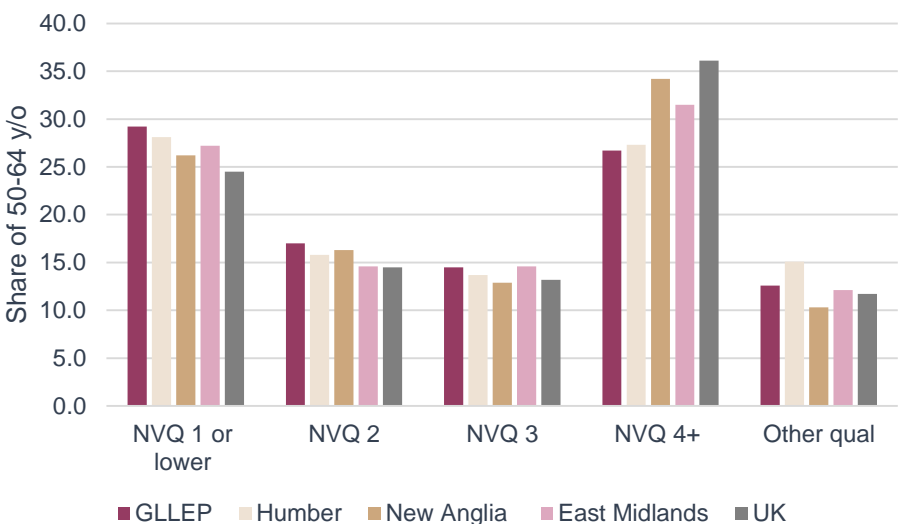
These charts show the qualifications of GLLEP’s 50-64 year olds. GLLEP’s 20-29 year olds have higher levels of qualification than 50-64 year olds.

Recalling the previous page, 17.3% of GLLEP 20-29 year olds have NVQ 1 or no qualifications compared to 29.2% of 50-62 year olds. Lincolnshire, with the lowest share NVQ1 or lower young residents (15.7%) has almost twice the share of older residents (29.5%) with NVQ1 or lower qualification levels.

GLLEP has a higher share of NVQ1 or lower 50-64 year olds (29.2%) compared to Humber (28.1%), New Anglia (26.2%), East Midlands (27.2%) and UK share (24.5%).

Within GLLEP, North East Lincolnshire has the highest share of NVQ1 or lower 50-64 year olds and lowest share of 50-64 year olds with NVQ 4 qualifications.

Qualifications profile 50-64 y/o GLLEP and comparators (2018)



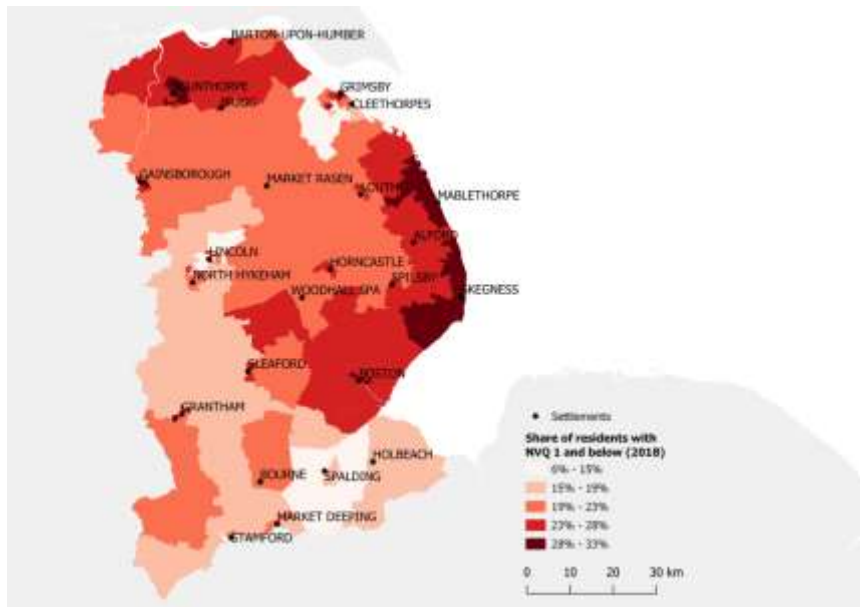
As with the working-aged and young-residents skill profiles, the attainment gap widens after NVQ 2. North East Lincolnshire has the highest share of 50-64 year olds with NVQ 2 qualifications at 21.8%. This is higher than Lincolnshire’s share of older residents with NVQ 2 qualifications (16.8%).

At NVQ 3, this gap widens to 11.6% of North East Lincolnshire residents attaining A-levels or equivalent compared to 15.3% in Lincolnshire. The difference in NVQ 4 qualifications is even wider with only 20.5% of North East Lincolnshire residents qualified to degree level compared to 27% in Lincolnshire.

Rutland’s 50-64 year olds are the most qualified. Its share of degree-qualified residents (46.3%) is more than twice that of the 3 remaining local authorities. The same applies for 50-64 year olds with NVQ 1 or no qualifications. Rutland’s share (14.9%) is roughly half of GLLEP’s other areas.

# Spatial distribution of skills

*Residents with no or low qualifications (2018)*



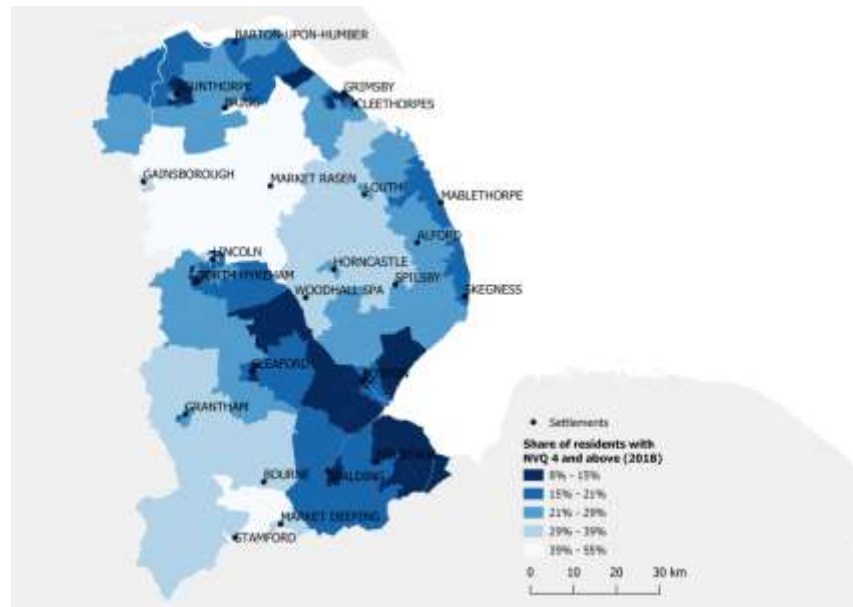
Mapping qualification levels provides an understanding of the spatial distribution of skills across the area, which is important for understanding the skills challenge.

The map on the left shows the proportion of residents with either no qualifications or NVQ Level 1 and the map on the right shows the proportion of residents with NVQ Level 4 or above.

The two maps are almost exact inverses of one another, reflecting a spatial disparity in skills within GLLEP. There is a 47-percentage point difference between the areas in terms of NVQ 4 qualifications. Areas with a higher share of degree-qualified residents (over 30%) are typically in the West part of the LEP.

Over 30% of residents in the East from Mablethorpe to Skegness have no or low qualifications. Between Skegness to Boston, this share decreases marginally to roughly 25% to 30%.

*Residents with further or higher education degree or above (2018)*



GLLEP's principal towns have lower levels of qualifications. Grimsby, Grantham, Scunthorpe and Boston all have pockets with a higher share of residents with no or low qualifications compared to their neighbouring areas.

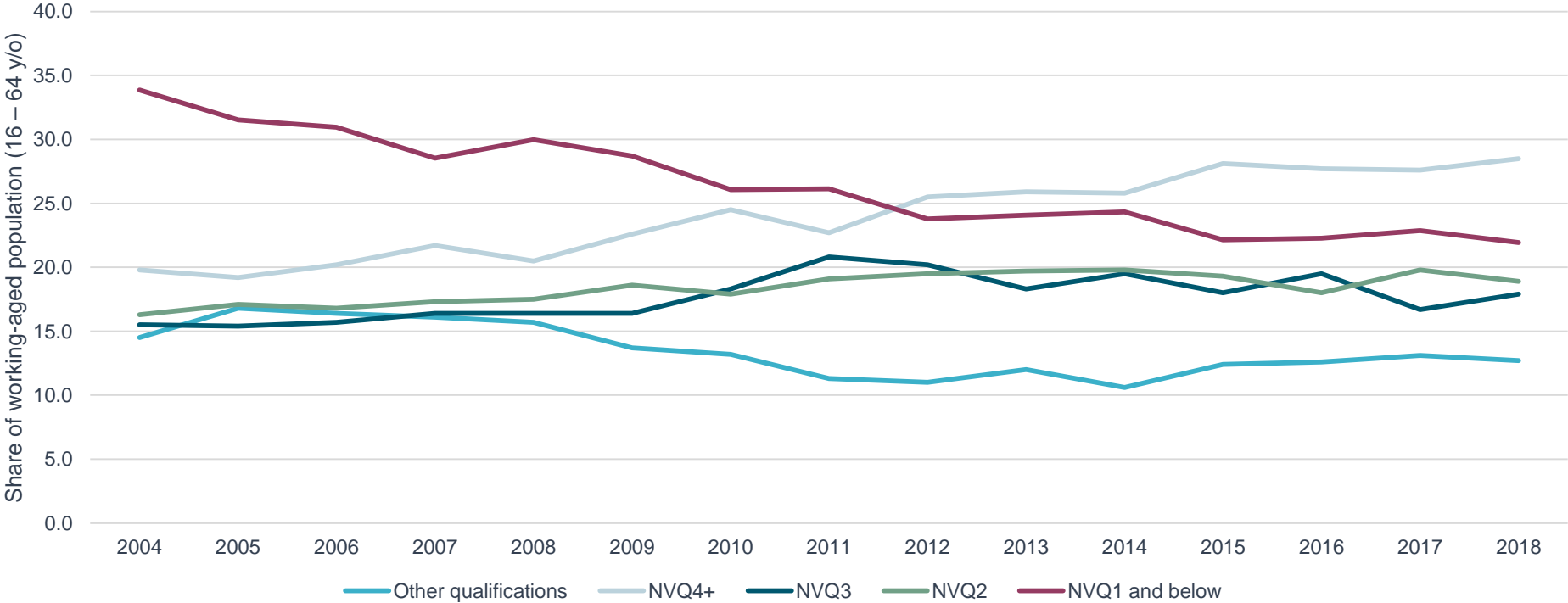
Lincoln has pockets where less than 15% are qualified to degree level or equivalent. Neighbouring towns in West Lindsey perform highly with over 40% of residents having NVQ 4+ qualifications.

GLLEP's spatial skills divide might further compound national challenges surrounding graduate mobility and retention. An attractive place offering might help with this issue along with increasing awareness of high-value job opportunities available to skilled workers, particularly graduates.



# Skills profile trends

GLLEP qualifications level change 2004 - 2018



The above chart illustrates changes in the skills composition of the working age population in the GLLEP between 2004 and 2018.

Since 2008, there is a steady decline in the proportion of those with NVQ Level 1 and below, falling by roughly 8% in the decade from 30% in 2008 to 21.9% in 2018.

Between 2008 and 2018 there was an 8% increase in the share of those with NVQ Level 4 and above from 20.5% in 2004 to 28.5% in 2018. This mirrors the decline in those with NVQ level 1 and below over the same period

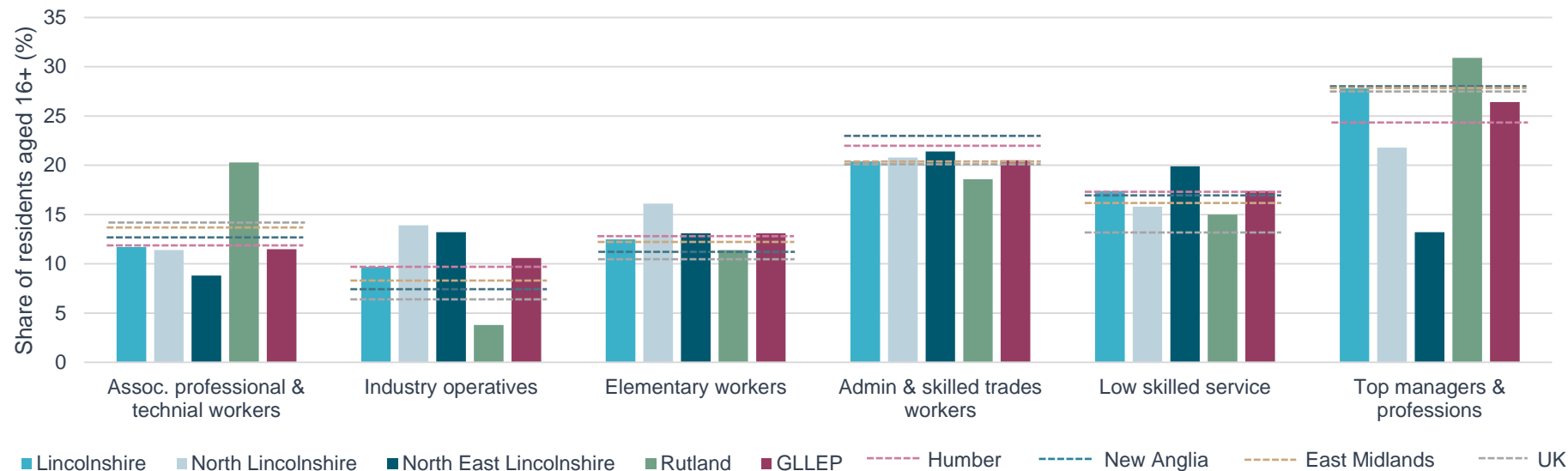
The proportion of GLLEP’s working population with NVQ Level 2

increased modestly from 16.3% in 2004 to 18.9% in 2018. The share of those with other qualifications (including those with trade apprenticeships) has fallen roughly 4% from 16.8% in 2005 to 12.7% in 2018.

The share of those with NVQ Level 3 in changeable - from 2004 to 2011, there was 4% increase in those with NVQ3 qualifications from 16.3% to 20.8%. Since 2012, this share has declined. As of 2018, the share of NVQ 3 has yet to recover to its peak in 2011. It is still roughly 2% points lower, at 17.9% in December 2018.

# Occupations profile

GLLEP occupational profile (2018)



The chart above show the occupation of GLLEP residents, its comparator LEPS, regional, and national occupation profiles.

Over a quarter of GLLEP residents are in top managerial roles. North (21.8%) and North East Lincolnshire (23.4%) have the smallest managerial jobs, even compared to Humber's (24.8%) lower share.

North East Lincolnshire (19.9%) has the highest residential share employed in low skilled services, the second highest share of industry operative employment (13.2%), and the lowest associate professional and technical employment (8.8%). North East Lincolnshire's occupation profile could be linked to its relatively low earnings and high deprivation.

The pattern is reversed for Rutland, which has the highest proportion of top managers and professionals (30.9%), the highest share of associate professional and technical workers (20.3%), and the lowest

share of industry operatives (3.8%).

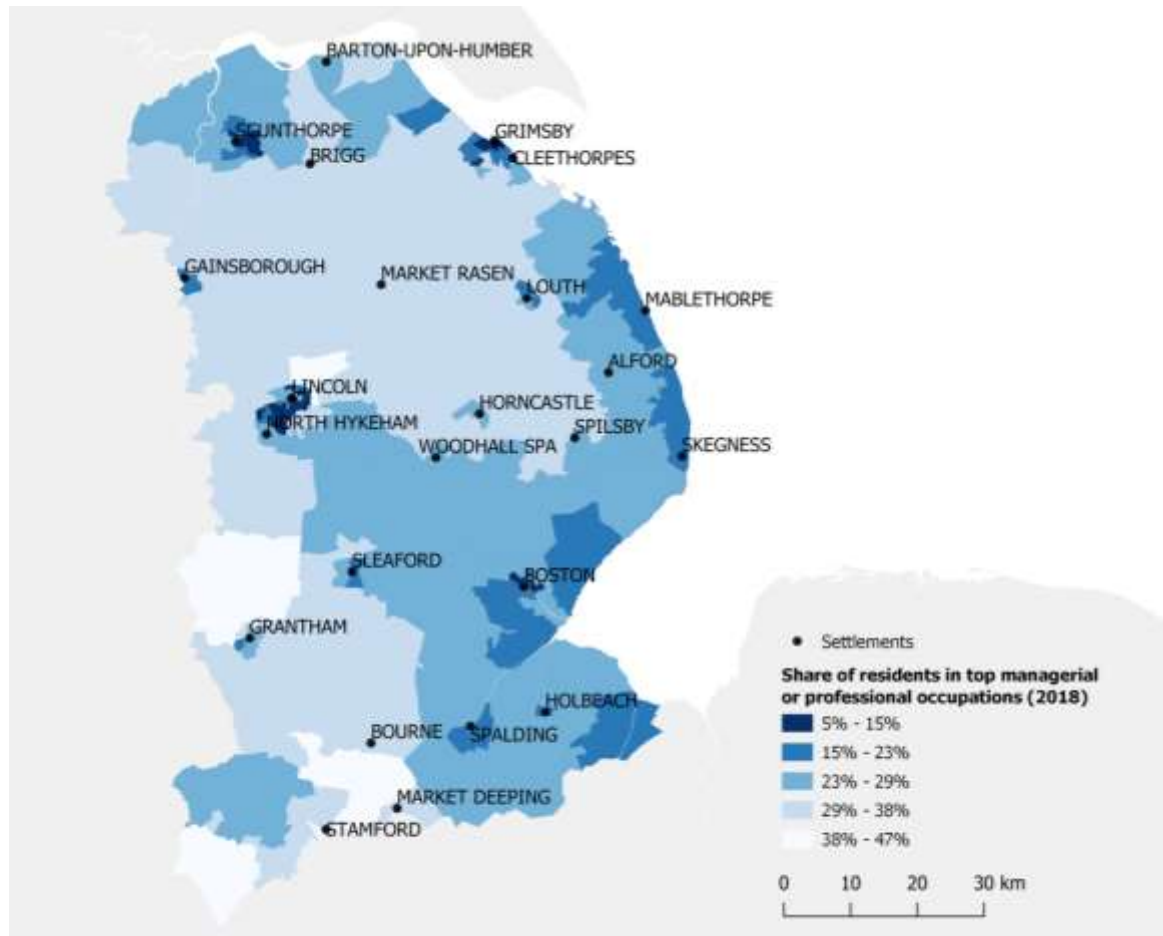
GLLEP (except Rutland) employment in associate professional and technical jobs (12%) is lower than all comparators. Its share of industry operatives (10.6%) and elementary workers (11.1%) is higher than all comparators.

Associate profession jobs are lower than East Midlands (13.8%) share by 1.8% and UK (14.6%) share by 2.6%.

Admin & skilled trades workers (20.5%) along with low skilled services (17.4%) are comparable with East Midlands and UK shares.

# Spatial distribution of occupations

*GLLEP residents in top manager or professional occupations (2018)*



Mapping the proportion of residents in certain occupations helps to strengthen our spatial understanding of the labour market.

This map shows the proportion of residents who work as managers, directors, senior officials or in professional occupations. It follows a similar pattern to the map of residents with NVQ Level 4 or above and the map of earnings.

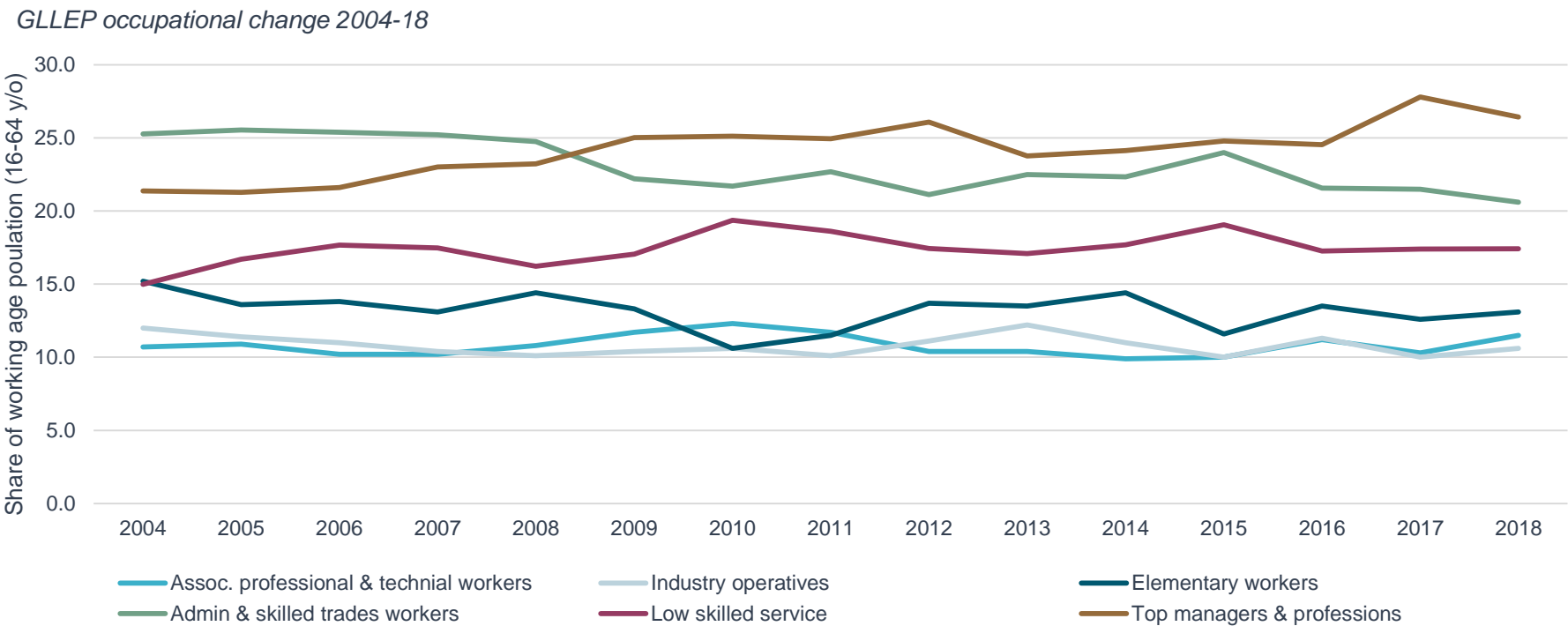
Areas with a relatively high proportion of residents in these high level roles (>33%) are in the Western local authorities such as West Lindsey, South Kesteven and Rutland.

The map highlights the poor performance of GLLEP towns. This is most visible in Grantham where there is approximately a 22% difference between the town and its surroundings in managerial employment.

Grimsby, Lincoln, Scunthorpe and Grantham all follow a similar pattern although to a lesser extent. This suggests that residents may not be accessing more senior employment opportunities in the towns.

Consistent with the skills map, the Eastern towns all have a lower share of residents in managerial roles (under 25%). In parts of Grimsby, Scunthorpe and Louth, the range is even lower, at 5% - 17%.

# Occupations profile trends



The above chart illustrates occupational change among GLLEP’s working age population between 2004 to 2018.

Following the 2008 financial crisis, decline of administrative and skilled trades workers was the largest, falling by almost 5% from 24.8% to 20.6% in 2018.

Although there was an encouraging 3% increase in the share of top managers & professions from 23.2% to current levels of 26.4% in 2018, the same period also saw the share of low skilled service workers rise by 1.2%.

Between 2008 to 2010, the share of low skilled workers increased by over 3% whilst admin & skilled trades workers decreased by the same amount. One possible cause of this is that people in admin & skilled trades roles are moving into low skilled services.

Consistent with national focus on the services sector, industry operatives and elementary workers declined modestly by 1.4% and 2% respectively between 2004 and 2018. The share of associate professional and technical workers has remained relatively stable over the same period, rising by roughly 1%

# Talent pool – school leavers

Overall effectiveness of all schools (as at December 2018) and GCSE attainment (2016/2017)

Region	Proportion of schools ranked				GCSE attainment (2016/17)		
	Outstanding	Good	Requires improvement	Inadequate	Entry rates GCSE (incl. EngBacc)	Students achieving Strong 9-5 pass in English and Maths	EngBacc. pass (inc. strong 9-5 pass in English and Maths)
Lincolnshire	18%	65%	10%	6%	97%	42%	21%
North Lincolnshire	14%	74%	11%	1%	98%	41%	16%
North East Lincolnshire	17%	62%	16%	5%	98%	36%	19%
Rutland	24%	71%	5%	0%	N/A**	58%	24%
GLLEP* (inc Rutland)	18%	66%	11%	5%	98%	42%	20%
Humber*	15%	68%	14%	3%	97%	39%	17%
Anglia*	14%	67%	13%	4%	96%	40%	17%
East Midlands	17%	65%	13%	5%	97%	42%	19%
England	20%	64%	11%	4%	90%	40%	20%

The table above shows the ranking of schools and GCSE attainment in GLLEP. The ranking comprises of all Ofsted inspected state schools, including nursery, primary, secondary, special and pupil referral units.

The rightmost two columns show GCSE attainment in 2016/2017. Achieving a grade 5 or above in either English language or literature and maths is the benchmark following changes to the grading structure.

The English Baccalaureate (EngBacc) is a group of GCSE subjects, including English, maths, science, history or geography, and a foreign language which universities view favourably. Pupils must achieve a strong 9-5 pass in English and maths, and a grade C or above in the other elements, as these subjects had not been reformed in 2017.

18% of GLLEP schools were ranked 'outstanding'. This is higher than the Humber (15%), New Anglia (14%) and East Midlands (17%) averages but lower than the English (20%) average. GCSE (42%) attainment was equivalent to Midlands but better than Humber, New Anglia and England.

EngBacc (20%) attainment was equivalent to England's share but better than Humber, New Anglia and East Midlands average. Entry rates for GCSE across the 4 local authorities were roughly 97%-98%.

North East Lincolnshire has the highest share of schools ranked below 'good'. 16% of schools 'requires improvement' and 5% of schools are 'inadequate'. This equates to 1/5<sup>th</sup> of schools. Its share of pupils with a strong pass in English and Maths is the lowest of all regions. Nevertheless, it has a high share of students who enter the EngBacc at 39% compared to the English average of 35%.

Rutland has better schools and attainment among local authorities and performs better than any comparators. It has the fewest schools ranked below 'good' at only 5%, significantly lower than comparators. Over half its students achieve a strong 9-5 pass in English and Maths. However, Rutland's sample size is quite small, with only 473 students at the end of KS4.

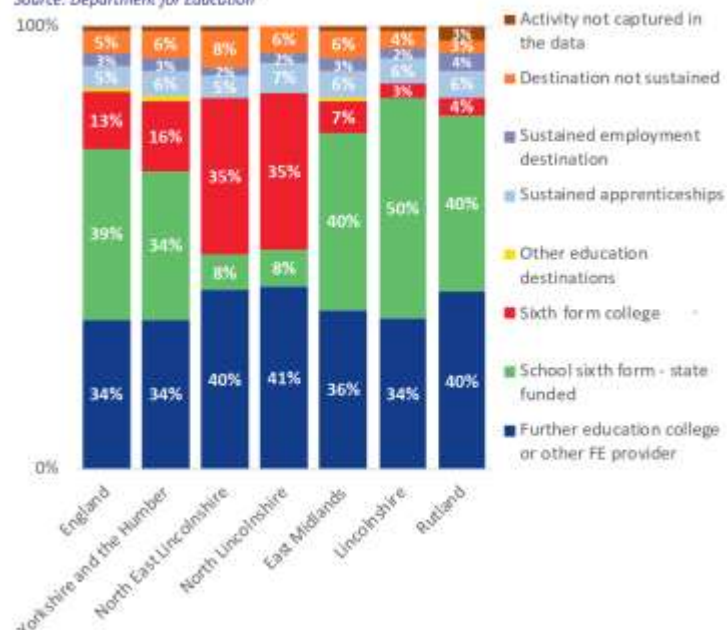
\*Please note this is an estimate based on local authority counts.

\*\*Entry rates for Rutland are unreliable due to small sample size

# Pupil destinations after KS4 and KS5

**Figure 72 – Pupil destinations after completing key stage 4 (state-funded mainstream schools), 2016/17 destinations for the 2015/16 cohort Pt.2**

Source: Department for Education



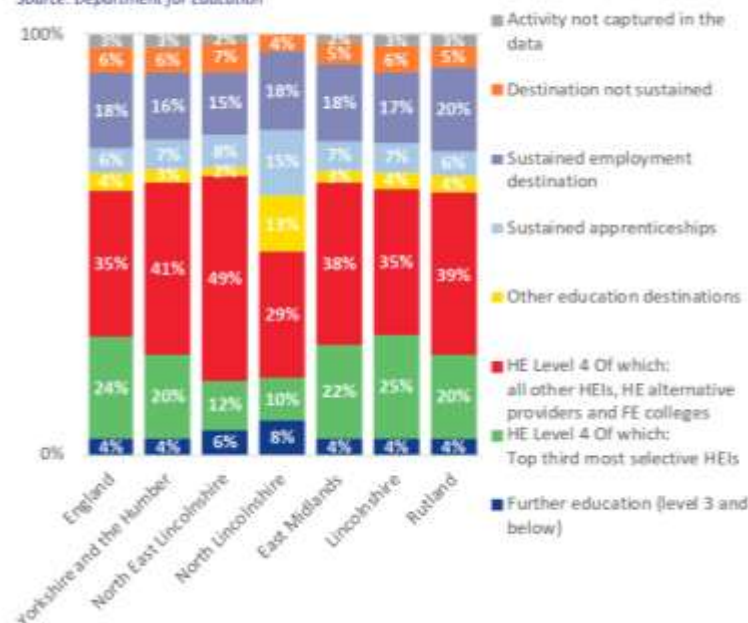
It is important to consider GLLEP's future workforce. A major challenge for the area is to find suitably qualified people to fill 207,000 job vacancies between 2014-2022.

The chart on the left shows the destinations of students who have completed their GCSEs in the academic year 2015/2016 and where they end up in 2016/2017. The chart on the right shows the same measure but for those who have completed KS5.

Among the 4 GLLEP local authorities, North East Lincolnshire has the

**Figure 74 – Student destinations after completing key stage 5 (state-funded mainstream schools), 2016/17 destinations for the 2015/16 cohort Pt.2**

Source: Department for Education



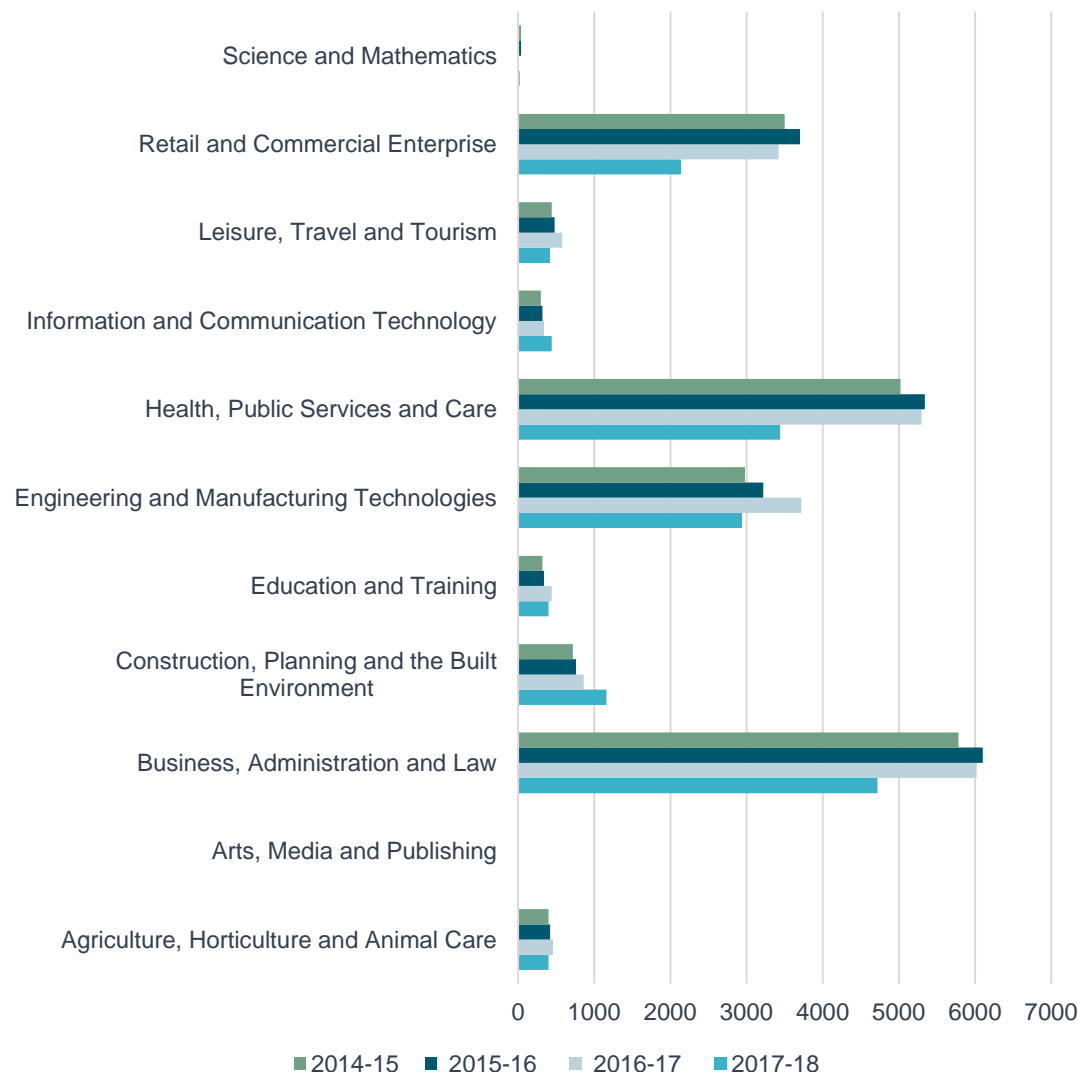
highest share of those with destinations not sustained after KS4 (8%) and KS5 (7%). It is higher than the remaining 3 local authorities, Humber, East Midlands and England's share.

A higher proportion of North East Lincolnshire's students were not in education or employment for a continuous period of over 6 months. North Lincolnshire has a higher share of those in sustained apprenticeships after KS4 (7%). This trend continues after KS5 with 15% of students in sustained apprenticeships – roughly twice the share of comparators.



# Talent pool – apprenticeships

*GLLEP apprenticeships starts by sector (2014-18)*



The graph to the left shows the number of apprenticeship starts by sector and year. It covers those aged under 19 to over 25. There are 3 types of apprenticeships: intermediate – equivalent to NVQ 2, advanced – equivalent to NVQ 3, and higher – equivalent to NVQ4

GLLEP also draws on its apprentices in its talent pool. In 2017/18, there were 19,500 apprenticeship starts in the second quarter. This is a 31.5% decrease from 2016-17.

There were 2 sectors that have had an increase in apprenticeship starts: Construction, Planning and the Built Environment (1,160 starts; 25.8% increase) and Information and Communication Technology (440 starts; 22.7% increase)

Over the last four years, the highest proportion of apprenticeship starts have been in Business, Administration and Law with 4,720 starts in 2017/18, representing 29.3% of total apprenticeship starts. Since 2016-17, there were 1,300 fewer starts, a 27.5% decrease.

The subject areas with the second and third highest share of apprenticeship starts are Health, Public Services and Care (3,440 starts; 21.3%) and Engineering and Manufacturing Technologies (2,940 starts; 18.3%).

Engineering apprenticeships have decreased by 780 (26.5%). Health and public services apprenticeships have decreased by 1,860 (54%). Both are large, specialised subsectors with an LQ > 1 and a high job count.

There were only 20 apprenticeship starts in science and maths during 2017/18. At its highest, there were 40 starts in science and maths during 2014-2015 and 2015-16. There were 0 starts in 2016-17.

# The University of Lincoln Institute of Technology

The University of Lincoln has been successful in its bid to host one of the country's twelve Institutes of Technology (IoT).

The Institute will specialise in Agri-tech, food manufacturing, energy, digital and engineering – training Greater Lincolnshire's next generation of workers. This will be supported by £170m of capital funding from government.

The Institute provides unique collaborations between employers and further and higher education providers, aiming to close the areas skills gaps and improve productivity. IoT's bridge the gap between University and Sixth Form by offering level 4 and 5 qualifications in STEM subjects, for which Greater Lincolnshire has a strong business base.

Located at the University of Lincoln, the IoT will offer an alternative offer to residents providing a higher technical education. The IoT will encourage greater participation in education and will train young people for jobs that are to be in greater demand in the future.

The Institute is to be run by the University of Lincoln and will provide students with the same benefits given to the University students, such as accommodation. This will allow more engagement from young people in the East of the LEP, but is anticipated to also attract younger people from outside of, but on the periphery of Greater Lincolnshire.

# Employment barriers for the young

*GLLEP identified and perceived needs of the young (Sept 2018)*

Did you receive good quality careers advice at school or college?			
	Yes	No	Unsure
All	48%	30%	22%
NVQ 1 and below	57%	20%	20%
NVQ 2/3	37%	35%	28%
NVQ 4+	40%	60%	0%

Rank	Obstacle	Percent
1st	Not enough experience	46%
2nd	Availability of transport or travel costs	42%
3rd	Confidence	37%
4th	Need better qualifications	29%
5th	Not enough good jobs where I live	28%

The two tables on the left are taken from GLLEP's What Works report. It is part of a series on employment and skills commissioned by the LEP and funded by the European Social Fund (ESF) and Skills Funding Agency.

It is part of the ESF Career Net 18-24 programme. The aim of the report is to encourage aspiration, employment and career progression among young residents.

The top table is respondents' opinions on careers advice during their schooling years. Overall, almost half of respondents across all skills levels are satisfied with the quality of advice. Notable is the decrease in respondents' satisfaction with the quality of advice as their skills increase.

60% of degree-qualified young people are unsatisfied with the quality of advice. The satisfaction gap of careers service provision between higher and lower attainment youths is likely a legacy of GLLEP's old 'Connexions' services which targeted more support toward less academically abled youths who may be at risk of becoming NEETs.

The bottom table identifies obstacles to career progression among the young. The most common reason is lack of experience (46%). Other reasons relating to this is lack of confidence (37%) and need for better qualifications (29%).

The second most common obstacle is unrelated to the applicant's skills. 42% of respondents cited unaffordability and unavailability of transportation as an obstacle. This problem is likely to be exacerbated by Greater Lincolnshire's geography and peripherality.

# Job vacancies

*Recruitment and skills gaps GLLEP (2017)*

	Lincolnshire	North Lincolnshire	North East Lincolnshire	Rutland	GLLEP
Have had any vacancies in the last 12 months	16%	14%	20%	10%	16%
Have had hard to fill vacancies in the last 12 months	5%	4%	8%	6%	5%
Have any skills gaps	20%	17%	30%	34%	21%

*Main causes of having a hard-to-fill vacancy GLLEP (2017)*

	Greater Lincolnshire	UK
Low number of applicants with the required skills	25%	38%
Low number of applicants with the required attitude, motivation or personality	21%	16%
Lack of qualifications the company demands	20%	14%
Not enough people interested in this type of job	19%	24%
Low number of applicants generally	18%	26%
Lack of work experience the company demands	17%	18%
Job entails shift work/unsociable hours	8%	10%
Remote location / poor public transport	7%	11%
Too much competition from other employers	6%	12%
Other	5%	4%

North East Lincolnshire has both the highest share of vacancies (30%) and hard to fill vacancies (8%). It has the second highest share of skills gaps (30%) after Rutland (34%).

A hard-to-fill vacancy is defined from an employer's perspective. It occurs when an employer cannot find applicants with the skills, qualifications or experience to do the job. There are different reasons for having a hard-to-fill vacancy ranging from skills to unsociable hours.

Although often the most common, skills shortage only accounts for 1 type of hard-to-fill vacancy. Hence, policies that aim to address labour market shortages should address other dimensions other than skills.

For GLLEP, transport is likely an important dimension. 42% of young people cite high travel costs as a barrier to career advancement. This provides a clear link between improving transport connectivity and labour market mobility so that businesses can find suitably skilled applicants. Addressing transport linkages may also aid in improving graduate retention and business visibility across GLLEP.

The most common reason for having a hard-to-fill vacancy is a low number of applicants with the required skills on both the national level (38%) and the GLLEP level (25%). However, this is a less common reason in GLLEP than at UK level.

The 2<sup>nd</sup> most common reason is a low number of applicants with the right attitude (21%). This is more common in GLLEP than nationally (16%).

The third most common reason is lack of qualifications the company demands. Interestingly, the frequency cited in GLLEP (20%) is higher than at the UK level (14%).

# Skills mismatches in the local economy

**Insufficient number of school leavers** to fill projected **207,000** job vacancies between 2014-2022; 182,000 will be due to **retirement**, 18,000 from business **expansion**

**Service-intensive occupations** demand is higher compared to the rest of the country. **33%** of **health & social work** establishments have vacancies, 26% in **education** establishments, 24% in **public administration**.

There is a **mismatch** between the skills employers require and skills individuals can offer. Over **20%** of hard to fill GLLEP job vacancies are due to **skills shortages**

**61%** of skills shortage vacancies in **transport and storage** sector. **44%** of skills shortages in **construction** sector. 126,000 additional jobs will require NVQ Level 4 or higher by 2022.

**Hard to fill vacancies** will be in **labour intensive** jobs e.g. machine operatives. **25%** of such vacancies are due to **skills**, 21% from lack **attitude, motivation or personality**

GLLEP working-aged population is shrinking: **upskilling and retraining** of existing work force is imperative. Young people need to be **inspired** to **stay and work** in the area.

# Wages by sector

*Average weekly earnings by sector in the UK (February 2019, revised)\**

Sector	Average weekly earnings
Agriculture, forestry and fishing	£394
Mining and quarrying	£1,426
Manufacturing – food products, beverages and tobacco	£504
Manufacturing – textiles, leather and clothing	£425
Manufacturing – chemicals and man-made fibres	£776
Manufacturing – basic metals and metal products	£591
Manufacturing – engineering and allied industries	£698
Other manufacturing	£535
Electricity, gas and water supply	£704
Construction	£627
Wholesale trade	£628
Retail trade and repairs	£333
Transport and storage	£601
Accommodation and food services	£253
Information and communication	£888
Finance and insurance	£1,609
Real estate	£515
Professional, scientific and technical activities	£724
Administrative and support activities	£428
Public administration	£589
Education	£447
Health and social care	£439
Arts, entertainment and recreation	£388
Other services	£379

This table shows average weekly earnings in the UK by sector. Wage level data at this level of specificity is not available at the local level. National figures can be used indicatively alongside our understanding of GLLEP's key sectors to provide an overview of wages in GLLEP.

Wages in GLLEP's key sectors such as agrifood, manufacturing, health and social care, and retail and hospitality at the national level shows a mixed picture.

Accommodation has the lowest weekly earnings (£253). Agriculture is on the lower end weekly earnings (£394). These two sectors employ a large share of residents, particularly in North and North East Lincolnshire.

Manufacturing wages vary by sub-sector, but tend to be high compared to other sectors. Two manufacturing sub-sectors are within the top ten sectors by average weekly wages: chemicals and man-made fibres (£776) and metals (£591).

As the analysis in the LQ analysis in the Sectors section of this data pack shows, GLLEP has a diverse manufacturing sector with jobs in the higher and lower paid sub-sectors. GLLEP's chemicals manufacturing sector is a smaller employer with roughly 2,375 jobs. Its metals manufacturing employs roughly 6,000. This equates to roughly 12% of manufacturing jobs.

Logistics (transport and storage) is the tenth highest paid sector with average weekly earnings at £601. This sector accounts for 8% of GLLEP employment with 37,000 jobs.

In contrast, average weekly earnings in health and social care are relatively low at £439, within the bottom ten least well paid sectors.

The second lowest paid sector is retail trade and repairs with average weekly wages of £333; however, wholesale trade jobs are relatively well paid at £628 on average per week and within the top ten highest paid sectors.

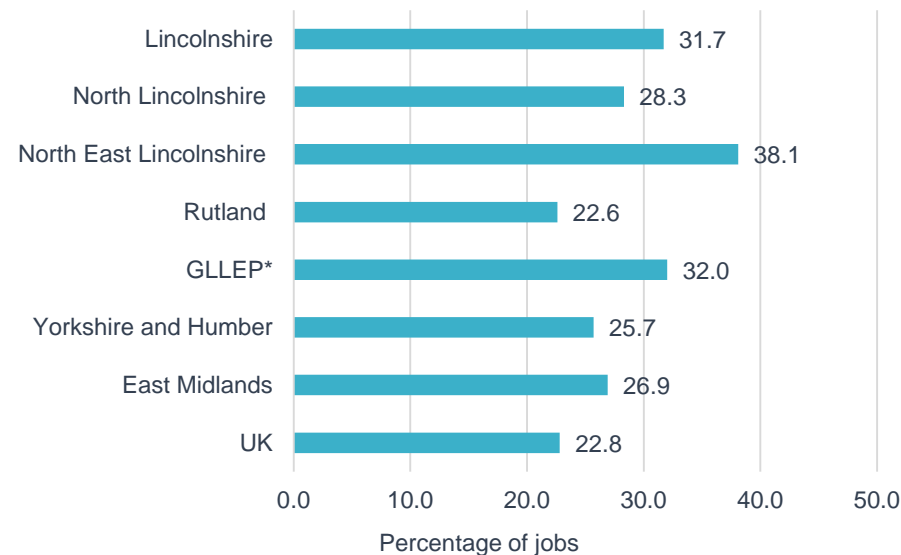
\* Not seasonally adjusted.

Source: ONS Monthly Wages and Salaries Survey (2019)



# Real living wage and weekly pay

Share of workplace jobs under the real living wage\* (2018)



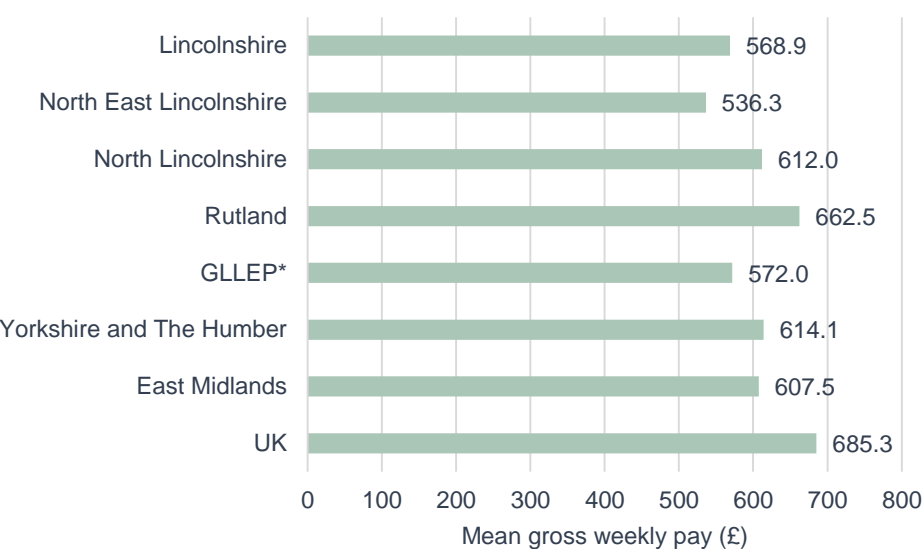
The left hand chart illustrates the percentage of workplace jobs earning beneath the real living wage\* of £8.75 in 2018, as set by the Living Wage Foundation.

Except Rutland, GLLEP’s local authorities all have a higher percentage of workers earning below the real living wage than Yorkshire and Humber (25.7%), East Midlands (26.9%), and UK as a whole (22.8%).

North East Lincolnshire (38.1%) in particular has the highest share of workers under the real living wage. This is an area of concern given that the real living wage acts as a proxy for in-work poverty, which remains a major issue for achieving inclusive growth.

The chart on the right illustrates gross weekly pay for GLLEP local authorities. North East Lincolnshire (£536) has the lowest mean weekly

Gross weekly pay for workers in GLLEP\* and comparators (2018)



pay, consistent with its high share of those earning below real living wage. This links with prior analysis in this data pack showing higher share of low-skilled service and elementary jobs.

Rutland (£662.5) has the highest weekly income, exceeding the Humber (£614) but still lower than the UK average (£685). This is consistent with its qualification attainment and occupational profile showing higher shares of top managerial jobs.

North Lincolnshire’s (£612) weekly pay is higher than East Midlands’ (£607) but lower than the UK (£685). The region’s higher weekly income is possibly attributable to its larger share of industry operative jobs. There is a need to assess low weekly pages from the perspective of employer preferences and whether this will affect regional competitiveness and graduate retention.

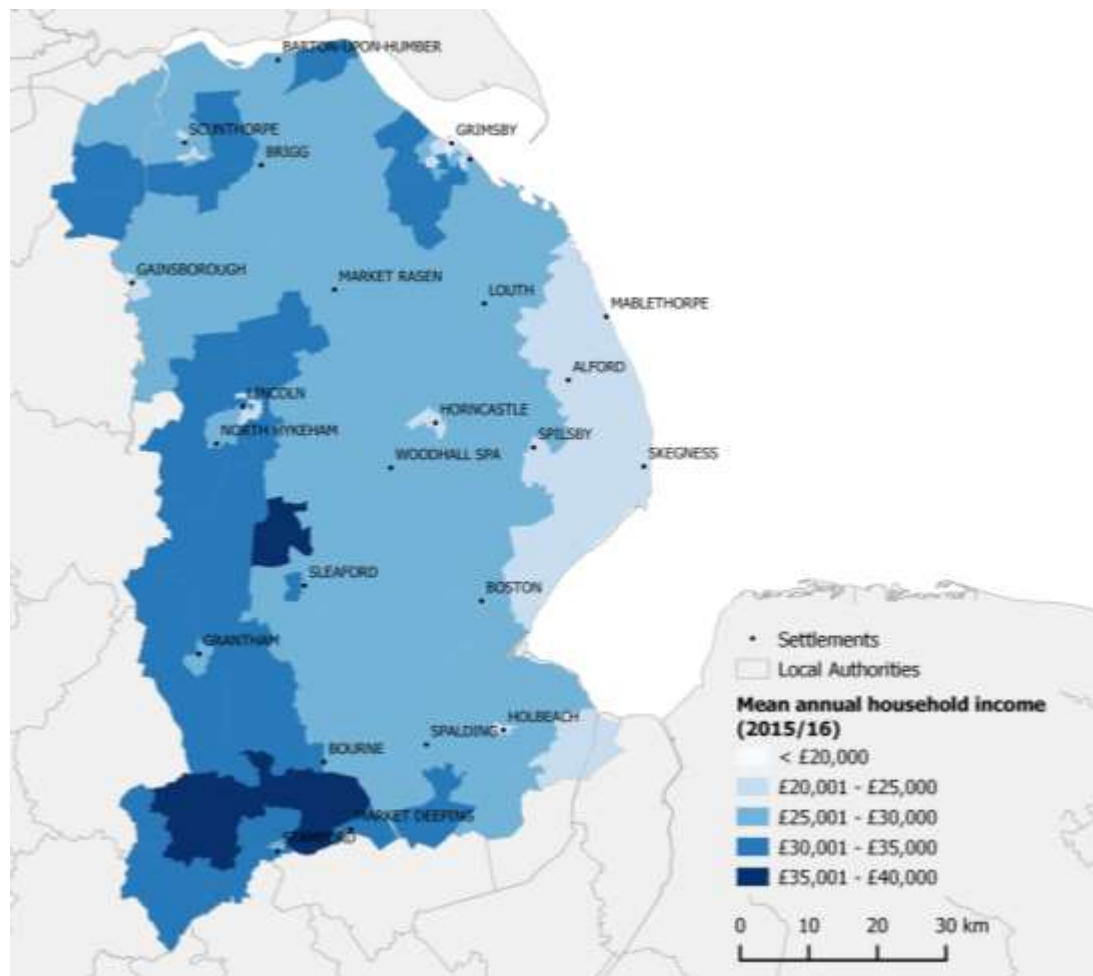
\* Based on 2018 Living Wage Foundation hourly rate of £8.75 per hour (outside London)

\*GLLEP figures calculated based on local authority figures; does not include Rutland due to reliability issues, only percentage figure available

Source: ONS Annual Survey of Hours and Earnings (ASHE): Estimates of the number and proportion of employee jobs with hourly pay below the living wage, by local authority (2018)

# Earnings

*Mean annual household income (2015/16)*



The map to the left illustrates the spatial distribution of wages across GLLEP.

Mean annual household income may be distorted by outlying values, resulting in income seeming higher than expected. This disguises extremes which is important when considering inclusive growth.

The map illustrates a pronounced spatial earnings gap, reflecting the seasonality of employment and peripherality in the Eastern coastal resort towns.

Pockets of low income ranging from £20,001 to £25,000 are clustered eastward in resort towns such as Skegness, Grimsby, and Mablethorpe.

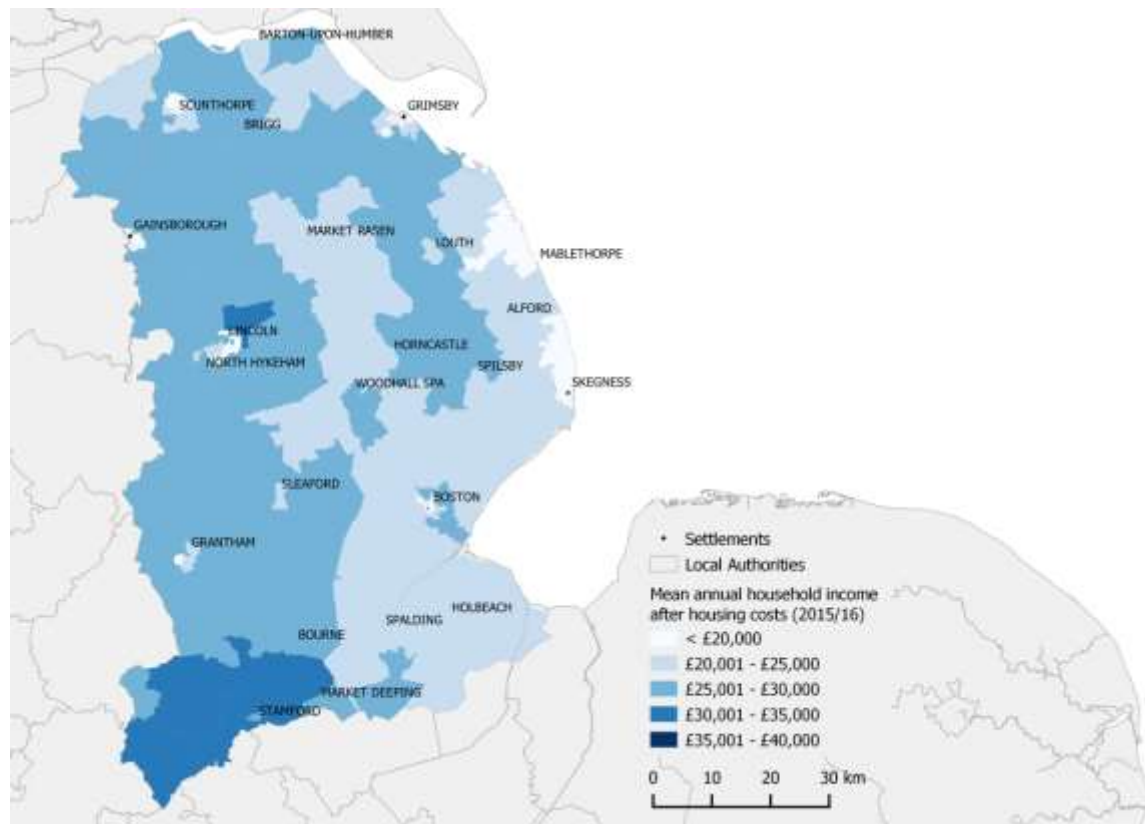
The middle regions of GLLEP have incomes in the middle of earnings range numbering £25,001 to £30,000.

The west sees pockets of higher income. Most households have incomes ranging from £30,001 to £35,000. Southwestern regions such as Rutland earning's range are highest in the region from £35,001 to £40,000.

Lincoln is the lowest paid area of the UK that contains a university and is one of the ten districts with the lowest salaries in the country. There is a challenge in shifting employment preferences from low-skilled recruitment to high-skilled graduate recruitment. This paradigm shift will help address challenges around graduate retention, thereby improving regional competitiveness through enhancing GLLEP's skills profile.

# Earnings after housing costs

*Mean annual household income after housing costs (2015/16)*



Using the same income boundaries as the map on the previous slide, this map shows the mean annual household income after housing costs have been accounted for.

The pockets of income deprivation in the coastal towns is increasingly evident when we factor in housing costs – as illustrated by the darker shades of blue to the west.

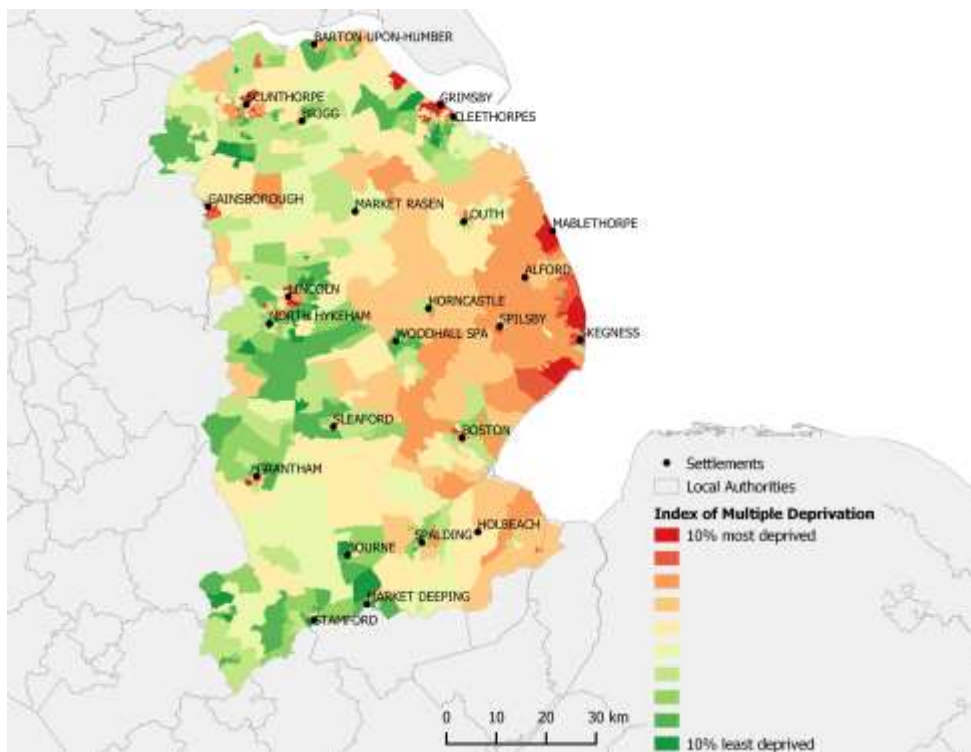
Although it is expected that household income will be lower after accounting for housing costs, Greater Lincolnshire exhibits a significant proportion of households falling into a lower income band, as a result. Most of the MSOAs along the east coast now have a mean annual income of between £20-25k/year, with areas of Skegness and Mablethorpe falling below £20,000/year.

With many areas across the LEP residing in a lower income bracket, there are no longer any geographies within the £35-40k per year bracket. The closest areas to this are Rutland and South Kesteven, with mean annual incomes between £30–35k per year.

Mean incomes within major towns and cities across the LEP are lower than on their outskirts. This is exacerbated when accounting for housing costs which lower mean income levels below £20,000 per year in most major settlements.

# Index of Multiple Deprivation

*Index of Multiple Deprivation (2015) - deciles*



The Index of Multiple Deprivation (IMD) combines information from multiple domains of deprivation such as income, health and crime, and is used to identify areas of relative high and low deprivation in England.

The map shows IMD for GLLEP with areas of darker red indicating higher deprivation.

It indicates pronounced pockets of deprivation along the Eastern coastal towns from Mablethorpe to Skegness. Although pockets of Lincoln are also in the bottom deprivation deciles, resort towns such as Skegness, Mablethorpe, and Grimsby are among the 10% most deprived.

Geographical isolation can have impacts on multiple social and wellbeing indicators. There is a cycle of employment seasonality and low-skills, which impacts annual incomes.

Western regions such as Rutland are considerably less deprived. Their proximity to other regions may provide more opportunities for employment, trade and access to services.

The majority of the GLLEP's towns contain pockets of deprivation and affluence, consistent with many urban profiles. This includes western towns such as Lincoln, Grantham and Scunthorpe.

# Internal UK migration

Internal UK migration (June 2017-18)

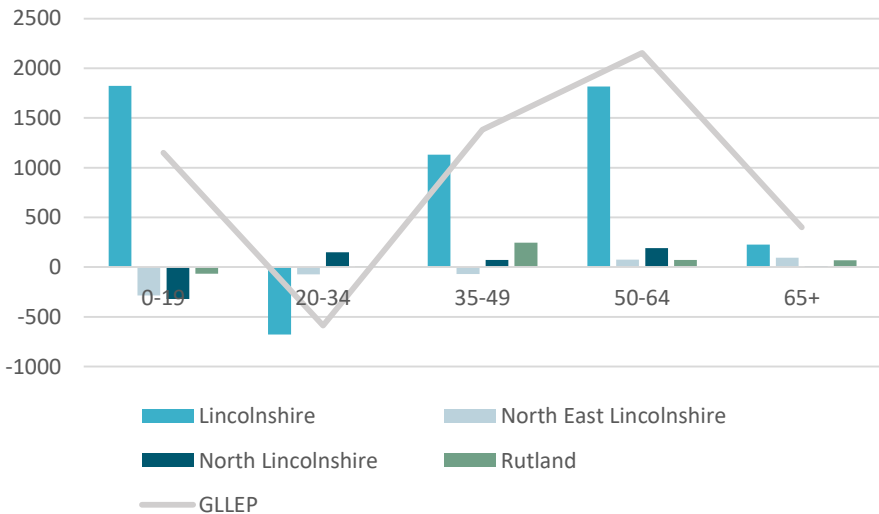
	Inflows	Outflows	Net movements
Lincolnshire	45,340	41,018	4322
North East Lincolnshire	4,511	4,770	-259
North Lincolnshire	5,712	5,608	104
Rutland	2,710	2,361	332
GLLEP	58,273	53,757	4,499

The table to the left shows internal migration figures for GLLEP. These are broken down into inflows and outflows to and from the place to other places in the UK. The net movements are also quoted.

Overall, GLLEP is a net attractor of people. Total net migration between June 2017 and June 2018 was 4,499, driven by inflows of 58,273 outpacing outflows of 53,757.

Lincolnshire drives the majority of GLLEP’s positive net migration, accounting for 77% of inflows, and 96% of net movements. The three other local areas combined for only a +177 net movement over the year, with North East Lincolnshire experiencing a small net outflow of people.

Net movements by age (June 2017-18)



The graph to the left illustrates net movements by age group for GLLEP. GLLEP experiences positive net inflows across all age groups except for those aged 20 – 34, where outflows from Lincolnshire and North East Lincolnshire result in net outflows for GLLEP. Breaking the 20-34 category down further, Lincolnshire saw a net outflow of 760 people, possibly as graduates from the University of Lincoln move out of the area for job opportunities. Given a number of GLLEP’s sectors anticipate employment gaps over the coming years, the outmigration of 20-34s is an issue which may exacerbate these employment gaps and make them harder to fill.

Although GLLEP sees a net outflow of people in the 20-34 age group, they are replaced by those in the 35-49 group, which perhaps shows that as individuals leave the area early in their careers to pursue job opportunities, they return to Lincolnshire later on in life.

There are strong net inflows into GLLEP for those aged 50 and above, suggesting that GLLEP’s quality of place offering attracts those who are finishing their careers and looking to retire.

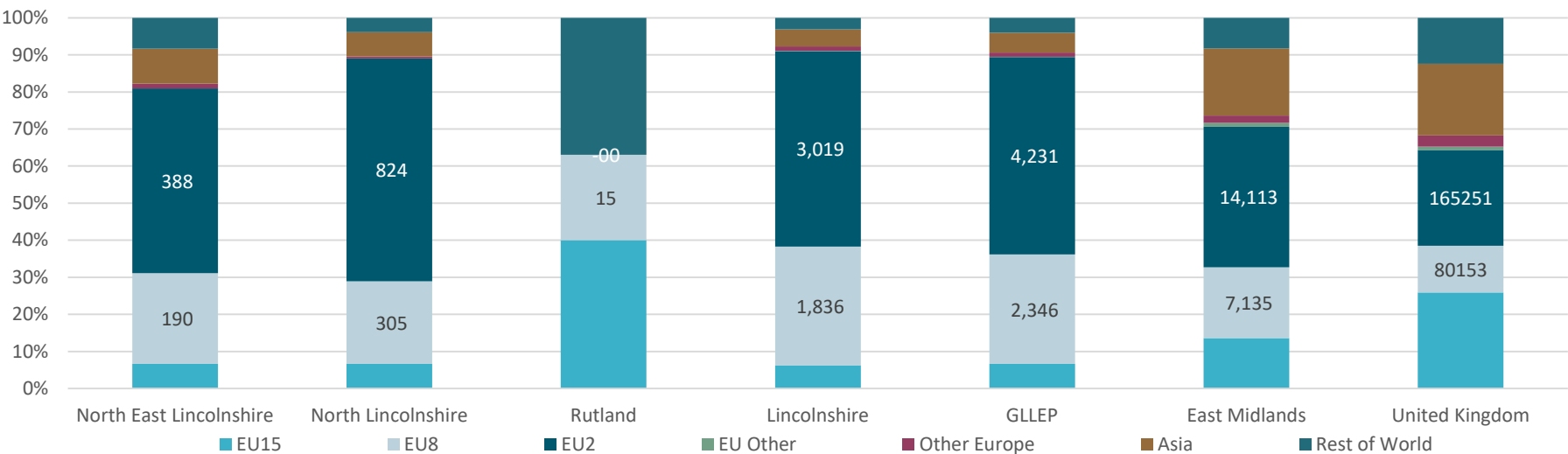
Net movements do not sum due to rounding in source ONS data

Source: ONS Internal migration: by local authority and region, five-year age group and sex



# Migration from outside the UK

*NINo Registrations to Overseas Nationals Entering the UK (March 2018-19)*



The chart above illustrates the country of origin of adult overseas nationals entering the UK who have been allocated National Insurance numbers (NINo) between March 2018 and March 2019. This can be used as a proxy for migration to GLLEP from outside of the UK. It shows the distribution of NINo registrations across the EU15, EU8, EU2, other EU countries, Asia and Rest of the World for GLLEP and its local authorities, as well as the comparators of East Midlands and the UK. Between March 2018 and March 2019, 7,971 adult overseas nationals entering the UK were

allocated NINos in GLLEP. The analysis shows that the highest proportion of overseas nationals allocated NINos are from EU2 countries (53.1%), totalling 4,231 people. This refers to Bulgaria and Romania, which joined the EU in 2007. This holds across GLLEP’s local authorities, with the exception of Rutland where total numbers of external migration are small (76 people). EU2 countries represent a larger proportion of migration into GLLEP than into the East Midlands (38%) and the UK (26%).

EU 8 countries are those which joined the EU in 2004, including the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia. Migration from these countries accounted for 19% of East Midlands migration and 13% of UK migration. By comparison, EU8 migration accounted for 19% of East Midlands migration and 13% of UK migration. As a proportion of total migration, GLLEP has a lower observed level of migrants from EU15 countries, Asia and the Rest of the World than the East Midlands and the UK.



# FOUNDATIONS OF PRODUCTIVITY INFRASTRUCTURE



Metro — Dynamics

# Infrastructure – summary



Major rail investment to reduce barriers to growth on **East Coast Mainline** and the **South Humber line**



**£29m** invested in the Lincoln transport hub alongside **£80m** in a new relief road to improve distribution networks in Grantham



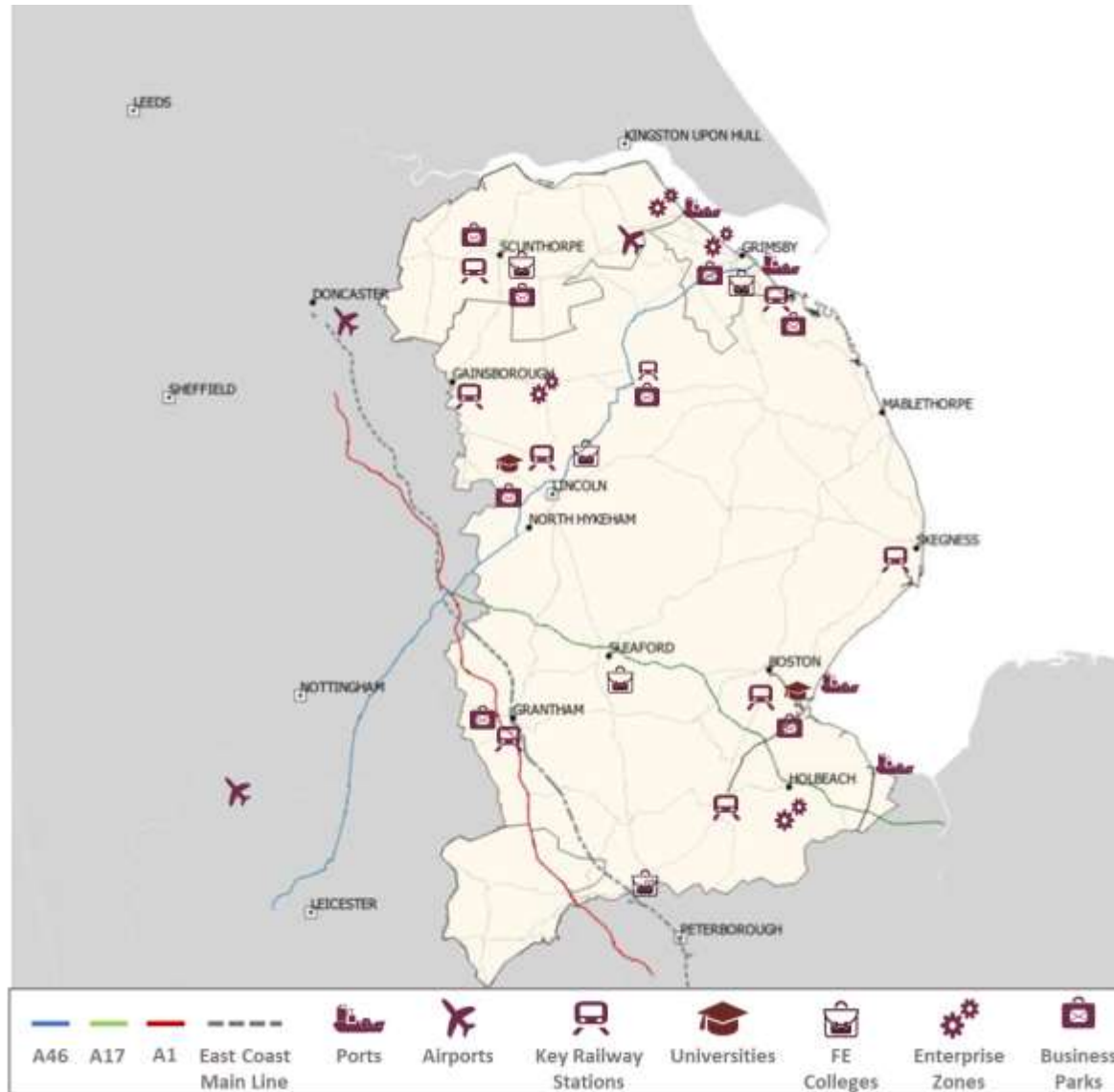
**93%** of businesses have access to **superfast broadband**



Greater Lincolnshire has more **Grade 1** agricultural land than any other LEP in England, **producing and processing 12%** of the UK's food supply

# Strategic infrastructure assets

*Strategic infrastructure assets in Greater Lincolnshire*



The map to the left shows the spatial distribution of assets across GLLEP, from education and business to transport infrastructure. North and North East Lincolnshire are well connected by rail, road, air and sea, and are well-positioned to access much of the UK. Specialising in Ports and Logistics, and with much energy infrastructure around the Humber estuary, economic activity has clustered within the two local authorities. Businesses infrastructure includes four business parks and two enterprise zones.

East Lindsey does not have a well-developed rail network. This makes it hard to travel across the LEP in short time. The relatively poor connectivity to industry clusters in the North of GLLEP and Lincoln is reflected in the lesser business infrastructure within East Lindsey.

The West of GLLEP has better transport infrastructure than the East. The East Coast Mainline runs through Grantham, connecting the town to York and London. Furthermore, the south west of the LEP has connections to the Midlands via train, and the North West has connections to Yorkshire via train.

The West of Greater Lincolnshire has access to the only motorway that runs through the LEP area. The M180 connects North Lincolnshire (Scunthorpe) to Yorkshire.

GLLEP's population is served by two universities and seven Further Education colleges.

# Strategic infrastructure priorities – road

## *7 Key Transport Corridors*



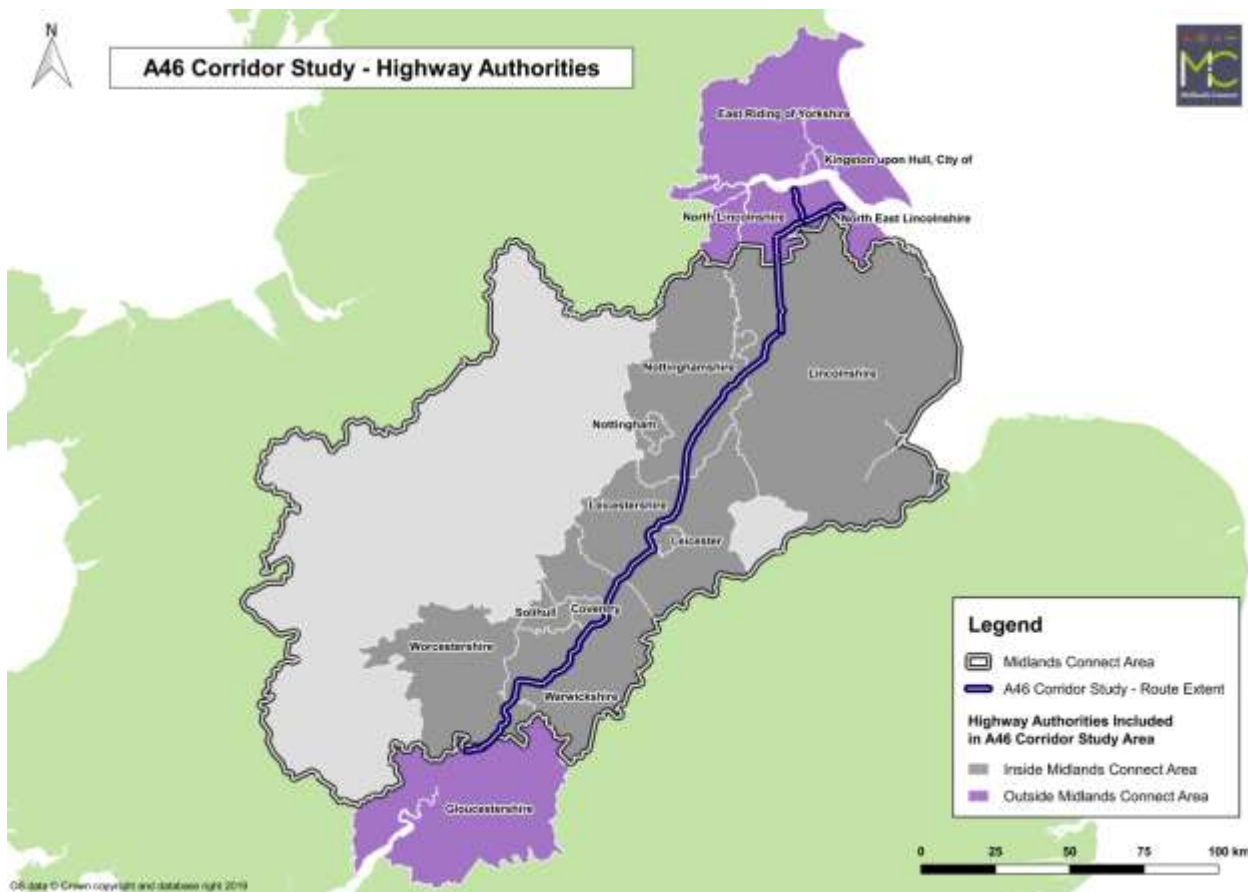
Greater Lincolnshire is poorly connected by internal roads. GLLEP has over 11,000km of road, 78% of which are minor roads, 13% are A roads and only 0.4% is motorway. The rest are B roads. Only 9% of A roads are dual carriageways, making it hard to travel across the LEP in quick time. Poor road connectivity has created a challenge for the agri-food market, for example, in reaching priority national markets in the south of the LEP. The A46 doesn't cover the south of the LEP, and so this area often relies on poorer distribution links.

GLLEP's 2016 refresh of the Strategic Economic Plan highlighted 7 key transport corridors across the LEP area where additional network improvements are most needed to contribute to increased growth. These are highlighted in green on the map.

The intended improvements are along roads to major settlements, which should assist efficiency in the logistics sector. There are also to be network improvements on roads connecting the coast (A158 connecting Skegness to Lincoln).

# Strategic infrastructure priorities

Midlands Connect – A46 Corridor



The Midlands Rail Hub looks to provide more trains between Lincoln, Nottingham and the West Midlands and cut 35 minutes off the journey between Lincoln and Birmingham. The completion of the eastern leg of HS2 will release significant capacity on the East Coast Main Line, offering the opportunity to further improve services between Lincoln and London, together with better connections at Newark and Grantham.

The A46 corridor study makes the case for interventions to improve journeys between Lincoln and the coastal ports, along with interventions to improve traffic flow around Lincoln itself. It also makes the case for upgrading the Newark Bypass and associated A1/A46/A17 junction improvements. Spanning 155 miles from Gloucestershire to Lincolnshire, the Midlands section of the A46 is home to 5.5 million people and almost 3 million workers. Its businesses earn £155bn a year (9% of the English economy).

Lincolnshire's food production cluster is in proximity of the A46 and benefits from its distribution networks. High volumes of trade can be attributed to the A46, where the export rate is 47% higher than the UK average.

The Lincoln Eastern Bypass is due to be completed in spring 2020. A £120m project, the road will ease traffic along the A46 by offering those vehicles approaching Greater Lincolnshire from the south an alternative route around Lincoln's city centre. Plans are emerging to complete the orbital route around the urban Lincoln area through the delivery of the proposed North Hykeham Relief Road

# Air quality

An Air Quality Management Area (AQMA) is an area that local authorities recognise as needing improvements to air quality – it is a legal requirement to declare these areas, in the interests of public health and safety.

The five pollutants most likely to affect health on a day-to-day basis are: **Ozone**; **Nitrogen dioxide** (NO<sub>2</sub>); **Sulphur dioxide** (SO<sub>2</sub>); **Particulate matter** (as PM<sub>10</sub>); and **Fine particulate matter** (as PM<sub>2.5</sub>).

In Greater Lincolnshire, there are currently 6 AQMAs. Over the last six years, local authorities across Greater Lincolnshire have revoked 8 AQMAs, mainly in relation to poor air quality caused by industrial and road transport sources, reflecting the better air quality across the LEP.

The following summarises the AQMAs declared by each local authority:

## **Boston- 2 AQMAs currently, including:**

- Boston AQMA – which follows the A16 trunk road through the centre of town, extending to Queens Street roundabout through to the intersection of John Adams Way and Main Ridge East (source: road transport emissions).
- Bargate Bridge AQMA – An area of Bargate roundabout extending east to the top of Spilsby Road (source: road transport emissions).

## **Lincoln – 1 AQMA currently:**

- Lincoln AQMA – the area generally flows through the major road work in the city centre and arterial routes (source: road transport emissions).

## **Grimsby – 1 AQMA currently:**

- Grimsby AQMA – an area encompassing properties on the Cleethorpes Road (source: road transport). Like all AQMAs monitoring emissions caused by road transport, they are monitoring nitrogen dioxide NO<sub>2</sub>.

## **Scunthorpe – 1 AQMA currently:**

- Scunthorpe AQMA – An area incorporating part of the town of Scunthorpe and an area to the east of the town including the site of the steelworks (industrial source). The local authority manage particulate matter (PM<sub>10</sub>) in this area.

## **South Kesteven – 1 AQMA currently:**

- South Kesteven District Council No 6 – the AQMA covers the following roads in Grantham: Manthorpe Road, Wharf Road, High Street and London Road and is monitoring levels of nitrogen dioxide spanning from road transport.



# Electricity capacity

Energy Distribution GLLEP



National Grid Network GLLEP



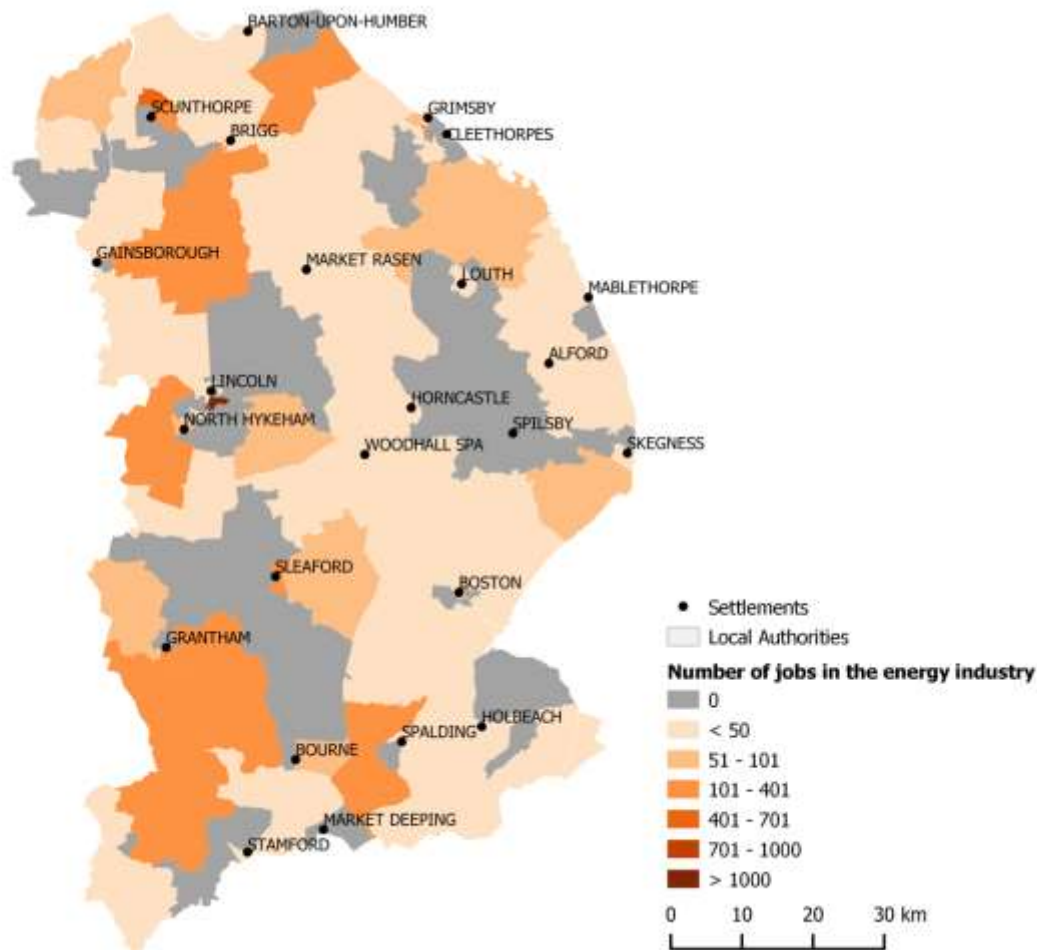
These maps illustrate the electricity assets and distribution networks running through GLLEP. The map on the left illustrates the picture across the whole LEP, while the map on the right illustrates the same distribution network, only zoomed in on North East Lincolnshire and East Lindsey.

The Race Bank Wind Farm (number 4 on the left-hand map) has the capacity to power 406,000 homes – the sixth largest capacity of any offshore wind farm in the world. By 2030, an additional 20GW of additional capacity will be installed in the southern North Sea (2 sites in Lincolnshire and one in East Anglia) operating at a capacity of nearly 35 times that of Race Bank Wind Farm.

Offshore energy is being used to deliver renewable energy to smaller communities, not just larger settlements. The increase in energy capacity provided by the Race Bank Wind Farm makes it possible for more communities across GLLEP to benefit.

# Energy sector employment

*Employment in energy sector industries (2018)*



Greater Lincolnshire has almost 5,900 jobs in the energy and waste industry. Over half of these jobs are within Water Collection, Treatment and Disposal Activities (51.4%).

The larger employment areas are within Lincoln, Grantham, Scunthorpe and North Lincolnshire. Two power distribution networks operate in Lincoln and Grantham and are run by Western Power, which contribute to the relatively large employment observed in the two settlements. Areas within Rutland have relatively high levels of employment in this industry, also.

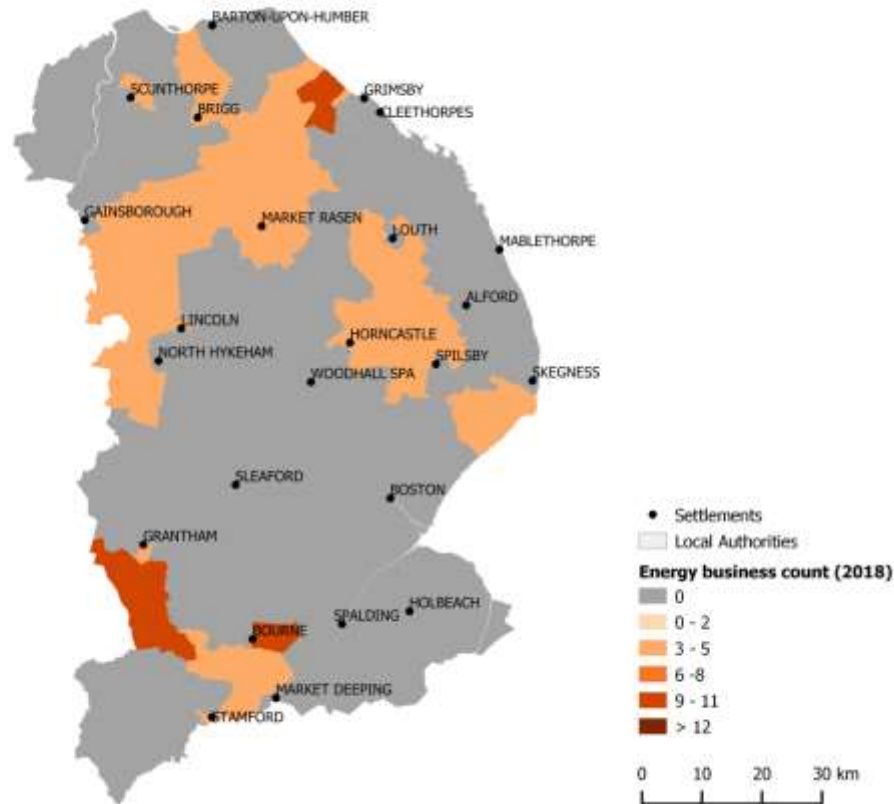
Lincoln, North Lincolnshire and South Kesteven have the highest share of jobs (19.5%, 18.6% and 17% of the LEPs jobs, respectively).

There are parts of the LEP which appear to have no employment in the energy and waste industry, such as areas of South Kesteven, Lincoln and South Holland. The local authority of Boston also appears to have no employment in the industry.

Employment within energy and waste appears to be concentrated in a small number of areas, with large parts of the LEP observing employment of less than 50 individuals (particularly low numbers in the centre and the South-East of the LEP).

# Business Count in the Energy Industry

*Energy industry business count (2018)*



*\* Due to the smaller geographies used in this map, the different sampling method produces a different business count figure.*

5,900 jobs in Greater Lincolnshire's Energy and Waste industry are distributed across 210 businesses. Large numbers of businesses are concentrated around Grimsby, Lincoln and Grantham – all of which have large energy operations within their boundaries. This analysis includes micro businesses of 0-4 employees, so spin-off companies are counted in the numbers.

The DNOs operating in Lincoln and Grantham explain the relatively larger business counts in observed in both places as these operating centres require maintenance. The distribution of jobs illustrates that North Lincolnshire is home to a large number of small businesses in the Energy and Waste sector.

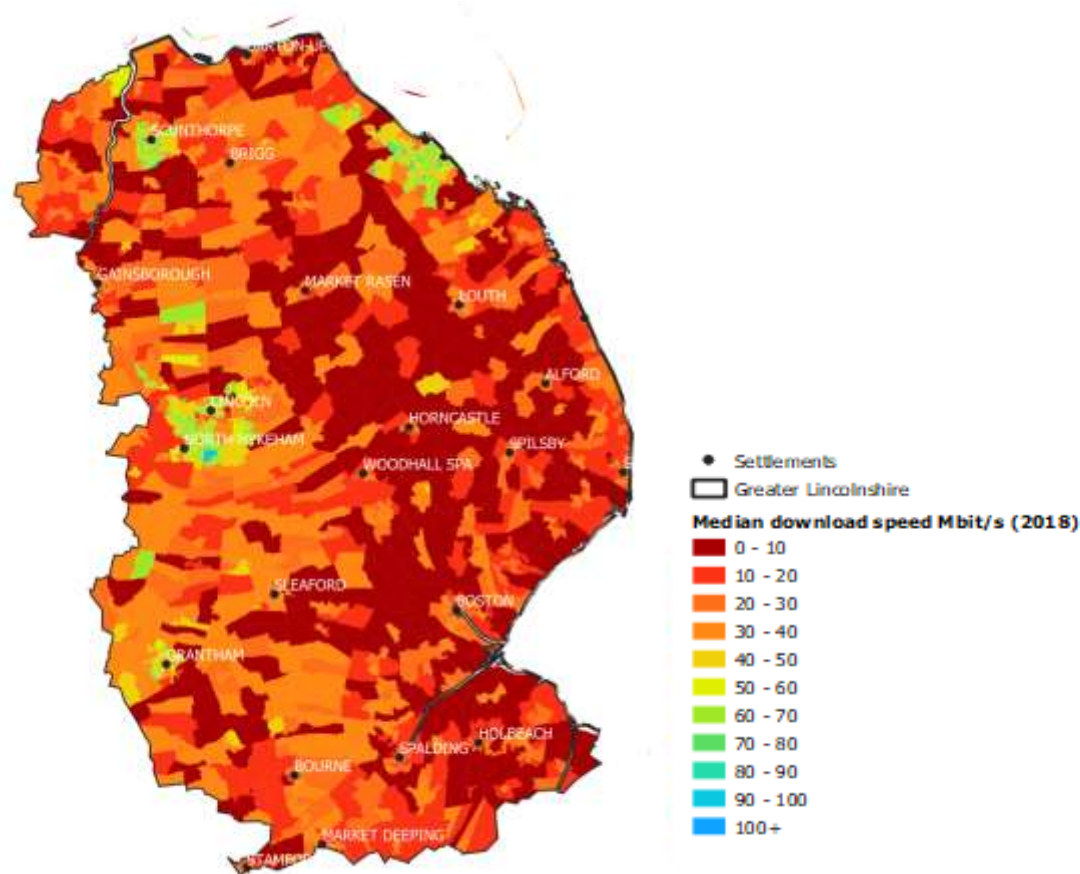
The north east area of Greater Lincolnshire, along with the area west of Lincoln, incubates the majority of the activity. Both have the factors of production and the natural endowments to deliver primary production. South Kesteven, North Lincolnshire and East Lindsey have the largest proportion of energy companies (18.6%, 16.3% and 14% of the LEPs energy companies, respectively). Lincoln, North Lincolnshire and South Kesteven have the highest share of jobs (19.5%, 18.6% and 17% of the LEPs jobs, respectively).

Energy consumption is high in Greater Lincolnshire perhaps due to the LEP's sizable energy, manufacturing and agricultural sector. The total energy consumption in GLLEP was 41,110\* GWh in 2016 compared to 24,984 GWh in New Anglia (excluding road transport and including bioenergy and wastes).

The energy breakdown shows that the majority of energy consumption in Greater Lincolnshire is from industrial and commercial activities (64%), almost double that of New Anglia LEP (33.6%). Domestic and Transport both constitute 17% of total energy consumption in Greater Lincolnshire, compared to 31% and 33% in New Anglia, respectively.

# Median Download Speeds

*Median Download Speed (2018)*



The map to the left illustrates the median broadband speed across Greater Lincolnshire (Mbit/s). The distribution of good broadband connectivity is poor and illustrates the under-provision in coastal resort towns.

Ultrafast broadband is speeds of 300Mbit/s+, Superfast (30-300Mbit/s), Medium (10-30Mbit/s) and Slow is defined as 0-10Mbit/s.

There are large pockets of the East, excluding the Lincolnshire Wolds, that only have access to slow broadband speeds (below 10Mbit/s) – this is mainly concentrated in the area between Woodhall Spa, Stamford and Boston.

Areas within Lincoln, Grimsby, Scunthorpe and Grantham have median speeds in excess of 100Mbit/s.

The smaller towns don't have the same kind of access – nor do the coastal towns. Many of the smaller towns have access to superfast broadband, but the median speeds are only on the lower end of the scale (30Mbit/s). While this is an adequate level of connectivity for domestic use, it's less than adequate for commercial (business) use. The same applies to coastal towns – many of which have medium median broadband speeds.

Good connectivity is a feature in towns and cities with large economic outputs and a large business base, while slower speeds, mainly used for domestic purposes, are concentrated within smaller towns and more peripheral areas.

# FOUNDATIONS OF PRODUCTIVITY BUSINESS ENVIRONMENT



# Business environment – summary



**39,560** VAT registered businesses – **88.3%** micros, **9.7%** small, **1.7%** medium and **0.3%** large. **36% of employment** is in large businesses



**358** businesses per capita with **survival** and **scale up rates** in line with regional comparators



Positive business growth rates in priority sectors, however a **negative net business birth rate** overall

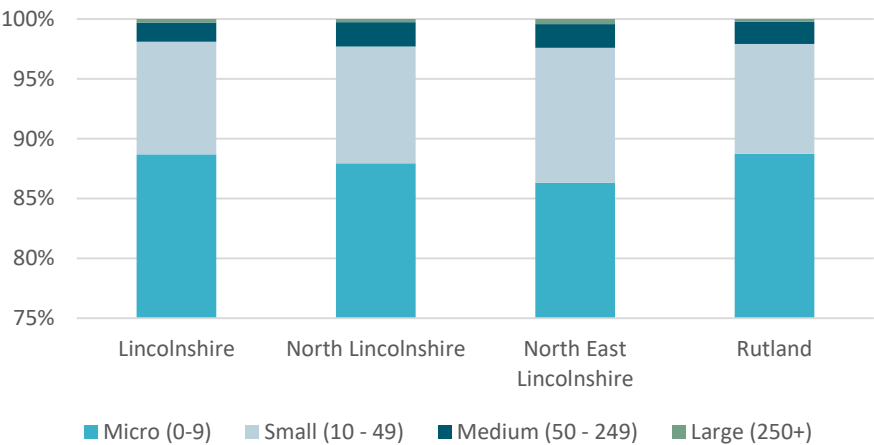


**£4.7bn** exports, with 62.7% of exports bound for EU destinations

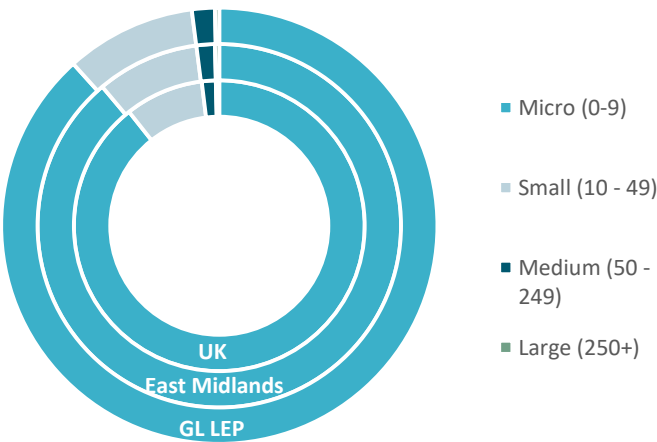


# Business count by size

Share of businesses by size (2018): GLLEP regions



Share of businesses by size (2018)



The charts to the left illustrate the breakdown of businesses by size in Greater Lincolnshire and its local authorities, plus a comparison to the East Midlands and UK.

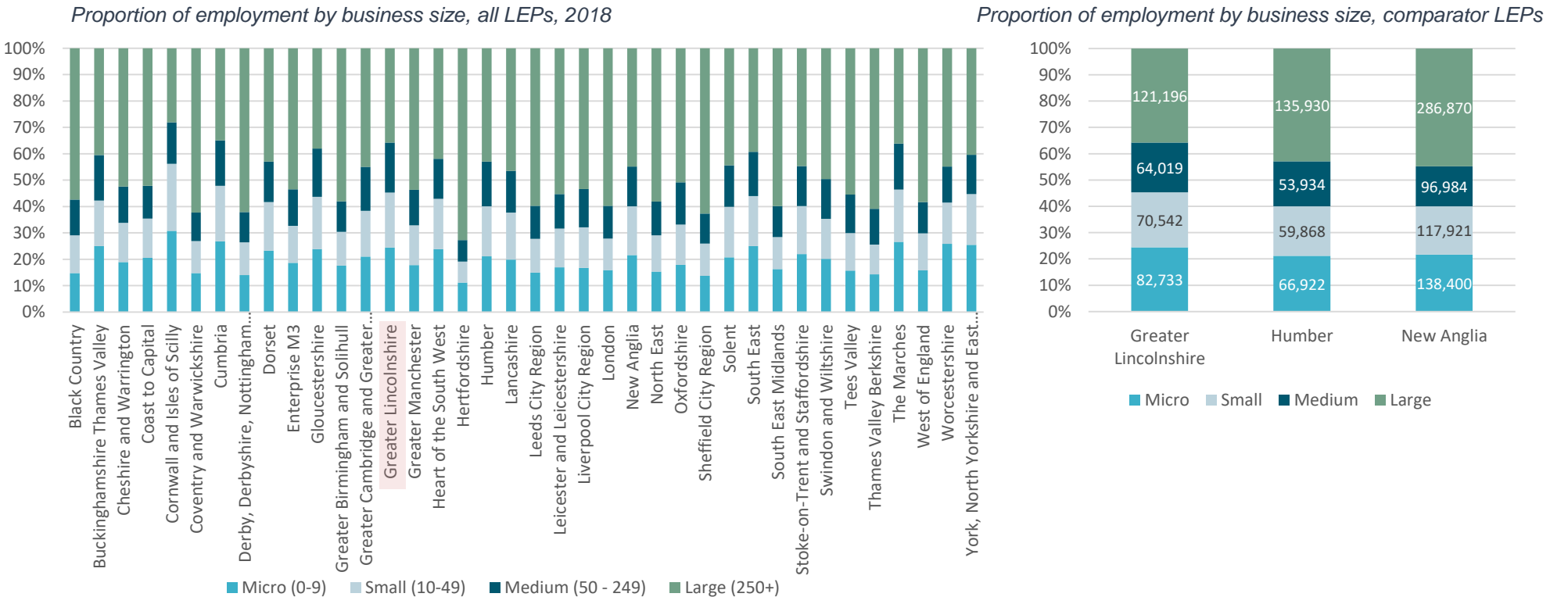
There are 39,560 VAT registered businesses\* in Greater Lincolnshire. Of those, 27,690 are in Lincolnshire, 5,390 in North Lincolnshire, 4,570 in North East Lincolnshire and 1,910 in Rutland.

The share of businesses by size does not vary dramatically across Greater Lincolnshire's geography. Micro businesses (0 to 9 employees) make up between 86% – 89% of the share across the four local authorities, while medium businesses (50 – 249 employees) and large (250+ employees) make up a combined 2% of the business share across the region. North East Lincolnshire has a slightly larger proportion of small businesses (10 – 49 employees) than the other local authorities, at 11.3% of total businesses in North East Lincolnshire, compared to 9.4% of the share across the three other regions.

The breakdown of businesses by size in Greater Lincolnshire is broadly similar to the breakdown in East Midlands and throughout the United Kingdom as a whole. Micro businesses (0 to 9 employees) make up 88.3% of Greater Lincolnshire's business base, compared to 88.9% in East Midlands and 89.3% of the UK.

\* Businesses are defined as VAT and/or PAYE registered.

# Employment by business size



The charts above show the proportion of employment by business size for all LEPs, plus an additional callout chart looking specifically at GLLEP, Humber LEP and New Anglia LEP. GLLEP’s distribution of employment is weighted heavily towards micro, small and medium size businesses, which account for 64.1% of employment in GLLEP. Of all LEPs, only Cornwall and Isles of Scilly (72%) and Cumbria (65.1%) have a larger share of employment contained in ‘medium’ or smaller sized businesses.

For GLLEP, 24.4% of people are employed in micro businesses, 20.8% in small businesses, 18.9% in medium-sized businesses, and 35.8% in large businesses.

\* Businesses are defined as VAT and/or PAYE registered.

# Business base

Summary table of business base for GLLEP Priority Sectors: Agrifoods; Water and Energy; Ports and Logistics, 2018

	Agrifoods			Water and Energy			Ports and Logistics		
	Businesses	Share of business base	Business growth (2012 – 18)	Businesses	Share of business base	Business growth (2012 – 18)	Businesses	Share of business base	Business growth (2012 – 18)
Lincolnshire	3,795	13.7%	0.8%	145	0.5%	0.1%	1,695	6.1%	2.0%
North Lincolnshire	505	9.4%	0.5%	35	0.6%	0.3%	405	7.5%	2.0%
North East Lincolnshire	105	2.3%	0.1%	25	0.5%	0.3%	355	7.8%	3.6%
Rutland	240	12.6%	2.0%	5	0.3%	0.3%	40	2.1%	0.6%
<b>GLLEP</b>	<b>4,645</b>	<b>11.7%</b>	<b>0.7%</b>	<b>210</b>	<b>0.5%</b>	<b>0.1%</b>	<b>2,495</b>	<b>6.3%</b>	<b>2.1%</b>
Humber LEP	2,620	8.7%	0.5%	190	0.6%	0.3%	1,725	5.8%	2.0%
East Midlands	11,510	6.4%	0.7%	815	0.5%	0.1%	9,205	5.1%	2.9%
United Kingdom	151,230	5.7%	0.6%	13,120	0.5%	0.2%	87,530	3.3%	1.6%

The table above shows the share of total VAT registered businesses and business growth between 2012 and 2018 for three of GLLEP’s priority sectors: Agrifoods, Water & Energy, and Ports & Logistics.\*

In 2018, there were 4,645 Agrifoods VAT registered businesses in GLLEP, representing 11.7% of total businesses. This is substantially higher than the proportion of Agrifoods businesses in Humber LEP (8.7%), East Midlands (6.4%) and the UK (5.7%), illustrating the importance of Agrifoods to GLLEP’s economy. Within GLLEP, Agrifoods businesses are particularly concentrated in Lincolnshire

(13.7% of total businesses) and Rutland (12.6% of total). All areas included in the analysis above experienced slight increases in the numbers of agri-food businesses from 2012 – 2018. Water and Energy businesses are a small proportion of the total business base, both within GLLEP and the broader UK economy, representing around 0.5% of total businesses. GLLEP has experienced a slight increase (0.1%) in its number of Water and Energy businesses in its business base, however at a lesser rate than Humber LEP (0.3%) and the UK (0.2%).

There were 2,495 Ports and Logistics VAT registered businesses in GLLEP in 2018, representing 6.3% of total businesses. Ports and Logistics businesses make up a greater share of GLLEP’s business base than Humber LEP (5.8%) and the East Midlands (5.1%), and substantially more than the United Kingdom proportion (3.3% of total). The number of Ports and Logistics businesses in GLLEP grew from 2012 – 2018 (+2.1%), with growth driven in particular from North East Lincolnshire (+3.6%).

Business count estimates for these priority sectors are different to the estimates referenced in the Sectors section of this data pack, where those numbers are sourced from GLLEP documents. The information presented here should be used to indicate the concentration of priority sector businesses in GLLEP relative to comparators.

\* See Methodological notes for an explanation of Standard Industry Classification codes have been allocated to GLLEP’s Priority Sectors. Source: ONS Business Counts (2012-2018)

# Business base

Summary table of business base for GLLEP Priority Sectors: Visitor Economy; Health and Care; Manufacturing, 2018

	Visitor Economy			Health and Care			Manufacturing		
	Businesses	Share of business base	Business growth (2012 – 18)	Businesses	Share of business base	Business growth (2012 – 18)	Businesses	Share of business base	Business growth (2012 – 18)
Lincolnshire	1,860	6.7%	0.6%	995	3.6%	0.6%	3,795	4.3%	0.0%
North Lincolnshire	355	6.6%	0.7%	215	4.0%	1.2%	505	5.1%	0.0%
North East Lincolnshire	340	7.4%	1.5%	205	4.5%	0.1%	105	5.1%	0.8%
Rutland	105	5.5%	-0.6%	45	2.4%	-0.3%	240	3.9%	-0.6%
<b>GLLEP</b>	<b>2,660</b>	<b>6.7%</b>	<b>0.7%</b>	<b>1,460</b>	<b>3.7%</b>	<b>0.6%</b>	<b>4,645</b>	<b>4.5%</b>	<b>0.1%</b>
Humber LEP	2,215	7.4%	1.5%	1,220	4.1%	0.4%	2,620	5.5%	0.2%
East Midlands	10,430	5.8%	1.1%	7,375	4.1%	1.1%	11,510	5.7%	0.2%
United Kingdom	161,180	6.0%	1.1%	108,425	4.1%	1.0%	151,230	4.2%	0.2%

The table above shows the share of total VAT registered businesses and business growth between 2012 and 2018 for three of GLLEP’s priority sectors: Visitor Economy, Health and Care, and Logistics.\*

In 2018, there were 2,660 Visitor Economy VAT registered businesses in GLLEP, representing 6.7% of total businesses. This is lower than the proportion in Humber LEP (7.4%), however higher than the proportions for East Midlands (5.8%) and the UK (6.0%).

Within GLLEP, there has been growth in Visitor Economy businesses in Lincolnshire and North

Lincolnshire, and a notable increase in North East Lincolnshire of 1.5%, however a slight decrease in Rutland.

In 2018 there were 1,460 Health and Care businesses in GLLEP, making up 3.7% of the business base. Although the number of Health and Care businesses in GLLEP has increased since 2012 (+0.6%), the rate of increase is less than that experienced in the East Midlands (+1.1%) and across the UK (+1.0%).

Although not a nominated priority sector, Manufacturing is an important component of GLLEP’s economy, illustrated by the 4,645

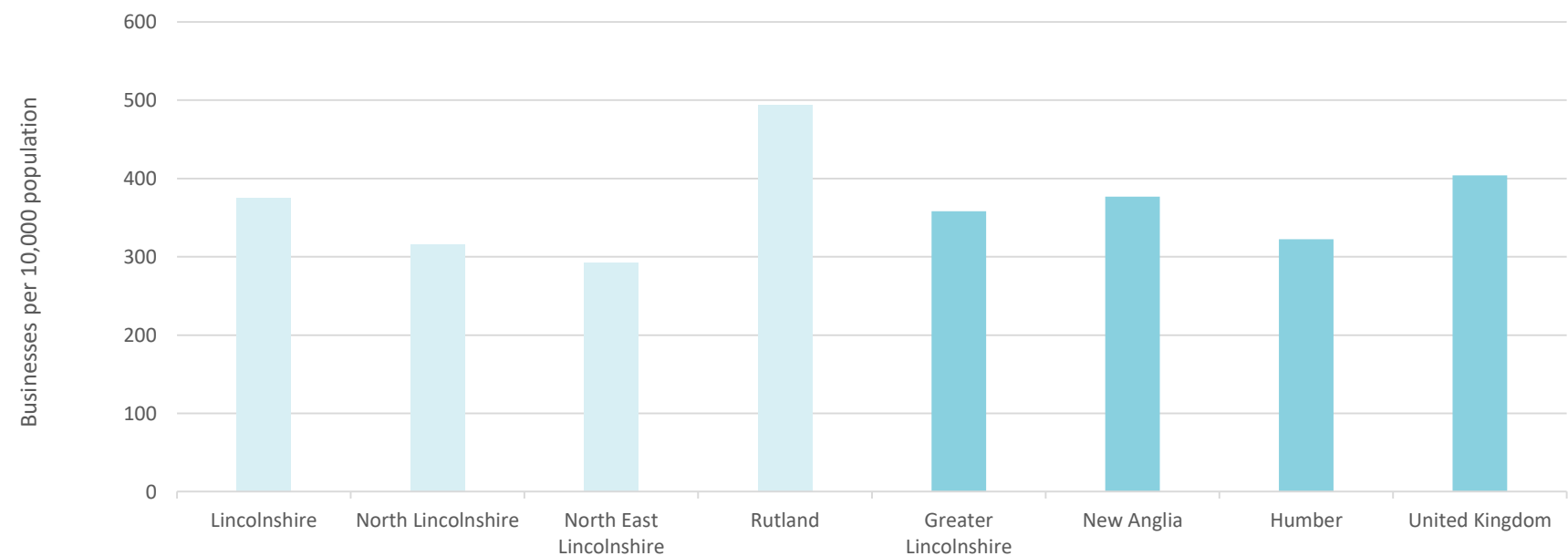
Manufacturing VAT registered businesses in GLLEP in 2018, making up a 4.5% share of the business base. The number of Manufacturing businesses increased slightly (+0.1%) in GLLEP from 2012 – 2018, slightly less than the +0.2% increase experienced in Humber LEP, the East Midlands and the UK.

Business count estimates for these priority sectors are different to the estimates referenced in the Sectors section of this data pack, where those numbers are sourced from GLLEP documents. The information presented here should be used to indicate the concentration of priority sector businesses in GLLEP relative to comparators.

\* See Methodological notes for an explanation of Standard Industry Classification codes have been allocated to GLLEP’s Priority Sectors. Source: ONS Business Counts (2012-2018)

# Businesses per capita

Number of businesses per 10,000 population (2017)



The chart above shows the number of VAT registered businesses per capita. This is a useful way of comparing the number of businesses for larger areas. Population can be used as a proxy for size in order to normalise the number of VAT registered businesses for comparison with other areas. Businesses per capita can be used to indicate the success of an area at attracting and retaining businesses.

In GLLEP, there are 358 VAT registered businesses per 10,000 population. This falls between New Anglia (376) and Humber (322) LEPs, and below the UK level of 404 VAT registered businesses per 10,000 people. This suggests that GLLEP has reasonable levels of business activity compared to similar LEPs, but remains below the national average.

Within GLLEP, Rutland has the highest business per capita ratio at 494, however this may be a reflection of Rutland’s relatively small population. North East Lincolnshire is the lowest at 292 VAT registered businesses per 10,000 people.

# Business demography

Business birth and death rates (2017)

	Business birth rate	Business death rate	Births – deaths
Lincolnshire	10.15%	11.17%	-1.02%
North Lincolnshire	11.02%	11.56%	-0.54%
North East Lincolnshire	10.64%	13.65%	-3.01%
Rutland	9.89%	9.89%	0.0%
GLLEP	10.32%	11.5%	-1.17%
Bus birth rate: Humber = 11.0%, New Anglia = 11.1%, EM = 11.8%, UK = 13.05%			
Bus death rate: Humber = 11.2%, New Anglia = 9.91%, EM = 11.7%, UK = 11.6%			

The table shows business birth and death rates\*. Business births are a key determinant of job creation and economic growth. Business deaths can be more frequent in a period of economic downturn.

GLLEP has a business birth rate of 10.32%, which is lower than for the UK (13.05%) and EM (11.8%) as a whole. GLLEP’s business birth rate is also lower than regional comparators (Humber = 11.0%; New Anglia = 11.1%).

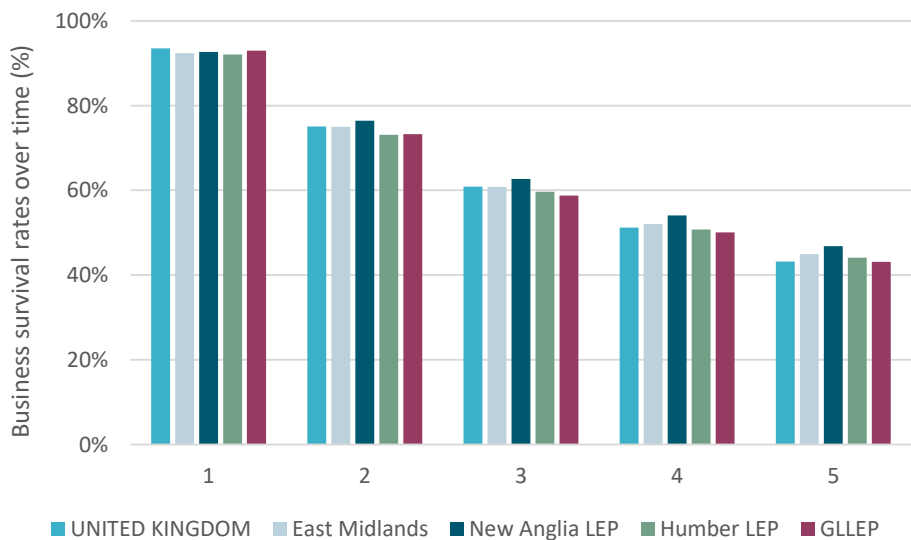
GLLEP’s business death rate (11.5%) is similar to regional and national averages, except for New Anglia LEP, where the business death rate is just 9.91%. GLLEP’s negative net business birth rate (-1.17%) indicates a contracting business environment for 2017, however the GLLEP’s net business birth rate has been positive in previous years.

Although the contracting business environment is being felt throughout the GLLEP, in 2017 it was most pronounced in Lincolnshire, where there were 275 fewer businesses in 2017 than 2016, and North East Lincolnshire, where there were 160 fewer businesses in 2017 than 2016.

Business survival rates indicate whether a supportive business environment exists. GLLEP’s business survival rate largely mirrors regional and national average survival rates over 1 – 5 years. However, business survival rates in local comparator New Anglia LEP are consistently higher than average rates across years 2 – 5 from a businesses’ establishment.

Employer surveys revealed challenges around access to skills. There are also issues with transport connectivity limiting resident’s access to jobs and thereby business’ ability to recruit a suitable employee. Prior analysis on digital connectivity showed that in certain areas broadband speeds remain too low for commercial use. Access to capital is also an issue with Growth Hub grants helping SMEs invests in machinery to boost productivity

Businesses still active for years following start-up (2012-17)

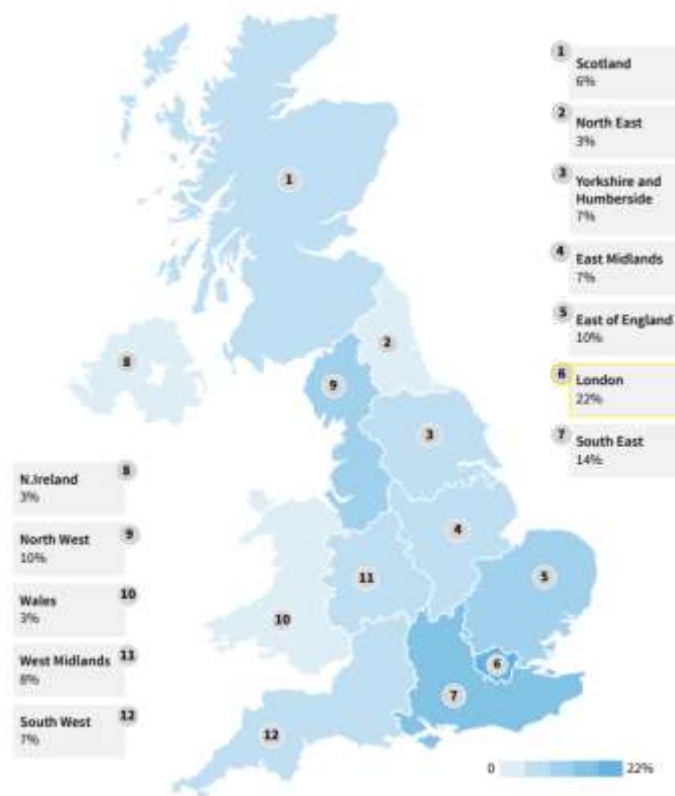


\* Birth and death rates calculated as a percentage of active business population for that year. Note this uses a different measure of businesses to other figures referenced in this pack, hence why figures may not match.

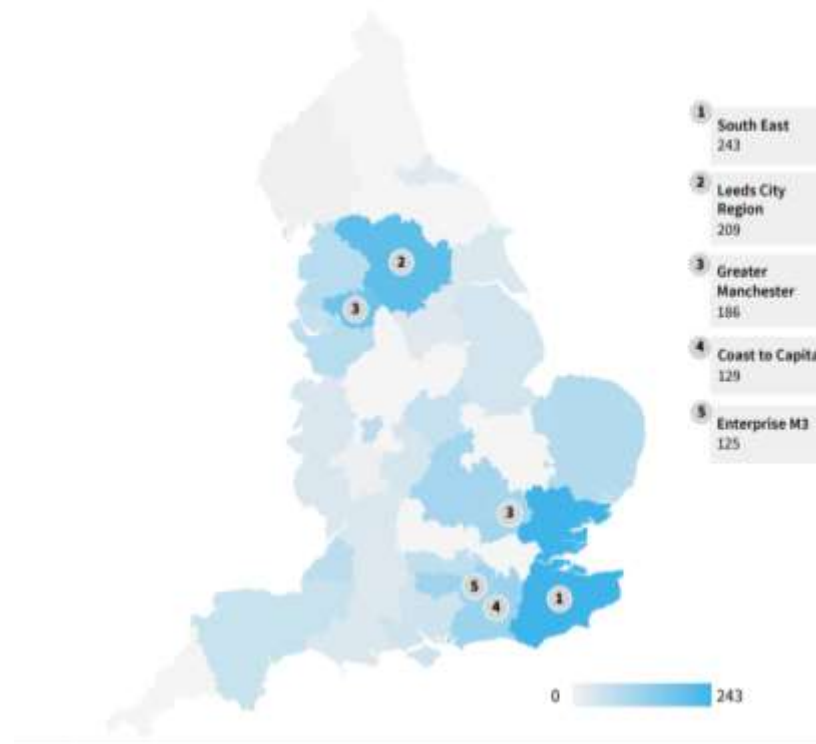


# Business scale ups

*Regions by the number of scale ups (2018)*



*LEPs by the number of scale ups (2018)*



The maps above are from the ScaleUp Index, a report published by the ScaleUp Institute, using analysis of Companies House data by Beauhurst. They illustrate the number of visible scale ups by region (the left hand map) and LEP (the right hand map).

Visible scale ups use the OECD definition of a high-growth firm, whereby average annual growth (turnover or employees) is greater than 20% per annum over a three year period with at least 10 employees at the start of

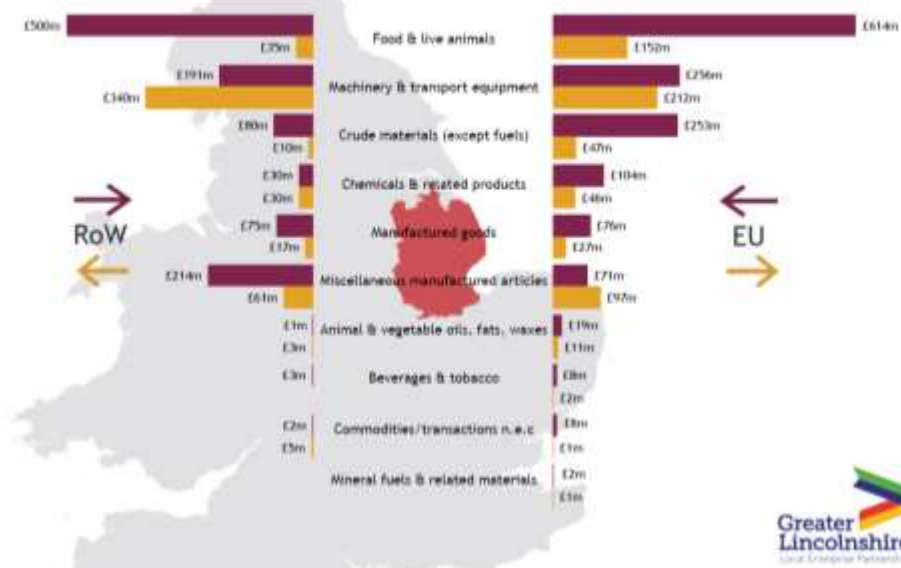
the observation.

East Midlands is the joint-sixth highest region by the number of scaleups. Raw figures are unavailable, but GLLEP has moderate levels of scale-up activity, with ScaleUp Institute identifying high rates of activity in the agri-tech and logistics sectors.

# Import and Exports

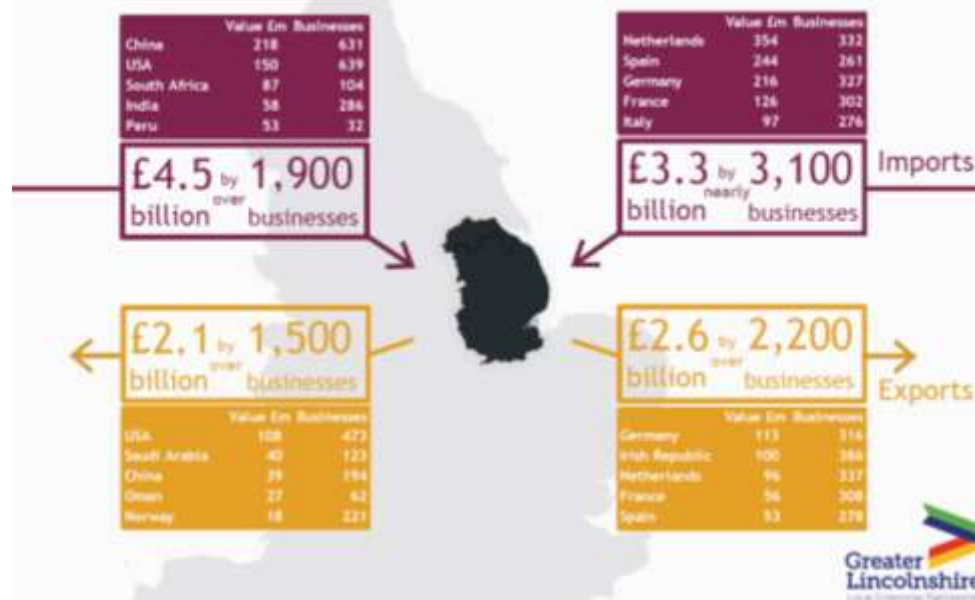
Import and Export values 2017 – Lincolnshire only

Lincolnshire 2017 Import and Export Values by Standard International Trade Code



Import and Export values 2017 – Greater Lincolnshire (excludes Rutland)

Greater Lincolnshire 2017 Import and Export Values and Business Numbers



The charts above are from GLLEP's 'State of the Economy' report (2018) and illustrate export and import flows for Lincolnshire (left) and Greater Lincolnshire\* (right).

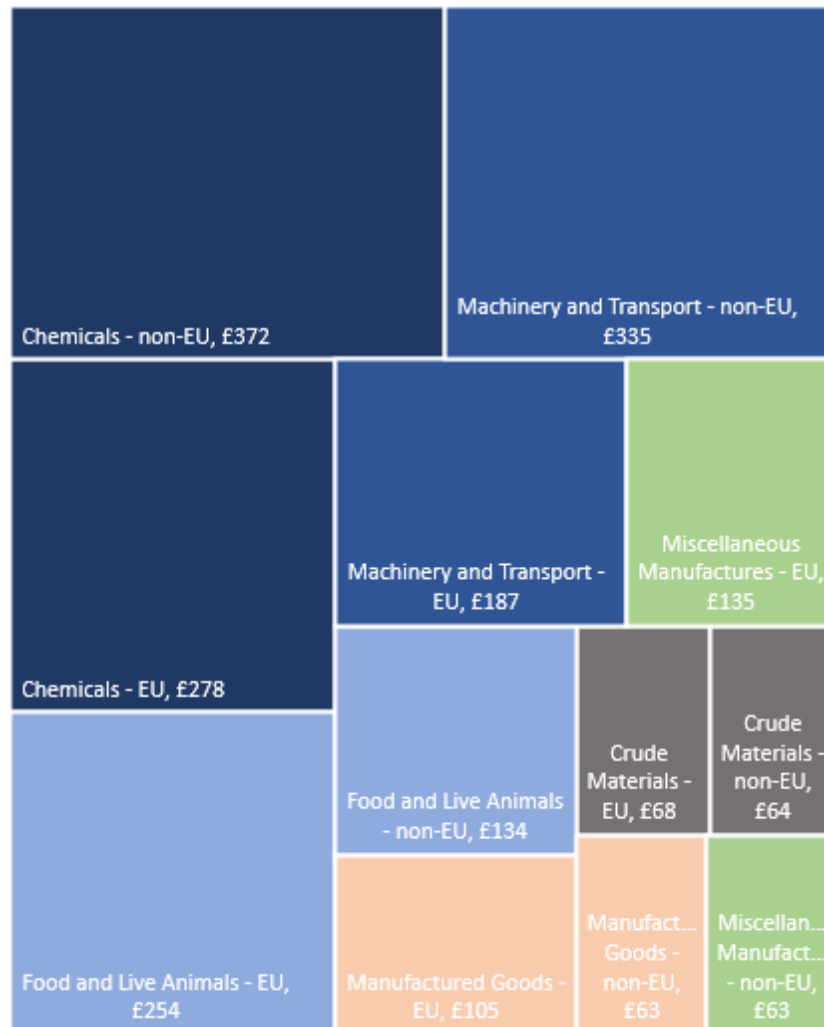
Lincolnshire and Greater Lincolnshire are net importers from the EU and non-EU countries, although Lincolnshire does run a trade surplus in the Machinery and Transport Equipment Standard International Trade Code category.

In 2017, total imports into Greater Lincolnshire were £8.8bn from a minimum of 3,100 businesses. Total exports were £4.7bn from a minimum of 2,200 business, resulting in a trade deficit of £3.1bn. An additional breakdown of exports by industry and destination is presented overleaf.

\* Excludes Rutland

# Exports by industry and destination

Export of goods by destination (2015, £m)

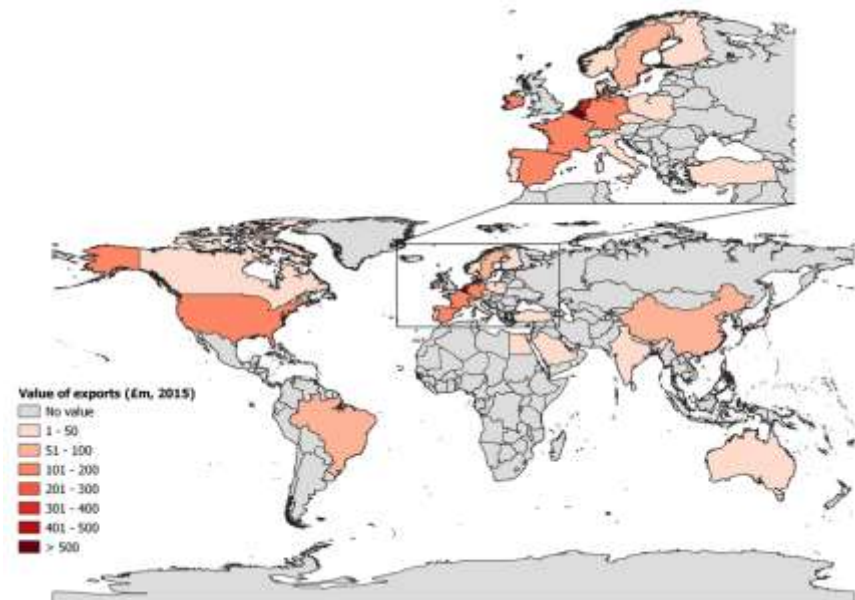


The chart on the left depicts the breakdown of export goods by Standard International Trade Code for EU and non-EU destinations, while the map below shows the destinations of exports.

Chemicals are GLLEP's dominant export, accounting for £650m (22.3% of total) of exports in 2015, followed by Machinery and Transport Equipment\* with £522m (17.9% of total).

62.9% (£1,831m) of exports from GLLEP are destined for EU countries, with Belgium (£572m), Netherlands (£336m), France (£191m) and Germany (£179) the main destinations.

Beyond the EU, GLLEP exports £1,078m of goods, with the main destinations being USA (£146m), China (£57m) and Brazil (£51m).



\* Machinery and Transport Equipment includes power generating machinery, specialised machinery (including agricultural machinery), other industrial machinery, road vehicles, other transport equipment, and some other smaller categories.

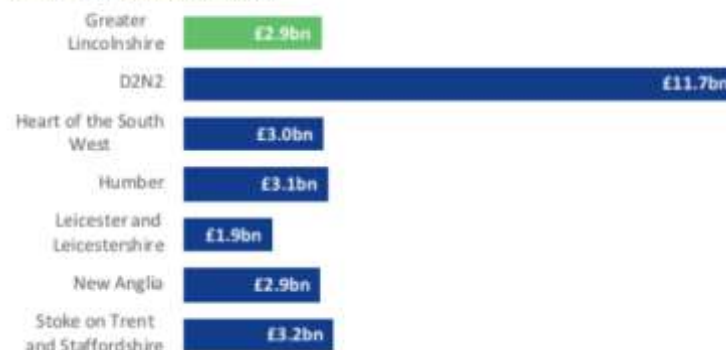
# Exports by GLLEP and comparators

This information is sourced from Greater Lincolnshire's *Update on Exporting in Greater Lincolnshire* report. The headline findings from this report are that:

1. Greater Lincolnshire export levels (based on 2015 value) per job, per business, and relative to economic size, outperformed many of those of comparator areas and were slightly below the national average
2. Greater Lincolnshire is much more reliant on exports to the EU than its comparator areas and nationally
3. HMRC data suggests that the number of traders exporting in Greater Lincolnshire is higher than previous studies have estimated.

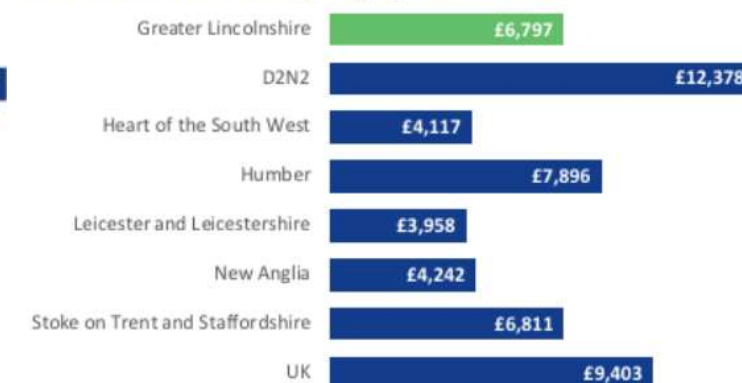
**Figure 1 – Value of Total Exports, 2015**

Sources: HM Revenues and Customs



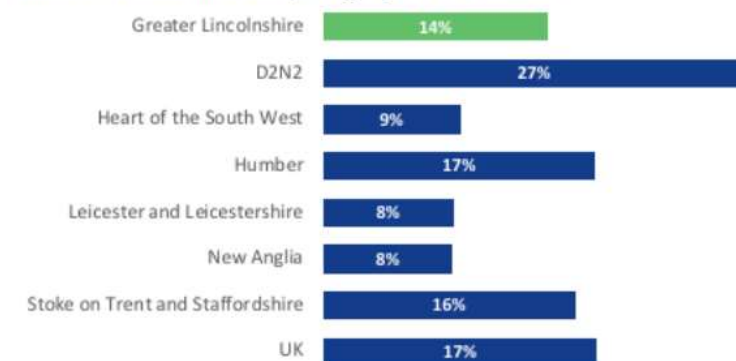
**Figure 2 – Value of Total Exports (2015) per job**

Sources: HM Revenues and Customs, and Office for National Statistics



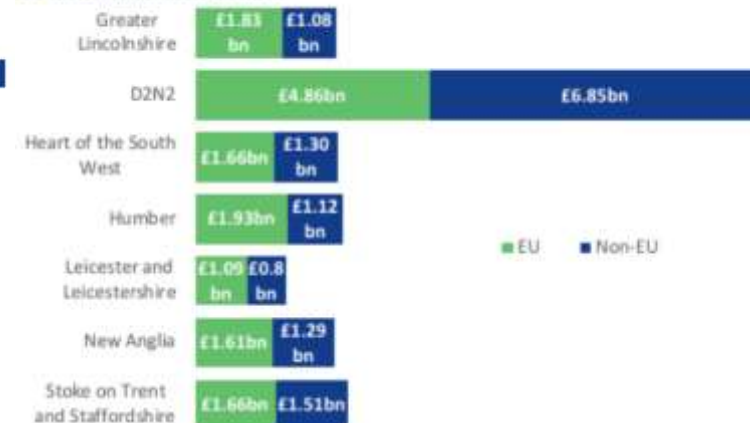
**Figure 3 – Total Exports (2015) Relative to Size of Economy (GVA, 2015)**

Sources: HM Revenues and Customs, and Office for National Statistics

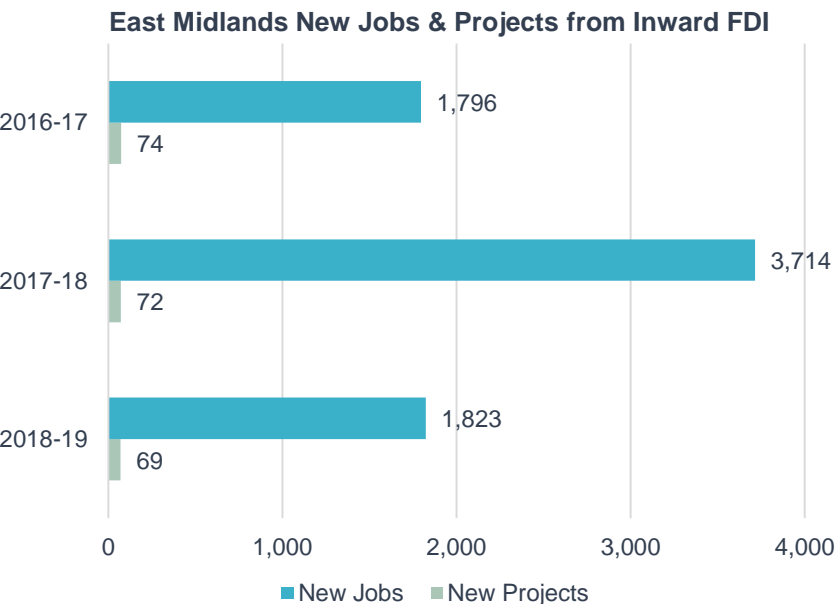


**Figure 5 – Value of Total Exports by EU and Non-EU, 2015**

Sources: HM Revenues and Customs



# Foreign Direct Investment



The charts above are sourced from GLLEP’s ‘*DIT Verified Foreign Direct Investments – five year comparison*’ report (July 2019) and publicly available DIT data on Inward FDI at the regional level,

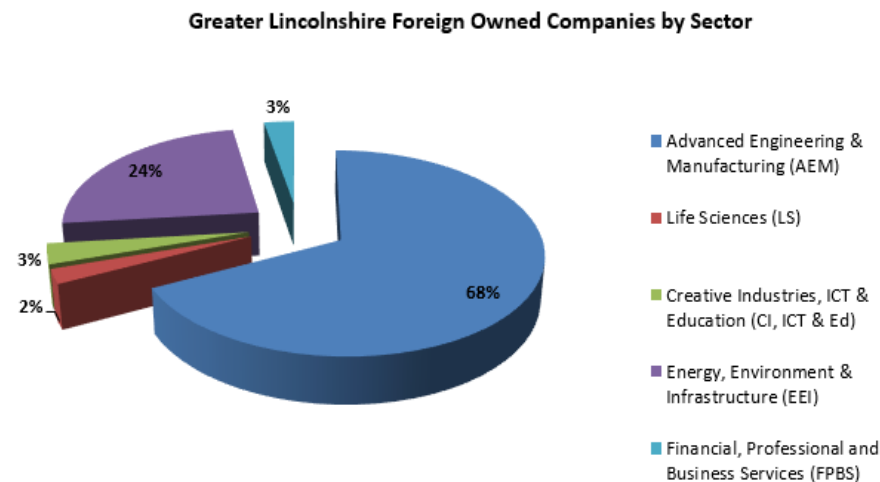
GLLEP are currently aware of 214 foreign owned businesses across the Greater Lincolnshire area. This is steadily increasing due to acquisitions and discovering companies that the LEP were not previously aware of.

These companies have parent companies across 29 different countries with the largest presence from the USA 30%, followed by Germany 14% and Denmark 9%. Nearly half the companies are from within the EU 49%.

The overall sector composition includes 68% from AEM Advanced Engineering and Manufacturing which includes the food and drink sector, 24% from EEI Energy, Environment and Infrastructure and small percentages from the Life Sciences, Creative Industries and Financial, Professional Business Services.

2017-18 was the best year for FDI in terms of jobs growth with 3,714 new jobs created throughout the East Midlands. The number of new FDI projects in the region was highest in 2016-17 with 74 new projects although this has declined modestly year-to-year with 69 new FDI projects in East Midlands from 2018-19.

There was a 51% decrease in the number of new jobs resulting FDI between 2017-18 (3,714 new jobs) and 2018-19 (1,823 new jobs). Encouragingly, the number of new jobs in 2018-19 is higher than the 2016-17 level (1,796 new jobs). Roughly 70%-80% of new FDI projects and jobs are directly supported by the DIT.





# Top 8 Findings from Business Survey 2014

**This is the most comprehensive Business Survey which GLLEP has done. Whilst it is helpful to understand business concerns, this was undertaken during the Coalition Government and before the EU referendum in 2016**

The survey was commissioned by the Greater Lincolnshire Local Enterprise Partnership (GLLEP), Lincolnshire County Council and the Lincolnshire and Rutland Employment and Skills Board.

The survey aimed to collect robust, timely and reliable data on business performance, exporting, investment, business support, finance, employment and skills, innovation and research and development. The survey also covered issues on life in Lincolnshire and environmental factors.

The data reported relates to the business site at which the respondent was based using insights from phone interviews with 1,515 employers both private and public sector organisations.

## **1. GLLEP's business base is dominated by long-term occupants**

- Most employers are longstanding occupants with no plans to relocate.

## **2. Employers perceive having suitable, low-cost premises and access to finance as important for growth**

- A better or cheaper premise is a prime motivation for relocation
- However, access to people with the right skills or suitable workplace development is also key

## **3. Transport infrastructure fails to meet employer's needs**

- GLLEP's transport infrastructure is a significant obstacle to business growth. There is a perception to outside suppliers and customers that the area lacks an ability to attract people to move in for work

## **4. Businesses don't always use local suppliers**

- Lack of required products and services is the main reason for employers not using local suppliers, followed by cost (although this is very infrequently cited as a barrier to using local suppliers)

## **5. GLLEP's businesses is exporting at a low volume**

- Only a small minority of non-exporters are planning to begin exporting in the near future
- Employers may need more business support and awareness of expansion opportunities

## **6. Superfast Broadband connectivity is important for growth**

- E-commerce is a primary tool in developing overseas sales. Exporters are significantly more likely than non-exporters to use a website for e-commerce.
- As of 2014, 1 in 4 employers do not have a website. 7 in 10 are not using a website for e-commerce. There is potential for diffusion of e-commerce to increase market penetration.
- There is widespread agreement Superfast Broadband (<24Mbps) and reliable mobile connections are both important for business development (mindful this was 5 years' ago)

## **7. Lack of skills is creating recruitment difficulties**

- 'Higher' order professional and managerial occupations experience the most recruitment difficulties due to the lack of applicants with the right skills, experience and qualifications
- 1 in 20 employees is estimated to have no qualifications. A similar proportion of the workforce lacks the right skills or experience to be fully proficient at their jobs
- 1 in 8 employers report having a skills gap in their workforce

## **8. Flood risk is an increasingly significant concern**

- In 2014, a quarter of GLLEP's employers were concerned about flood risk and rated the issue of greater significance than previously.
- It is likely that this issue continues becoming an even greater concern given the flooding in June 2019 and increased spending on flood defences



# Employment growth by business size

*Employment growth in the last 12 months, by employer size (all employers)*

	Greater Lincolnshire	Lincolnshire County	2-9 employees	10-24 employees	25-99 employees	100+ employees
Increase	22%	22%	16%	36%	39%	46%
Decrease	9%	9%	9%	11%	7%	15%
No change	68%	68%	74%	52%	53%	39%
<i>Unweighted sample bases</i>	1515	1141	1018	307	151	39

*Anticipated employment growth in the next 12 months, by employer size (all employers)*

	Greater Lincolnshire	Lincolnshire County	2-9 employees	10-24 employees	25-99 employees	100+ employees
Increase	27%	27%	<b>24%</b>	<b>36%</b>	32%	<b>45%</b>
Decrease	3%	3%	3%	3%	5%	12%
No change	68%	68%	<b>72%</b>	<b>59%</b>	62%	<b>48%</b>
<i>Unweighted sample bases</i>	1515	1141	1018	307	151	39

**Green** indicates positive employment growth measures i.e. that anticipated employment growth is both more likely to increase and change than the average, and that this difference is statistically significant. **Red** indicates negative anticipated employment growth measures i.e. that anticipated employment growth is less likely grow and change than the average and that this difference is statistically significant. The average group is Greater Lincolnshire.

Employers in North Kesteven are significantly more likely than average (34%) to expect to increase the number of staff at their site in the next 12 months. There is little variation by district in terms of anticipated down-sizing. By sector, employers in construction (44%) are significantly more likely than average to anticipate an increase in their workforce, while the proportion is also higher than average in manufacturing (35%).

Young businesses are significantly more likely than businesses established for more than 5 years to report employment growth in the last 12 months. Young businesses are also significantly more likely to and to expect growth in the next 12 months:

- Businesses established under 5 years: **34%** increased staffing in the last 12 months; **38%** expect to increase staffing in the next 12 months
- Businesses established over 5 years: **20%** increased staffing in the last 12 months; **25%** expect to increase staffing in the next 12 months

The top most table shows **past** employment growth in the previous 12 months. The 2<sup>nd</sup> table shows **anticipated** employment growth over the next 12 months. Whilst insightful, given changes since 2014, the information from both tables should be viewed cautiously.

In 2014, most businesses in GLLEP had no change in their employment. There is a positive correlation between business size and employment growth. Micro-businesses with under 10 staff are most likely to have unchanged staffing with almost three quarters (74%) businesses reporting 'no change' in staffing.

Although businesses with over 100 employees were over twice as likely as the general Greater Lincolnshire business base to report employment growth over the past 12 months (46% and 22% respectively), businesses with over 100 staff were also more likely to report decreasing staffing (15% and 9% respectively).

Businesses with between 25-99 employees had the lowest number reporting decreased employment growth over the past 12 months. This suggests that employment within SMEs is relatively more stable.

# Financial performance measures by sector

Proportion of private sector employers that experienced increases in financial performance measures in the last 12 months, by employer size

	Greater Lincolnshire	Lincolnshire County	Agriculture/ fishing	Energy/ water*	Banking /finance/ insurance	Manufacturing	Construction	Distribution/ hotels/ restaurants	Transport/ communications	Other services	Public admin./ education/ health
Profitability	65%	65%	43%	65%	73%	66%	74%	70%	61%	57%	46%
Turnover	66%	66%	36%	69%	73%	68%	75%	71%	63%	61%	50%
Market share	46%	46%	16%	50%	56%	51%	56%	49%	41%	45%	30%
Domestic sales	51%	51%	21%	71%	54%	60%	58%	60%	43%	43%	25%
None of the above	21%	21%	34%	25%	19%	14%	15%	15%	27%	31%	31%
Any of the above	72%	72%	51%	75%	78%	77%	82%	77%	66%	66%	55%
Unweighted sample bases	1466	1099	75	18	325	89	133	461	95	88	182

**Green** indicates positive financial performance measures e.g. increased profitability, turnover, sales, market share than the average, and that this difference is statistically significant.  
**Red** indicates negative financial performance measures e.g. increased profitability, turnover, sales, market share than the average, and that this difference is statistically significant  
The average group is Greater Lincolnshire.

The table above indicates financial performance measures for private businesses over the past 12 months by sector. Business' financial performance is generally positive with nearly 2/3 of Greater Lincolnshire's businesses experiencing increased profitability (65%) or turnover (66%). Over half (51%) experienced increased domestic sales. Market penetration is more subdued with under half (46%) experiencing increased market share.

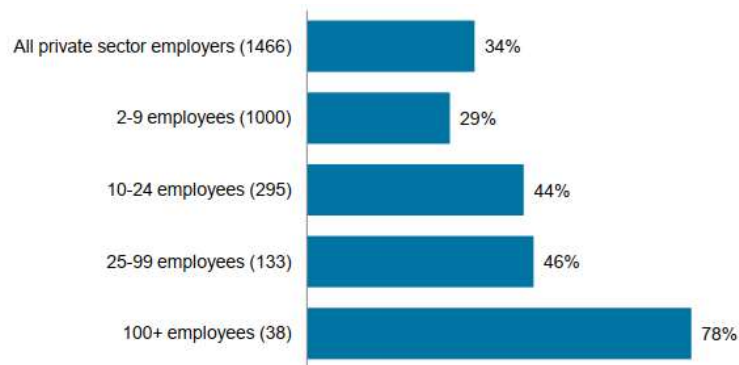
Agriculture and fishing; public administration, education and health are least likely to experience positive financial performance measures compared to the GLLEP average.

Banking, finance, and insurance; construction; distribution, hotels and restaurants are most likely to experience positive financial performance measures compared to the GLLEP average.

These numbers should be viewed cautiously, especially positive financial measures in banking, finance and insurance given the date of survey. Data on GVA per job changes uses more recent ONS data and is more likely to reflect current financial performance. Recent investment in agri-science (e.g. UoL agri-robotics programme in 2016) might have improved financial performance in this sector.

# Innovation in business

*Share of private sector employers that introduced new or significantly improved processes in the past 12 months, by business size*

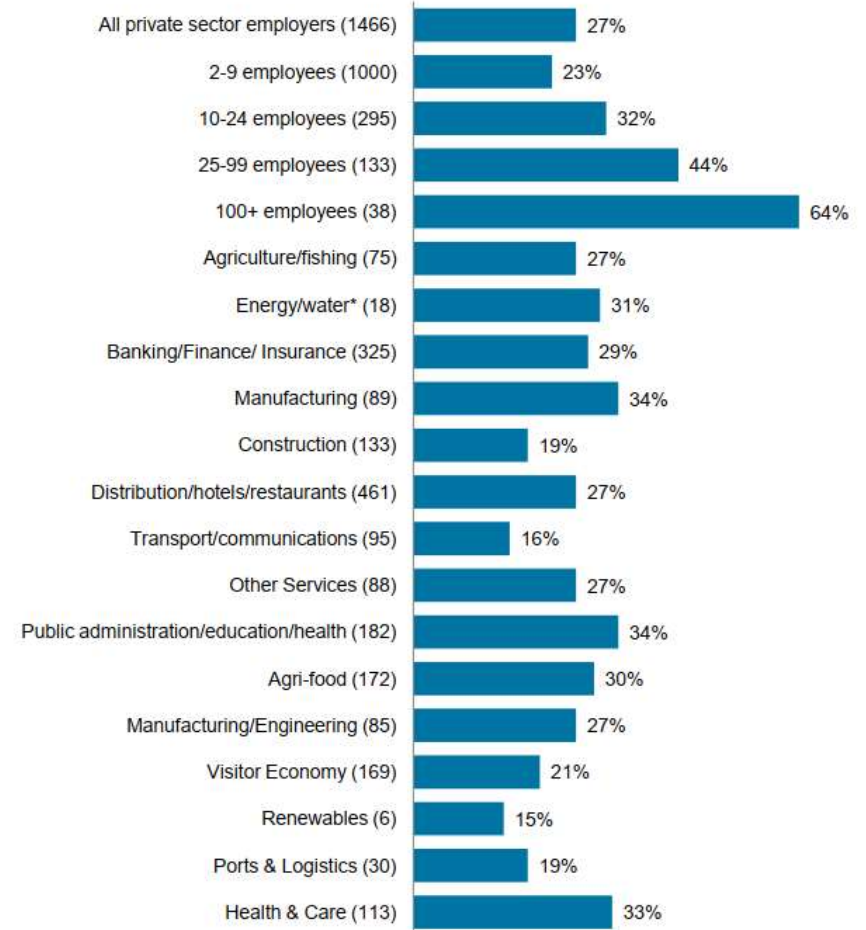


The 2 charts indicate that private businesses with over 100 employees were most likely to be innovative in terms of introducing a new or significantly improved process over the past 12 months (78% of businesses with 100+ employees; 44-46% of SMEs; 29% of micro-businesses) and having an on-site R&D function (64% of big businesses; 32%-44% of SMEs; 23% of small businesses).

On average, 34% of GLLEP's private sector employers have introduced a new or significantly improved process in the past 12 months; 27% of private sector employers have an on-site R&D function. This would suggest that GLLEP's business base is mostly smaller businesses with under 25 employees given that the share of innovation from businesses with 25-100 employees is higher than the private sector average.

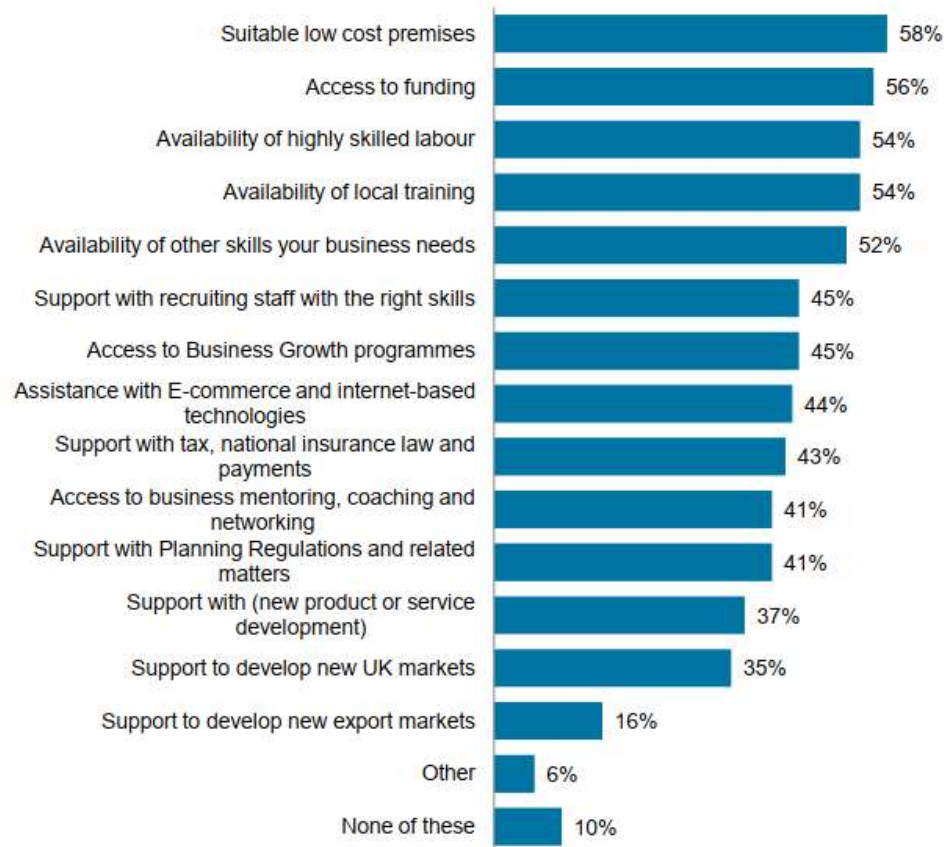
On sectors, tied at 34%, manufacturing and public administration/education/health are most likely to have an on-site R&D function. Health & care follows closely with 33% of employers having an onsite R&D function; Energy/Water 31%; Agri-food 30%. This is all positive given that Health & Care, Energy/Water; Agri-food are all priority sectors. On the lower end, 15% of Renewables employers have an on-site R&D function; Transport and Communications 16%; 21% Visitor Economy employers have an R&D function.

*Share of private sector employers that have an on-site R&D function by business size and sector*



# Supporting GLLEP business growth

*Significant employer benefit in improving business stability or growth (all employers)*



Employers most often cited having suitable low-cost premises (58%) and access to funding (56%) as important for business stability and growth.

Skills was a common theme with the next most popular consideration for business stability and growth comprising availability of skilled labour (54%); local training (54%); other business-relevant skills support (52%).

Whilst access to financing and suitable, affordable premises are important; skills is a much more pressing issue. The benefits of finance and business financing cannot be exploited to their fullest potential without a skilled workforce.

The importance of having a skilled labour force is evident given that 45% of employers cited recruiting staff with the right skills as necessary for stability and growth. This skills problem further compounded by GLLEP's patchy coverage of FE colleges.

By district, skills issues, including having the support to recruit staff with the right skills, are significantly more likely than average to be considered beneficial in North Kesteven.

These employers are also significantly more likely than average to consider support with tax, national insurance law and payments beneficial.

Access to funding is considered particularly beneficial by employers in West Lindsey, while Lincoln based employers are more likely to cite access to business mentoring, coaching and networking than employers based elsewhere.

# FOUNDATIONS OF PRODUCTIVITY PLACE



Metro — Dynamics

# Place – summary



A **large and rural area** with a self-contained economy. Connectivity can be a challenge



A **tourist destination** with 50 miles of coastline and natural assets



**Low activity and land value** in housing market activity, particularly in rural areas with flood risks



**Revitalising Lincoln, and coastal and market towns** through retail and entertainment offerings with **£237m spending expected** by 2021



# The East and West: a differing picture

As a simplified observation, our analysis notes that across a broad range of socio-economic indicators outcomes diverge between the east and west parts of GLLEP’s geography. Areas in GLLEP’s west tend to do better and areas in the east - particularly along the coastline between Mablethorpe and Skegness - tend to be more deprived. Within this simplified observation there are exceptions, such as parts of Boston that do well, and parts of Lincoln that do poorly. The analysis below outlines how socio-economic indicators differ in general across the LEP, bearing in mind that pockets of success and deprivation exist throughout GLLEP.

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# Inclusive growth challenges

**The Inclusive Growth Analysis Unit analysis Greater Lincolnshire ranked 26th out of the 39 LEPs for 'Economic Inclusion' in 2015 and 35th out of 39 LEPs in 2015 in terms of 'economic prosperity'.**

The area also had the lowest change in economic prosperity from 2010-15 for all the LEPs.

## Areas of deprivation

- Overall 11% of Greater Lincolnshire's population are living in the most deprived areas of England, compared with an average of 9% across all LEPs.

## Employment & wages

- Greater Lincolnshire has the 3rd lowest full time wages out of 37 LEPs. Greater Lincolnshire ranked 35th out of 37 LEPs in terms of gross weekly pay for full-time workers, and 10.5% behind the average of the LEPs. Wages for full-time workers in Greater Lincolnshire's wages grew 1.61%, which was relatively slow in comparison to similar LEPs.
- The number of those in low earnings have increased by 3.6% between 2010-2015.
- Low wages are an issue in Boston (bottom 10th percentile - £7.33 per hour), in comparison to Lincoln (bottom 10th percentile - £9.01 per hour).

- Greater Lincolnshire has a higher percentage of its labour force in retail (78,000), Manufacturing (60,000) and accommodation and food services (35,000). Though there is a big disparity between the average weekly wages of these industries - £328, £575 and £252 respectively.
- Greater Lincolnshire LEP ranked well for unemployment levels, having decreased the number of unemployed by 28.6% since 2010. Greater Lincolnshire had 4% unemployment (the average of all LEPs).

## Living costs

- Greater Lincolnshire ranked highly for housing affordability – both for buying and rental, as the area has relatively cheap housing compared to the rest of the UK. Housing in Greater Lincolnshire is more affordable for those on low wages in comparison to the rest of the UK, especially in North-East Lincolnshire and North Lincolnshire.
- Fuel poverty in Greater Lincolnshire has seen a dramatic 44.3% decrease from 2010.
- However, Lincolnshire's housing affordability ratio was the worse it has ever been in 2015. Furthermore, Lincolnshire's lower affordability ratio (5.97) than the English average (7.52) is driven by depressed property prices rather than rising income. Earnings in Lincoln has been stagnant with some areas having roughly 1/3 of residents earning below the living wage of £8.75/hour

# Distance to further education colleges

*Main FE Colleges in Greater Lincolnshire*



◆ = Sites of Sixth Form Colleges, Independent Training Providers, Universities and other Colleges with a direct SFA Contract

● = College Satellite Campus/Building

■ = Main College Sites

Illustrating the geographic spread of further education providers, this map also demonstrates that large pockets of Greater Lincolnshire are more than a 30 minute drive from a major further education college (the orange spreads illustrate the 30 minute drive radiuses).

The East of the LEP has a large number of areas that are more than a 30 minute drive from an FE provider. Towns such as Mablethorpe and Skegness are perhaps the furthest from a major FE 16-18 education facility (although there may be smaller providers or 6<sup>th</sup> form colleges); both places have poor skills profiles, low earnings and high levels of deprivation.

# Urban profile

The tables on the following pages provide insight into the economic and demographic profile of GLLEP's five largest urban areas by population, with each place's economic, demographic and labour market profile. This page provides a summary of the analysis for each place. These towns were selected on the basis of having built-up areas in their geography. There are many other small towns in GLLEP which are not included.

## Grimsby

Grimsby is the largest town with a population of 101,035. It is also the most dense in terms of both population and number of businesses. There are 3,406 people and 89 businesses per square kilometre.

47% of its population is below the age of 35. Its population growth was at near 0%. Its jobs growth was the weakest among the towns, at 1% despite having the largest business count and business growth.

## Lincoln

Lincoln is a city and the second highest population at 98,438. It has a student population 14,000 associated with the University of Lincoln. If these figures were included in the population count, this would make Lincoln the most populous city in GLLEP. Lincoln the highest jobs density at 1,624 and the second highest business density after Grimsby at 73. Business growth between 2013-2018 was at 20%.

51% of its population is below the age of 35, the highest among the towns. Total population grew by 4%, jobs by 9%. It is the second densest city with 2,830 people per square kilometre.

## Scunthorpe

Scunthorpe has a population of 78,721. Its business growth of 19% was not correlated with jobs growth. The town has the second lowest jobs growth at 4%. Its business density at 43, is less than half that of Grimsby. 45% of the population is below the age of 35.

## Boston

Boston has a population of 45,139. Population growth was the highest among the towns at 7%. Its population size is less than half that of the two larger cities. It is the most sparsely populated area with 852 people per square kilometre.

It has a highest share of people aged over 65 at 18% along with Grantham. Its jobs density is roughly a quarter of Lincoln, however, Boston's jobs growth was the highest at 11%.

## Grantham

Grantham is the 5<sup>th</sup> largest town with a population of 39,038. Despite its small size, its population density of 2,482 is the second highest after Lincoln. It has the highest share of residents aged over 50 at 37% and the lowest share of residents below 35 at 44%.

Despite this, Grantham's job growth is the second highest at 11%. Its job density of 1,264 and business density of 71 is the third highest, a good achievement given its small size.

# Principal places – economic profile

Towns	Jobs (2018)	Job growth (2013-18)	Jobs density* (2018)	VAT registered businesses (2018)	Business growth (2013-18)	Business density* (2018)
Lincoln	56,500	9%	1,624	2,530	20%	73
Boston	23,150	11%	437	1,220	17%	23
Scunthorpe	39,200	4%	959	1,740	19%	43
Grantham	19,875	10%	1,264	1,120	14%	71
Grimsby	44,150	1%	1,489	2,645	21%	89

*\* Jobs/business density expressed as number of jobs/businesses per square Km.  
Number of jobs and businesses for 2012 calculated using MSOA 2001 definitions*

# Principal places – demographic profile

Towns	Population (2017)	Population density* (2017)	Population change (2012-17)	Share of total population (2016)				
				0-19	20-34	35-49	50-64	65+
Lincoln	98,438	2,830	4%	23%	28%	17%	16%	15%
Boston	45,139	852	7%	24%	21%	19%	18%	18%
Scunthorpe	78,721	1,925	2%	25%	20%	19%	18%	17%
Grantham	39,038	2,482	6%	25%	19%	20%	19%	18%
Grimsby	101,035	3,406	0%	26%	21%	18%	19%	16%

\* Population density expressed as number of people per square Km



# Spotlight on the rural economy



**759,394**

people with  
3.6% growth



**14%**

aged  
20-34  
with some areas <10%



**257,425**

jobs\* with  
12% growth  
from 2012



**30,310**

businesses  
with 11%  
growth from  
2013

A wide range of sectors :

- **Retail trade** largest employer with **25,500** jobs
- **Agri-food\*** – **17,675** jobs including **15,500** in food manufacturing
- **Logistics and distribution** – **17,825** jobs incl. water & air transport
- **Visitor economy** – **26,600** jobs in accommodation and food service

Challenges around:

Relatively low **wages** and high levels of **deprivation**



**Digital connectivity** some rural areas have median broadband speeds of **3Mbit/s**



**Transport connectivity** some areas have up to 20% of residents **travel +30km** to work



**20%\*\*** with NVQ Level 4+  
**28%\*\*** employed as managers and top professionals



## Distinctive features

- **25%** of the UK's grade 1 agricultural land
- Producing/processing over **70%** of the UK's **seafood** and **25%** of its **vegetables**
- **National Centre for Food Manufacturing** HQ in Holbeach
- Served by **National Centre for Rural Health and Care** (HQ in Lincoln) since 2017
- Establishing a **Food Enterprise Zone** around Europarc, Holbeach and Hemswell Cliff
- Regions often dominated by a single industry

\*Agri-food jobs count does not include farm agriculture jobs due to data only being available at the local authority level

\*\* Skills and qualifications data are based on Metro Dynamics estimates based on ONS Annual Population Survey (2018) and Census (2011) data

All statistics are for the areas of GLLEP outside of the five principal towns. Population and proportion of young residents are for 2017, with growth 2012-17; Jobs Count are from 2012-2017, Business Count from 2013-2018.

# Spotlight on the coastal economy



**239,477**

people with  
0.82%  
growth



For every  
three  
people  
over 60  
moving in there are  
two 16-24 year olds  
moving away from  
coastal areas



**£17.4m** spent on  
flood defence  
investments in  
Wrangle, Louth,  
Horncastle,  
Stamp End

4 main built up areas:

- **Grimsby**
- **Mablethorpe**
- **Skegness**
- **Cleethorpes**

With a mix of seasonal and  
annualised employment  
The first ever Butlin's resort opened  
in 1936 in Skegness

**Pockets of low income** ranging  
from £20,001 to £25,000 are  
clustered eastward in resort towns  
such as Skegness, Grimsby,  
Mablethorpe. Resort towns such as  
Skegness, Mablethorpe, and  
Grimsby are among the  
10% most deprived



**Over 30%** of residents  
from Mablethorpe  
to Skegness have no or  
low qualifications



Sutton-on-Sea, Skegness and  
Mablethorpe boast  
Blue Flag beaches  
and visitor attractions



Challenges around:

**Connectivity** with **under 20%**  
of premises having **ultrafast  
broadband** (>300Mbit/s)

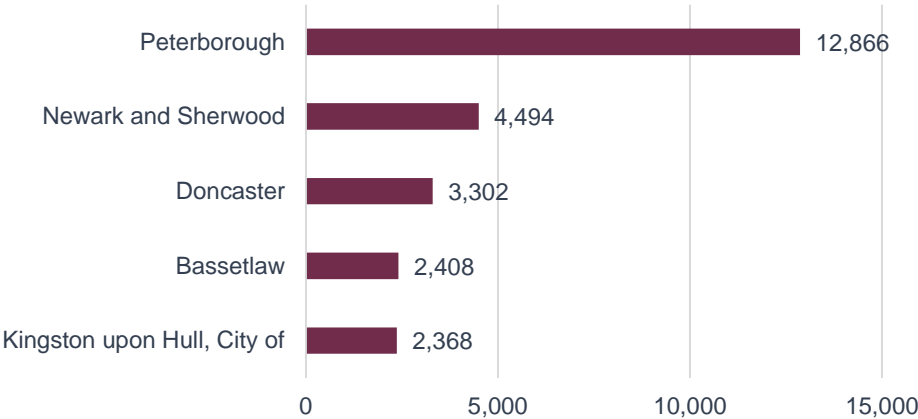
**Digital connectivity** – in  
some areas **over 40%**  
premises have internet  
speeds of **less than 10Mbit/s**



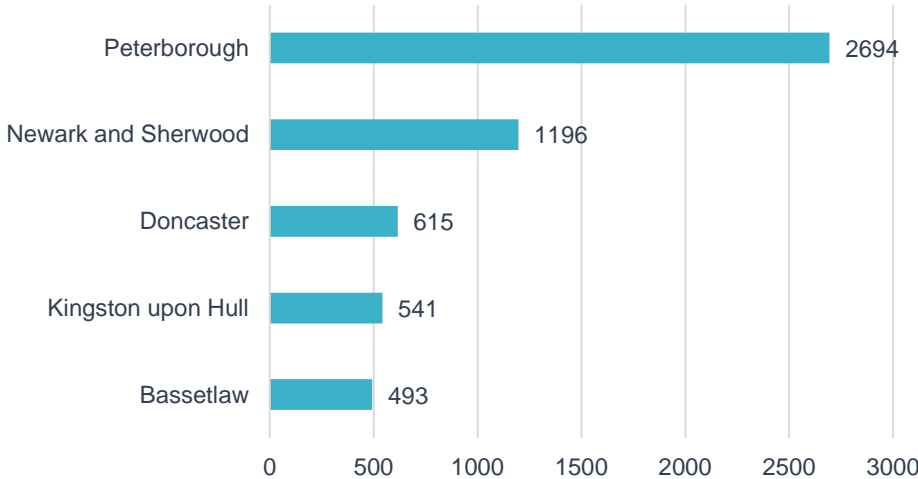
# Outflows: main destinations of GLLEP residents

*Greater Lincolnshire LEP (including Rutland) Commuting Outflows (2011)*

**Main destinations of GLLEP residents aged 16+**



**Main destinations of GLLEP residents aged 25-34**



The graphs on the left show Top 5 destinations that GLLEP residents commute to for work. It only considers those commuting to external regions, excluding those who both live and work in the GLLEP area. The top chart in red shows the outflow of all workers (aged 16 to 74 and above). The bottom chart in blue only considers young workers aged 25-34.

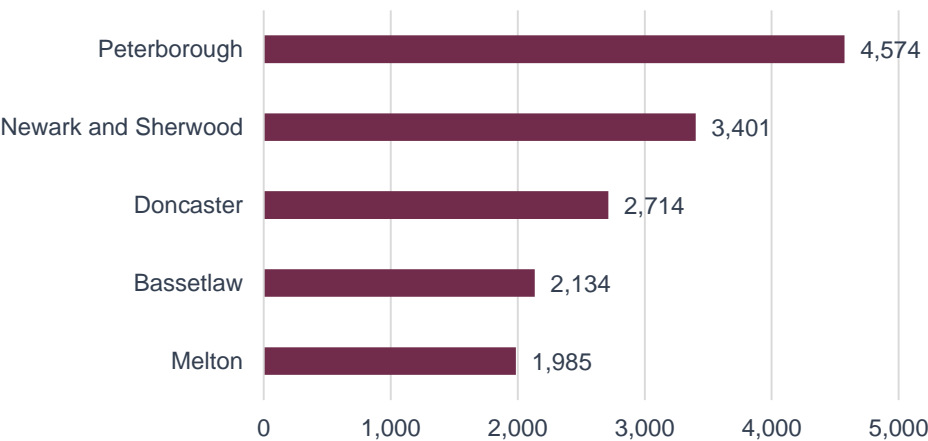
Almost 86% of GLLEP's residents also work in the area. This is the case for both residents above the general population and younger workers. This means 14% of residents work outside GLLEP's boundaries.

Peterborough is the most popular external destination (outside of the GLLEP itself) attracting around 3% of total commuters for both age groups. It is more than twice as popular as Newark and Sherwood. Doncaster, Bassetlaw and Hull are the remaining popular destinations.

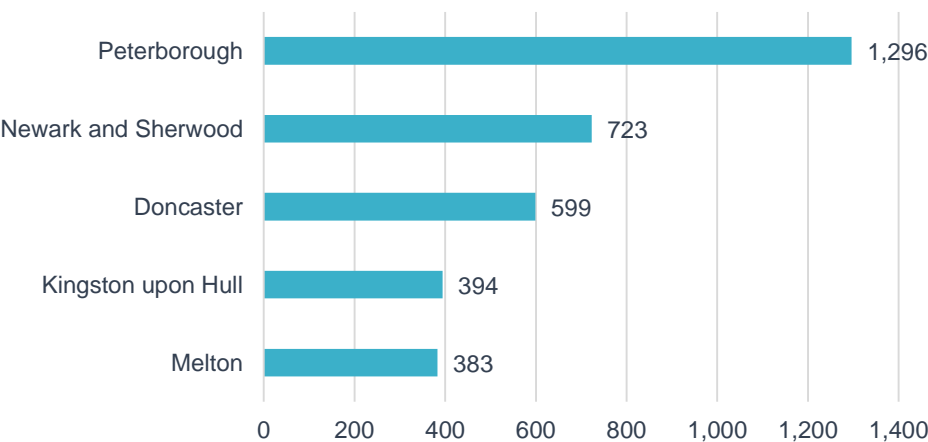
# Inflows: main places of residence of GLLEP workers

*Greater Lincolnshire LEP (including Rutland) Commuting Inflows*

**Places of residence for workers in GLLEP aged 16 to 74**



**Places of residence for workers in GLLEP aged 25-34**



The graphs on the left show Top 5 places where workers in the GLLEP reside. It only considers those who commute from neighbouring regions, excluding those who both live and work in the GLLEP area. The top chart in red shows the inflow of all workers (aged 16 to 74 and above). The bottom chart in blue only considers young workers aged 25-34.

There is a reciprocal relationship between the top destinations for commuting inflows and outflows. In both cases Peterborough and Newark & Sherwood are the top 2 regions for commuting among all age groups.

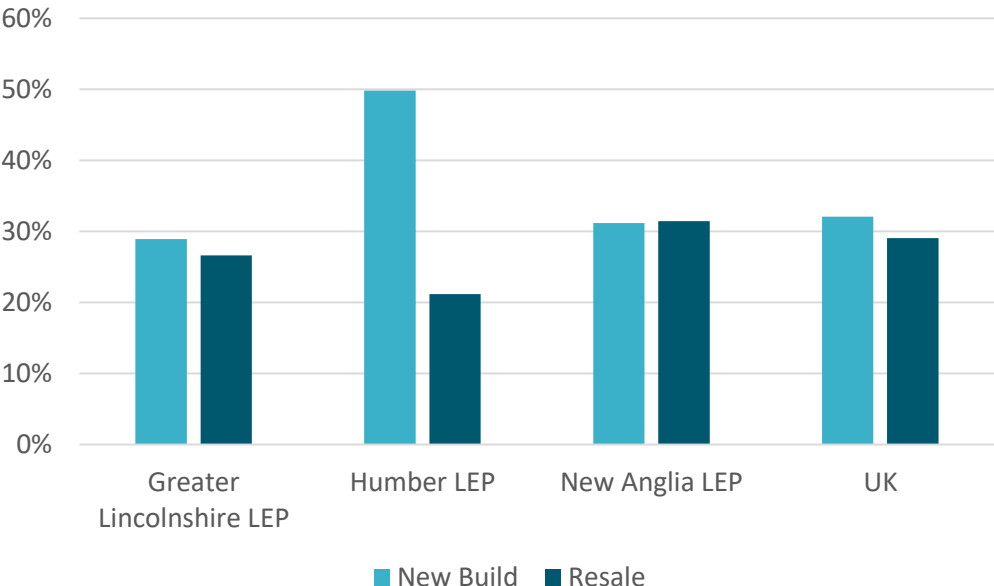
Melton is a new addition, representing the 5<sup>th</sup> most popular place of residence for GLLEP workers in both age groups. Doncaster reappears on the list, and is the 3<sup>rd</sup> most popular residence for GLLEP’s workers in both age groups.

There are minor changes Bassetlaw’s position. For the general population, Hull does not feature within the top 5 most popular places of residence but it does for younger populations. This is interesting given the close links between GLLEP and the Humber and suggests that workers are not commuting in from there for GLLEP jobs.

Roughly 10% of people commuting into GLLEP for work live outside its boundaries. This is the case for both age groups. 90% of jobs in GLLEP are filled by residents, 10% are filled by people who reside elsewhere.

# Existing housing stock

Change in average house prices (Dec 2013 - Dec 18)



There are around 506,000 houses in Greater Lincolnshire – 9.3% of which is social housing (10.5% across England).

The percentage increase in house prices across the LEP has been slower than the UK average, both for new-builds and existing properties. The percentage increase in house prices has also been slower than in New Anglia LEP.

The graph to the left illustrates the geographies that make up Greater Lincolnshire LEP (excluding Rutland). House prices have grown at a much faster rate in Lincolnshire than in North and North East Lincolnshire, who have been lagging behind the LEP average. It is expected that newly built houses will command higher prices, given the more modern build and aesthetics, but the difference in price growth

between new-builds and existing properties in Greater Lincolnshire (as well as in the Humber) is larger than across the UK (see future housing stock for information of new dwellings).

Comparing across local authorities, new builds in Lincoln increased in price by 30% (27% on existing properties) over this period, while new build prices in South Kesteven increased by 32% (28% on existing properties). These increases are high in comparison to those in North and North East Lincolnshire.

# Future housing supply



**3,380** dwellings started and **2,670** completed 2017/18.

There is a push to accelerate delivery with over **£22m of HIF** already allocated to Lincolnshire

Since 2015, GLLEP have delivered circa **10,104 homes** – however delivery is spatially uneven with some areas experiencing housing shortages

A **further 100,000** homes will come from Local Plans through to 2031, making provisions for the change in size and composition of the population

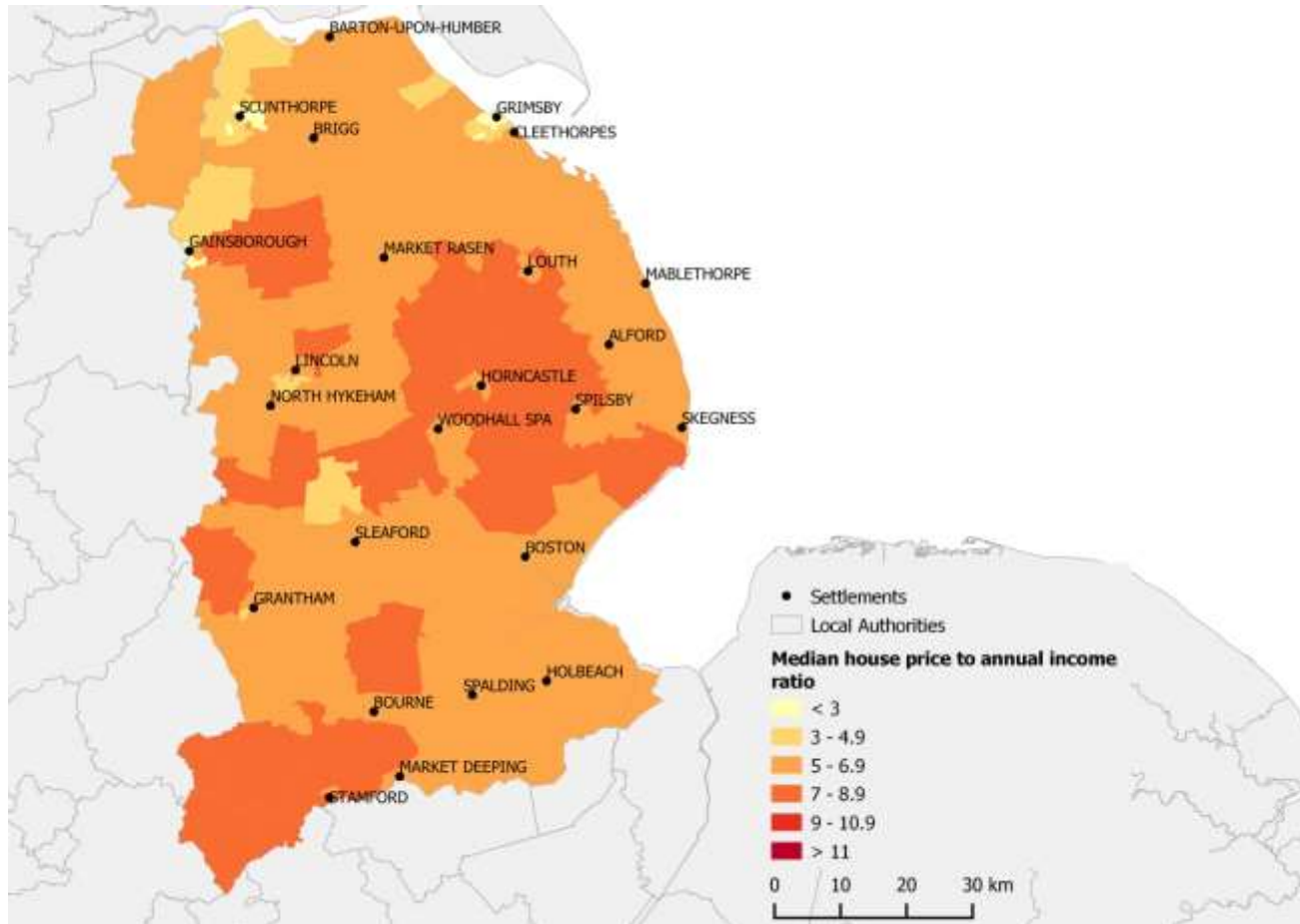
Rutland has delivered **728 homes** since 2015 – **228%** of the number required, whereas North Lincolnshire has delivered **1,037** (**73%** of the required amount).

Of the 311 individual local authorities tested in the Housing Delivery Test 2018, the number of houses delivered was **112%** of the number required.



# Housing affordability

*Housing affordability (2016)*



This map shows housing affordability across Greater Lincolnshire for 2016. Housing affordability is derived by calculating the ratio between median house prices and net annual household incomes. Darker areas on the map indicate less affordable places.

This uses 2016 data, as this is the most up-to-date data available at this level of analysis.

Less affordable property is located in more rural areas of the south-west and the Lincolnshire Wolds surrounding Louth.

No local authority has abnormally large levels of unaffordability. The average house price to annual income ratio in the UK was 7 in 2016, whereas in GLLEP it was only 5.15. Areas of Rutland had a ratio of 8, whereas urban areas such as Lincoln and Boston had affordability ratios of between 5 and 6.

A high level of affordability in the major towns and cities of Greater Lincolnshire is driven by low house prices.

# Natural assets



The Greater Lincolnshire Register of Local Sites now has 1279 Local Wildlife Sites and 95 Local Geological Sites listed. Plus **14 Sites of Special Scientific Interest in the AONB.**

A significant area of new wildlife habitat has been created as part of a **£1.m flood defence scheme** on the Wrangle seabanks to safeguard farmland, homes and industrial premises on the Lincolnshire coast.

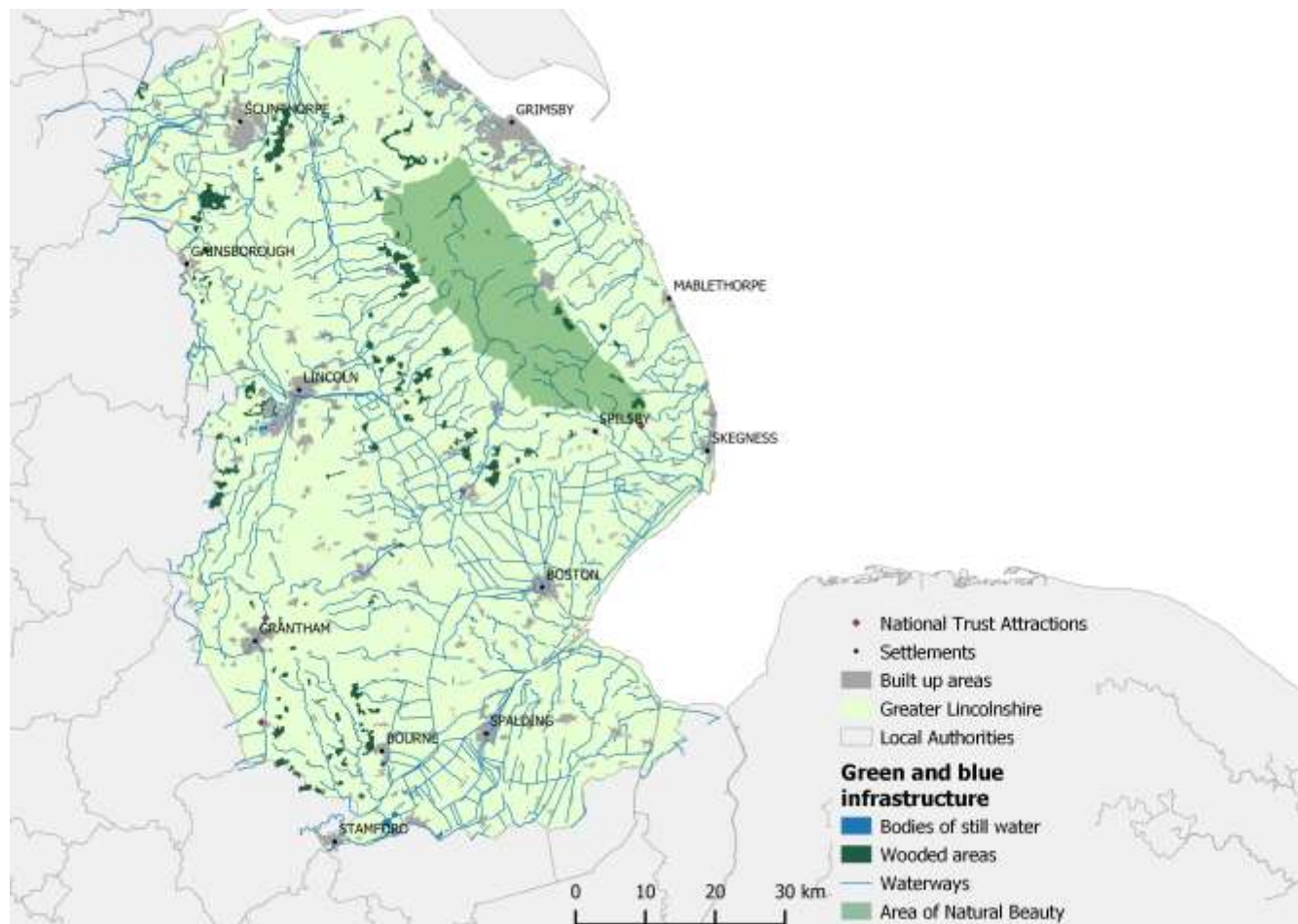
The GLNP works with Visit Lincs Coast to develop a pilot destination on Lincolnshire's coast which generates benefits for both the visitor economy and the natural environment.

Strong partnership working to support the natural environment.

**50 miles of coastline, the Lincolnshire Wolds and the canals** are some examples of the natural assets in GLLEP.

# Natural assets

*Green and blue infrastructure in Greater Lincolnshire\**



The map to the left illustrates GLLEP's blue and green infrastructure.

Greater Lincolnshire has a substantial 'quality of place' offer, with few built up areas compared to other LEPs. The map reflects the region's rural nature and relatively non-built up environment.

The Lincolnshire Wolds Area of Outstanding Natural Beauty covers a large part of the area and is integral to the success of GLLEP's visitor economy.

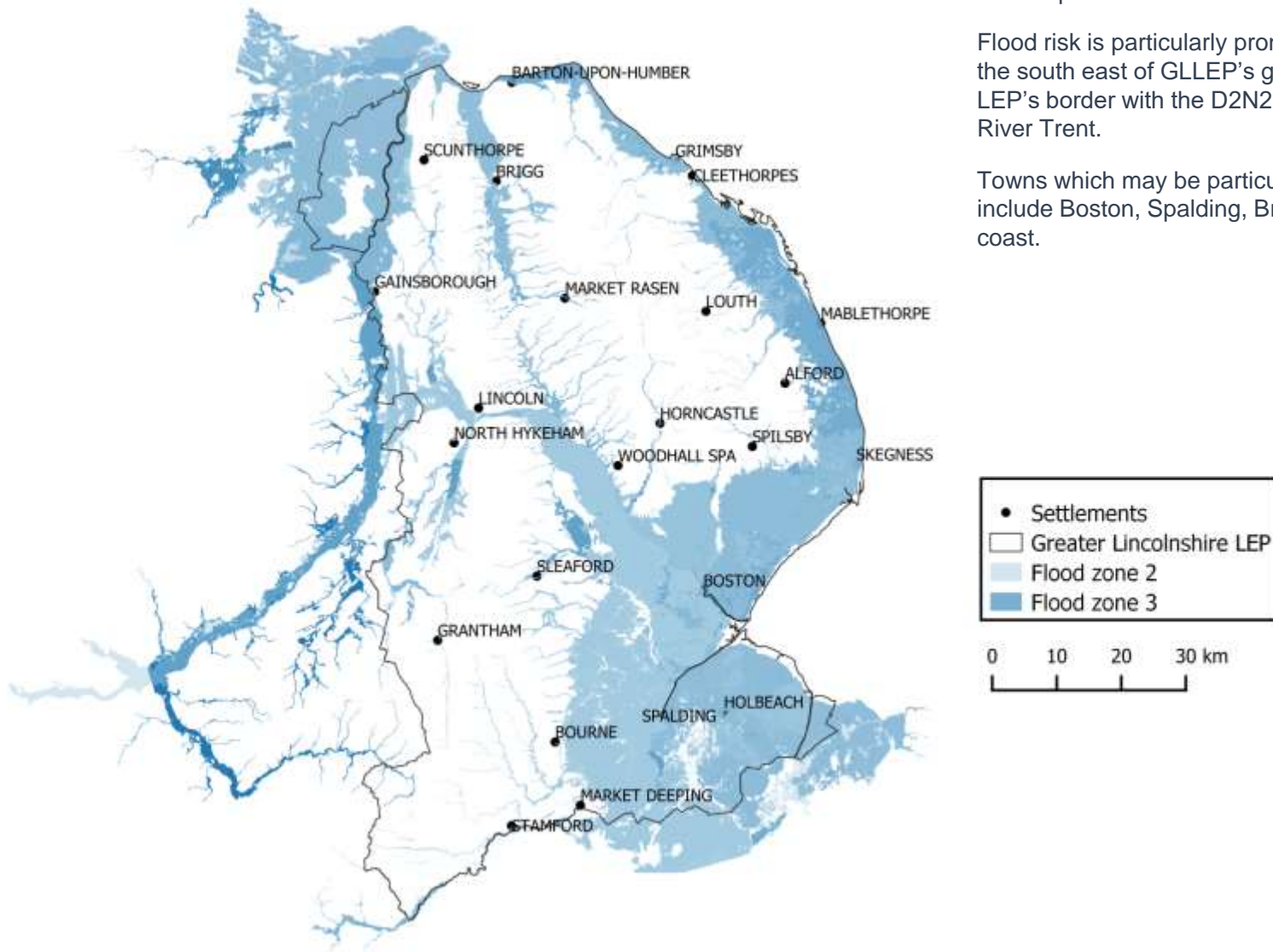
The region is criss-crossed by waterways, including the River Witham which passes through Lincoln and Boston before reaching the sea. While these waterways contribute to Lincolnshire's quality of place and visitor economy, they also leave the region prone to flooding.

There are six National Trust attractions: Woolsthorpe Manor; Grantham House; Belton House; Tattershall Castle; Gunby Hall Estate; and Monksthorpe Chapel.

\* Excludes Rutland

# Flood zones

*Flood zones for Greater Lincolnshire LEP\**



The map to the left illustrates flood zones for GLLEP.

Flood risk is particularly pronounced along the coast and in the south east of GLLEP's geography, as well as along the LEP's border with the D2N2 LEP, as this border follows the River Trent.

Towns which may be particularly susceptible to flooding include Boston, Spalding, Brigg, and settlements along the coast.

\* Excludes Rutland



This evidence base was prepared by Metro-Dynamics on behalf of Greater  
Lincolnshire Local Enterprise Partnership



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