



Cheshire and Warrington LEP

Economic and Resident Baseline

Revised: March 2017

Introduction

Cheshire and Warrington Local Enterprise Partnership (LEP) is reviewing its Strategic Economic Plan (SEP). There have been big changes in the region since the SEP was first written in 2014, and some works associated with a potential Cheshire & Warrington Growth Deal. The new target for the LEP area is to become a £50bn economy by 2040.

With the right interventions and investments, by 2040 the LEP expects to deliver 139,000 new homes and 127,000 new jobs, and increase productivity to 120% of the UK average. In this context, the LEP has commissioned Metro Dynamics to carry out a high level spatial-economic assessment of the area, with the goal of providing a thorough evidence base to underpin the SEP refresh process.

This data pack provides a high-level assessment of the economy, residents, businesses and property patterns in the Cheshire and Warrington LEP area. Through each stage of the assessment we have included comments and observations on the data and the results. Its purpose is to draw together different data sources and pull out a storyline.

The assessment is based on significant analysis. This document presents a summary of the most relevant findings and insight drawn from this exercise. Additional information and more specific pieces of analysis are included in a separate appendix.

In its latest review released on 15 December 2016 the ONS has revised upwards Cheshire and Warrington's 2014 GVA (from £25.8mn to £26.7mn) and estimates 2015 GVA to be £27.6mn, which is naturally good news for the LEP.

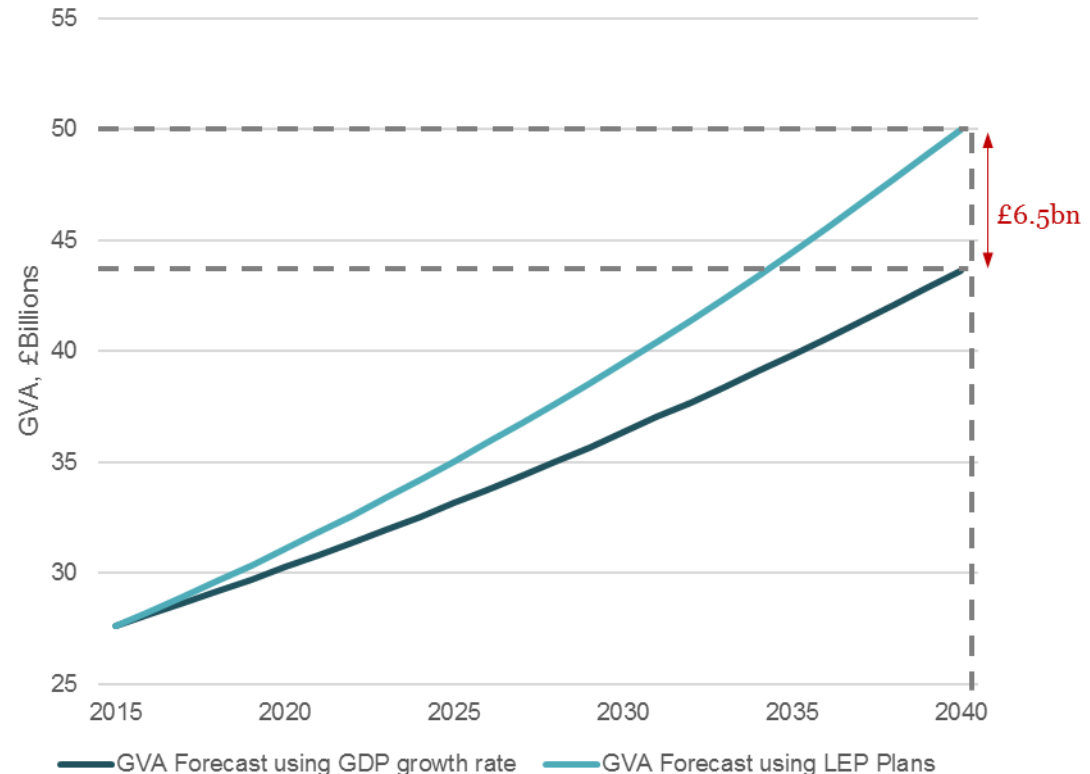
Contents:

1. Economy
2. Residents
3. Businesses
4. Property and place
5. Key findings

Cheshire and Warrington LEP's growth ambition:

- Cheshire and Warrington LEP has a growth ambition to increase GVA to £50bn by 2040, from a base of approx. £27.6bn in 2015.
- The average GDP growth in the UK over the last 20 years is 1.85% a year. Applying this it shows that GDP uplift of a similar rate would increase the LEP's economy to around £43.5bn by 2040. The average annual GVA growth of Cheshire and Warrington over the past 20 years was 1.78%.
- In Figure 1, Cheshire and Warrington's intended GVA growth rate is in light blue. The dark blue line shows the implied GVA growth rate, should the UK economy (and the LEP) grow at a rate which is equivalent to the average of the last twenty years. This distance between the two lines shows the difference in the two forecasts.
- Cheshire and Warrington LEP needs to achieve an extra £6.5bn growth by 2040 (on top of the implied UK GVA growth) in order to reach the target.
- This net additional GVA could be created by increasing the GVA per job in the LEP area, or by increasing the number of residents who live in the area by approximately 145,000.
- This suggests that the target is well achievable and could perhaps be even more ambitious.

Fig 1: Comparative Growth Scenarios



GVA analysis

Fig 2: GVA Growth Compared to UK GDP

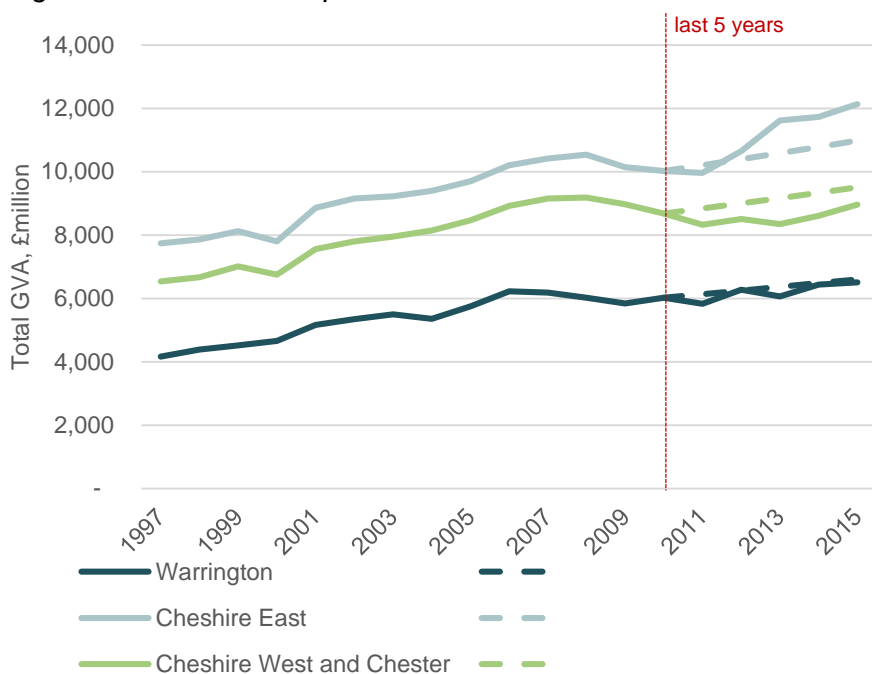
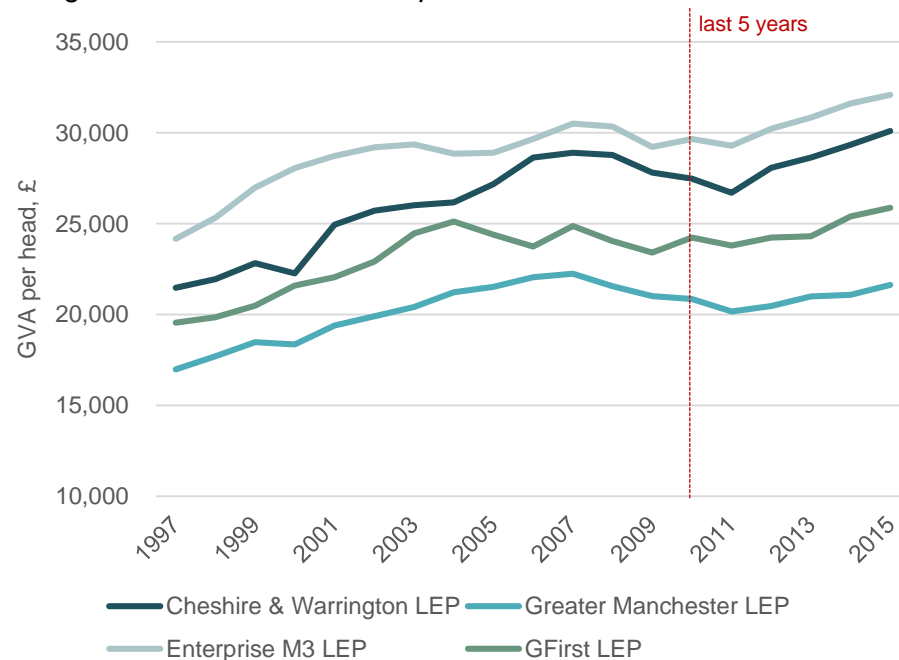


Fig 3: LEP GVA Growth Comparisons



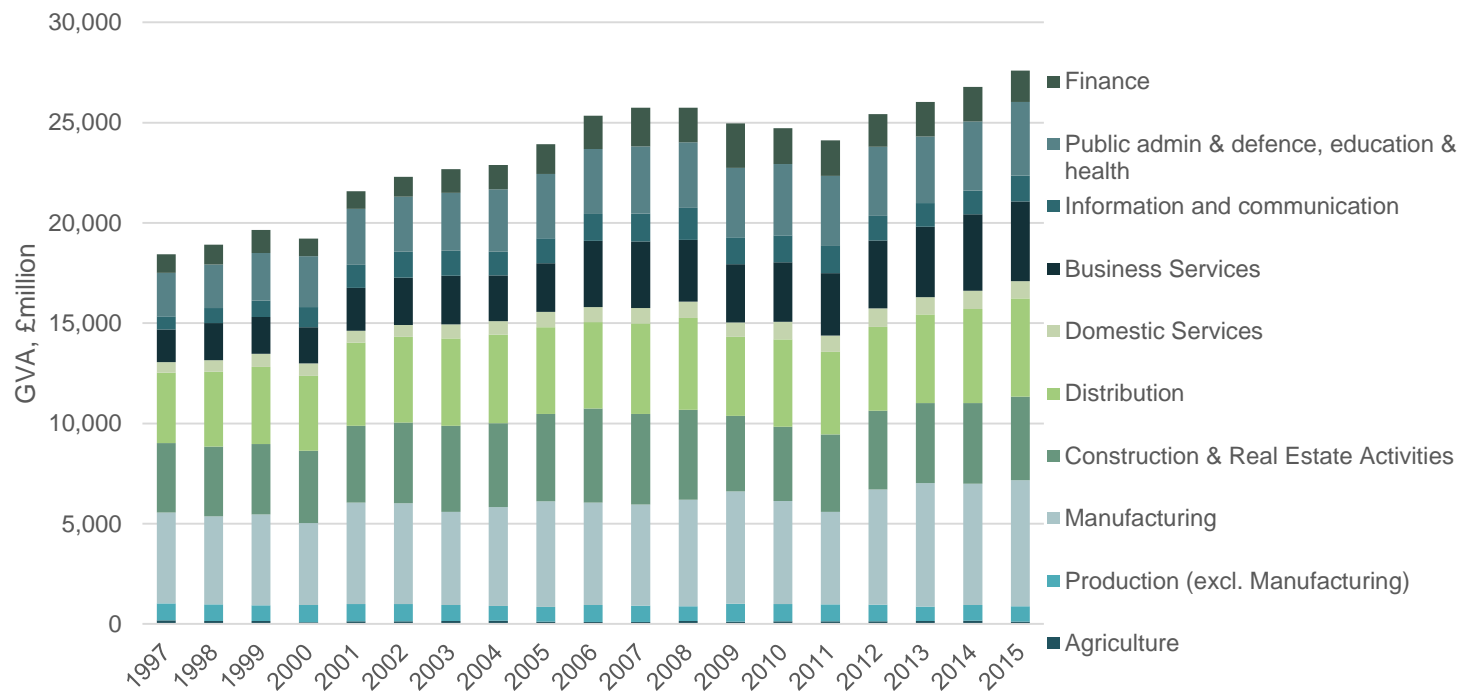
- Figure 2 shows the growth of GVA in the three constituent local authority areas (dotted lines show UK average GVA growth applied to each local authority).
- Cheshire East has the largest GVA and, in the last five years, GVA growth has significantly outstripped the UK average, as depicted by the dotted line.
- Warrington's GVA growth is in line with national growth, though Cheshire West and Chester is lagging behind, suggesting there has been a shift in the economy since the recession.

- Figure 3 depicts the GVA growth of Cheshire and Warrington against three other LEPs, including GFirst, in Gloucestershire, and Enterprise M3, that covers Hampshire and Surrey.
- Enterprise M3 was chosen as it is analogous to Cheshire and Warrington as both are more rural areas outside of large cities, and both create significant economic value.
- The growth of Enterprise M3 has outstripped that of Cheshire and Warrington LEP over the last years.

Source: Metro Dynamics analysis of ONS GVA data using HMT deflators

Breakdown of Cheshire and Warrington LEP GVA

Fig 4: Economic Breakdown of Cheshire and Warrington LEP



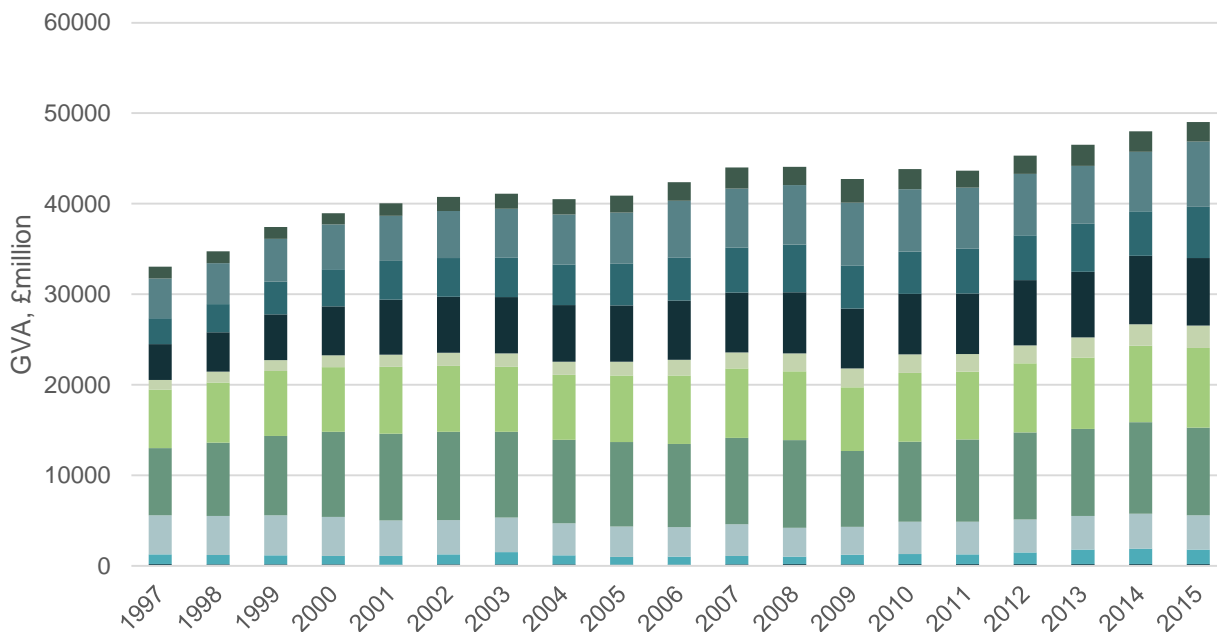
	LEP		UK Overall	
	% GVA 2015	Average annual growth 2010-15	% GVA 2015	Average annual growth 2010-15
Finance	5.7%	-2.4%	7.2%	-0.7%
Public admin & defence, education & health	13.3%	0.7%	18.4%	0.1%
Information and communication	4.7%	-0.4%	6.5%	3.2%
Business Services	14.3%	5.9%	12.3%	3.8%
Domestic Services	3.2%	0.2%	3.9%	1.4%
Distribution	17.8%	2.5%	18.6%	2.4%
Construction & Real Estate Activities	15.1%	2.4%	19.1%	3.8%
Manufacturing	22.8%	4.7%	9.8%	1.4%
Production (excl. Manufacturing)	2.8%	-1.9%	3.5%	-2.6%
Agriculture	0.4%	-1.6%	0.7%	-0.4%

- Figure 4 shows the areas of growth, at a macroeconomic level, in Cheshire and Warrington over the period between 1997 and 2014. Sector growth over the last 5 years and a comparison with UK average are provided on the right hand side.
- The distribution reveals some interesting trends. Finance has declined at a much faster rate than the rest of the country at 2.4%, while business services has grown at a faster rate than the average.
- A more exceptional finding is that manufacturing is thriving. Manufacturing is both growing at a significantly higher rate than across the rest of the UK, and in most manufacturing heartlands. The share of manufacturing in Cheshire and Warrington’s economy (more than twice the figure of the UK average) is also quite notable. These findings suggest that this sector has been instrumental in driving differentiated economic growth of 2.3% a year in the LEP (against 1.8% growth in the UK).

Source: Metro Dynamics analysis of ONS GVA data using HMT deflators

Breakdown of Enterprise M3

Fig 5: Economic Breakdown of Enterprise M3



	EM3 LEP	
	% GVA 2015	Average annual growth 2010-15
Finance	4.4%	0.1%
Public admin & defence, education & health	14.7%	1.0%
Information and communication	11.5%	4.2%
Business Services	15.3%	2.4%
Domestic Services	5.0%	3.6%
Distribution	18.0%	3.1%
Construction & Real Estate Activities	19.8%	1.9%
Manufacturing	7.7%	1.1%
Production (excl. Manufacturing)	3.3%	8.8%
Agriculture	0.4%	-1.8%

- Figure 5 shows the comparative areas of growth, at a macroeconomic level, in the Enterprise M3 LEP.
- What is striking is the huge growth in construction and real estate activities, especially compared to Cheshire and Warrington LEP. Much of this growth has been driven by property price increases in the southern spill-over areas of London, which have driven an increase in both domestic and commercial construction.
- The other area in which Enterprise M3 clearly outperforms Cheshire and Warrington is information and communication. In this area, Cheshire and Warrington lags behind the UK average both in share of the economy and, more notably, in recent growth trends.

Source: Metro Dynamics analysis of ONS GVA data using HMT deflators

Comparative GVA by sector

- Figure 6 shows the size of GVA in the seven largest economic sectors in Cheshire and Warrington, as well as their percentage GVA growth over the period between 2010 and 2015. Figure 7 depicts similar figures for Enterprise M3.
- The chart emphasises the importance of manufacturing and wholesale trade in the LEP area: it is the largest sector area in GVA and has the second highest growth rate over the last 5 years. Growth in manufacturing and wholesale trade is also quite significant when compared to Enterprise M3 LEP.
- Distribution is the second largest sector but growth has been slower. Information and communication is relatively low and declining, contradicting the trends in Enterprise M3 and in the UK overall.
- Although it represents less than 5% of Cheshire and Warrington's economy, information and communication is an important sector in the current economy and often considered a priority. This has declined by 3% between 2010 and 2015.
- The decline in finance is also quite noticeable. A more detailed analysis of financial services (see appendix) suggests that these figures are mainly due to decline in the banking sector in Chester and, in particular, to restructuring processes in MBNA and Lloyds, which have recently relocated a considerable number of jobs from Chester.

Fig 6: Cheshire and Warrington LEP

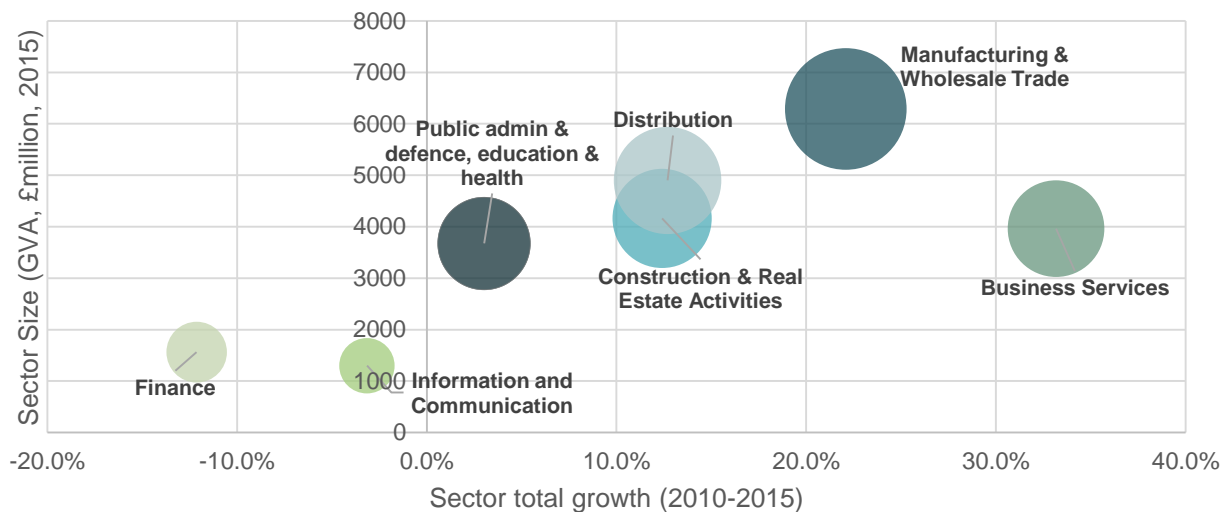
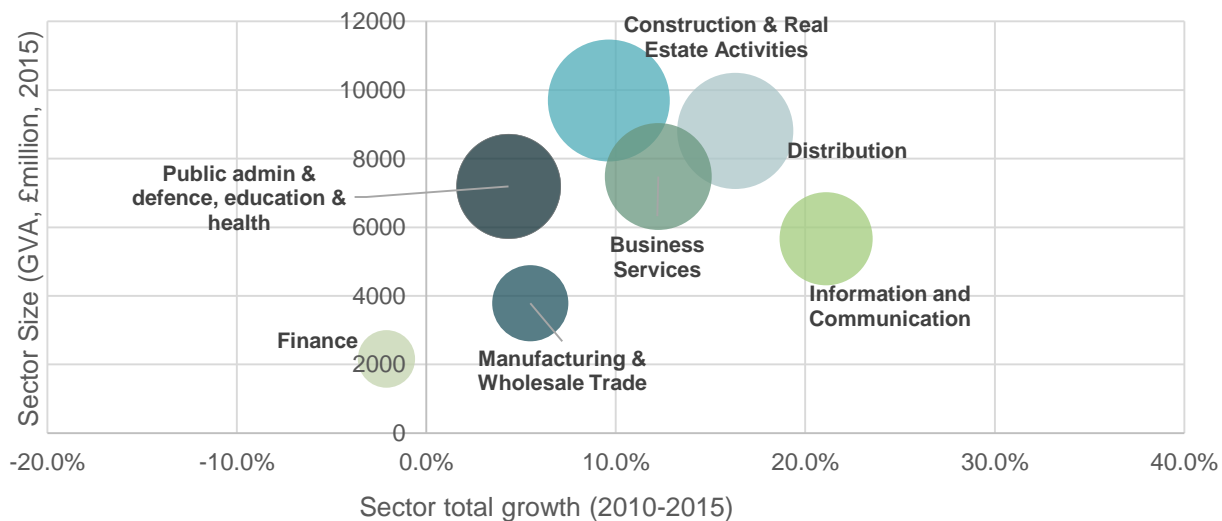


Fig 7: Enterprise M3



Population trends

- Almost 1 million people lived in Cheshire and Warrington's LEP area in 2015, with Cheshire East accounting for 41% of the total residents (Figure 8). Cheshire West and Chester is the second largest in population (37%), while Warrington contains 22% of the LEP's residents.
- Between 2005 and 2015, the LEP experienced population growth of 4.2%, with Warrington experiencing the highest growth of 7.6%, and Cheshire West and Chester the lowest, at 2.0%. Cheshire East population increased by 4.3% over the same period.
- Figure 9 compares Cheshire and Warrington with three other LEPs, in terms of total population and population growth over the last decade. Cheshire and Warrington is quite unique in that its population grew only 4.2% over the last ten years, significantly below the national average of 7.8% and that of comparative LEPs.
- According to ONS projections, the population in the LEP is projected to reach 990,327 by 2039, which corresponds to an even slower growth rate (more figures in appendix).

Fig 8: Population (2015) – Cheshire and Warrington

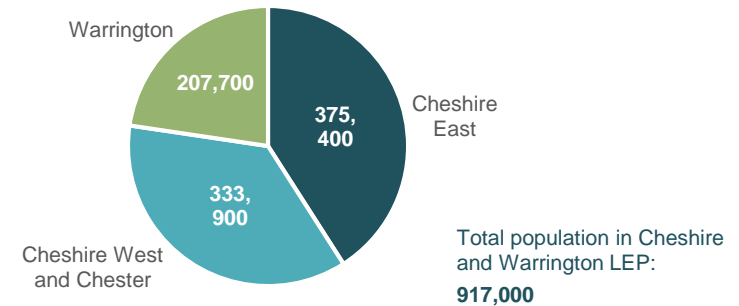
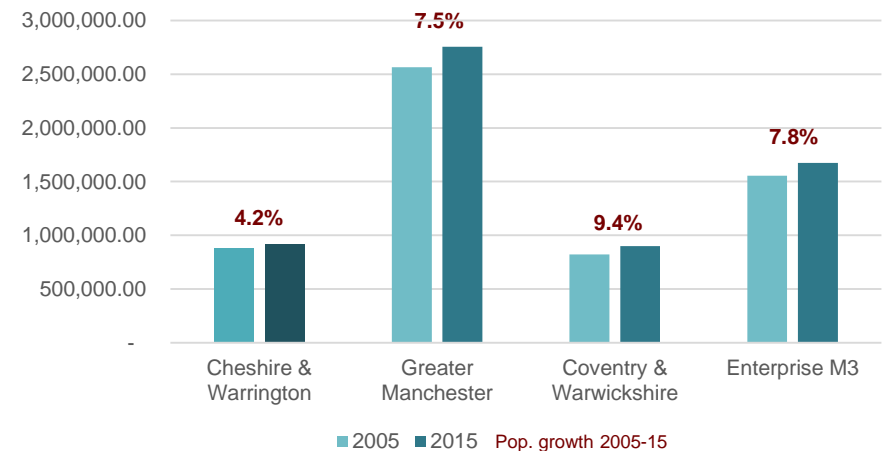


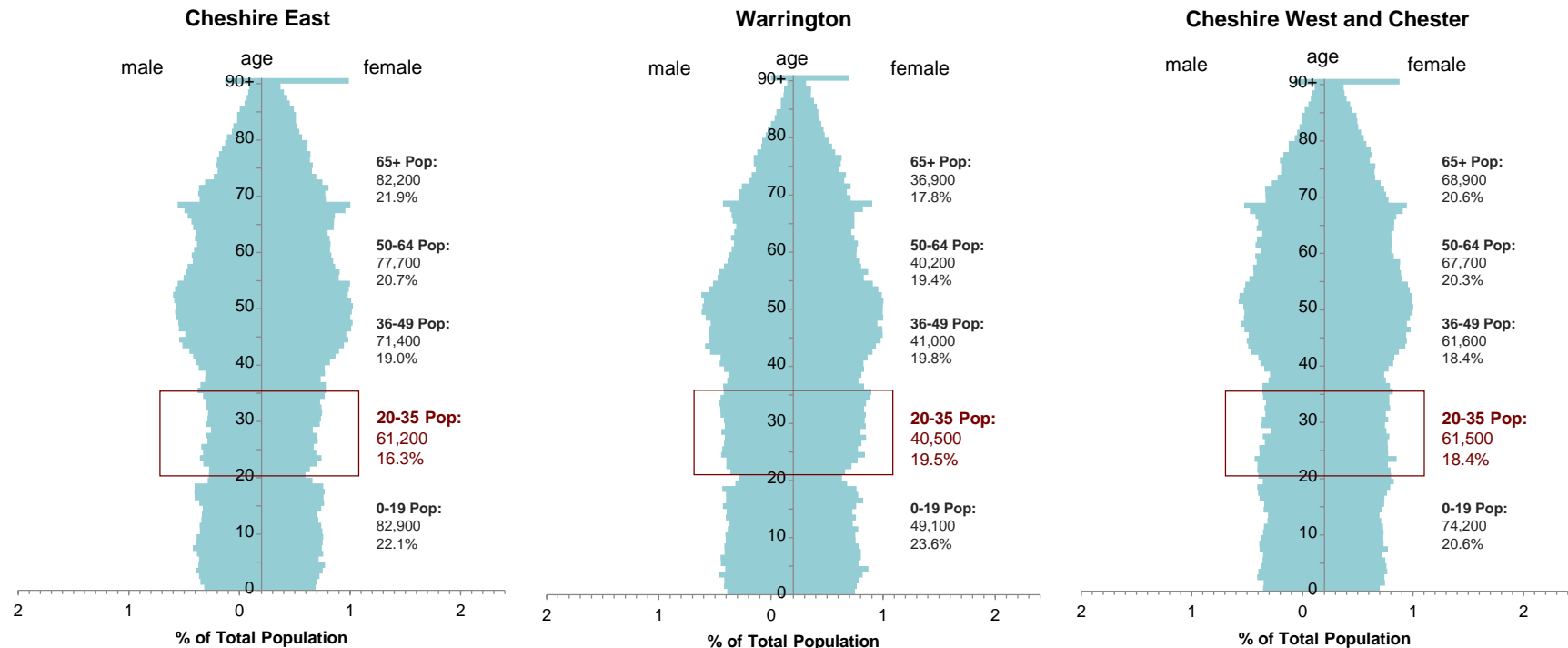
Fig 9: Population and population growth – comparative LEPs



UK | Population (2015): **65,110,000**
 | Population growth 2005-15: **7.8%**

Population by age (comparison of local authorities)

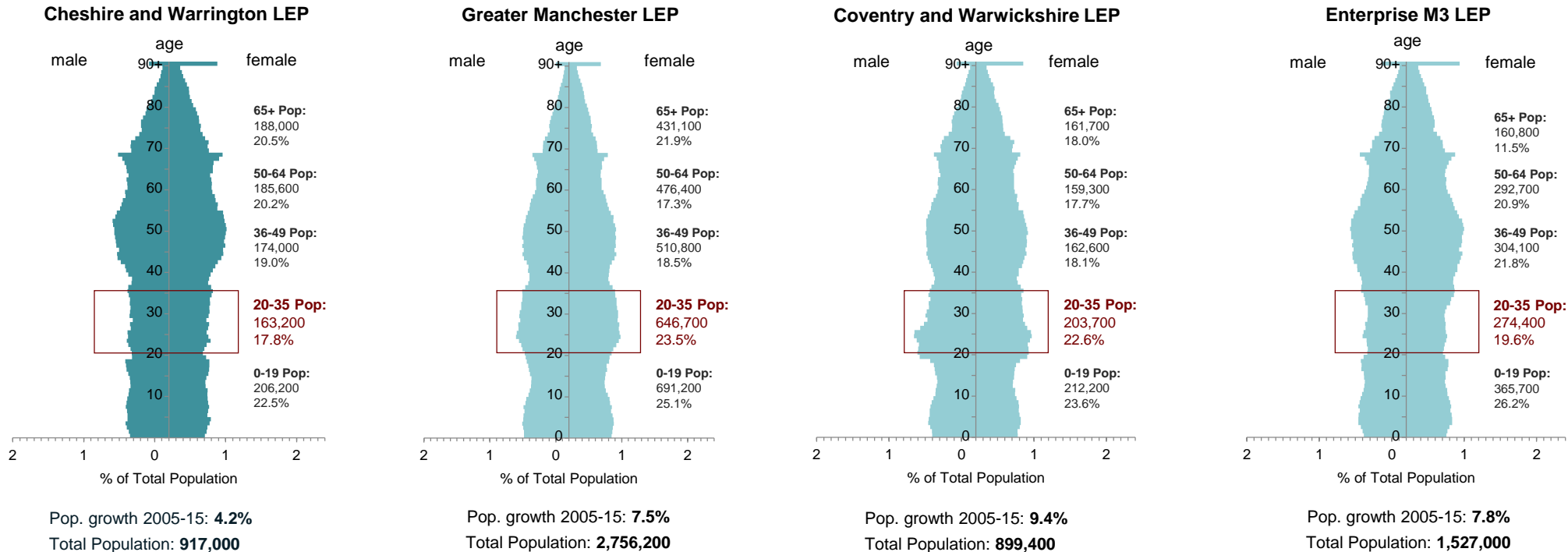
Fig 10: Population pyramids in 2015 - C&W local authorities



- Figure 10 presents the population pyramids for the three local authorities in the LEP, i.e. the population distribution by different age groups.
- All three local authority areas have a relatively old population, with the highest shares of people aged between 45 and 55, and a spike at retirement age. This suggests that large numbers of people are moving into all three local authorities from other locations when they reach these two stages of their life cycle, which might have an impact on real estate prices, making them unaffordable for younger people.
- In turn, there is a decline in number of residents when young people hit the ages of 18/19 in Warrington and Cheshire East, suggesting that they leave the areas in great numbers. This pattern is less evident in Cheshire West and Chester, perhaps fuelled by the presence of a university.
- Moreover, there is a relatively small proportion of 20-35 year olds across all three local authorities – and more notably in Cheshire East – when compared to the national average (21.5%).

Population by age and population growth (comparison of LEPs)

Fig 11: Population pyramids in 2015 - C&W and other LEPs



- Figure 11 shows similar population pyramids but now comparing Cheshire and Warrington with other selected LEPs. In general terms, the figures show relatively low levels of population growth and higher population ageing in Cheshire and Warrington.
- Population growth over the last decade is considerably lower than the UK average (7.8%) and particularly low when compared to Coventry and Warwickshire, which has somewhat similar size and characteristics.
- Cheshire and Warrington has the smallest proportion of 20 to 35 year olds compared to the selected LEPs, significantly below the figures for the UK as

a whole (21.5%). For reference, the LEP area would need an additional 52,000 residents between the ages of 20 and 35 to achieve the same profile for younger people as Greater Manchester.

- When compared with LEPs of similar characteristics (mostly dominated by pastoral hinterland and relatively small urban centres outside a large conurbation) Cheshire and Warrington is in line with Enterprise M3 LEP. However, it would need 44,500 new residents between 20 and 35 in order to have a similar profile to Coventry and Warwickshire, although the latter has a large university campus which might contribute to a high share of young residents.

Comparative Qualification Attainment

Fig 12: Qualification profile (2015) - LAs

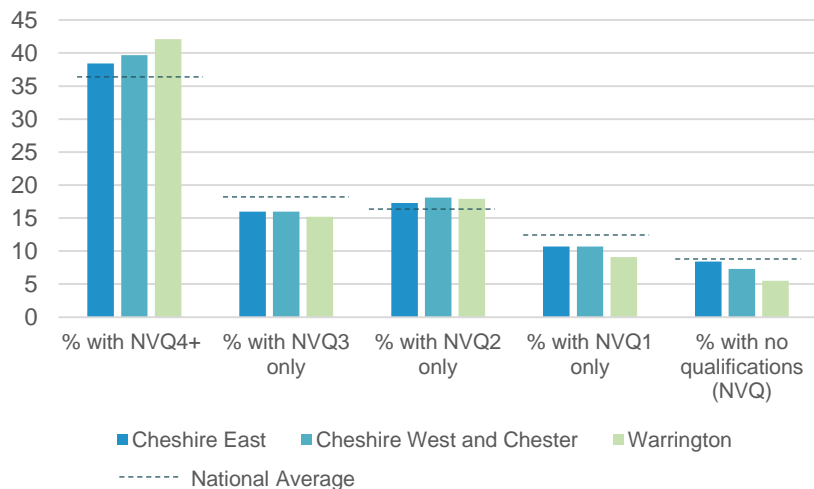
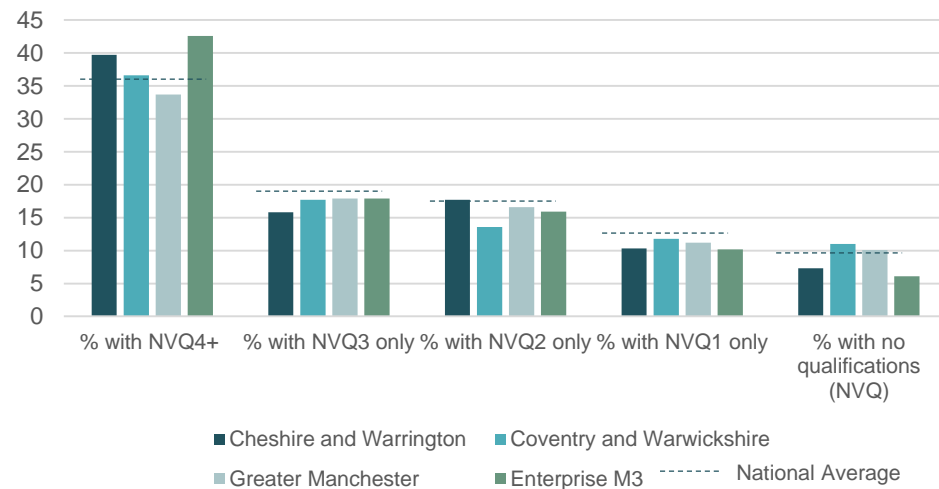


Fig 13: Qualification profile (2015) - LEPs



- Figures 12 and 13 show, respectively, the percentages of residents with different levels of qualifications in the three local authorities of Cheshire and Warrington and in comparative LEPs.
- In Cheshire and Warrington, Warrington residents have the highest average qualification levels, with the highest proportion of people with a further or higher education degree (NVQ4+) and the lowest share of residents with low or no qualifications. Conversely, Cheshire East shows the lowest qualifications profile.
- The LEP area as a whole is above the UK average in the highest qualification group and it is under-represented for the lowest qualifications.
- When compared with other similar LEPs, Cheshire and Warrington LEP

out-competes Coventry and Warwickshire and Greater Manchester for residents with further education degrees or higher, but is below Enterprise M3.

- Cheshire and Warrington has a lower proportion of residents with A-levels or similar (NVQ3) than its comparators, but higher on NVQ2 (basic qualifications). There appears to be a dumbbell, with higher than average numbers of people with degrees, and higher than average numbers of people with low qualifications.
- This could be related to the highly industrialised nature of the employment base in the area: a mix of high-end, highly-specialized technical jobs (e.g. engineers, scientists) and relatively low qualified industrial occupations (e.g. machine operators).

Qualification attainment by age

Fig 14: Qualification profile for aged 20-29 (2015)



Fig 15: Qualification profile for aged 50-64 (2015)



- To unpick this complex profile in qualifications, attainments were split by age groups to test the hypothesis that the older residents were more likely to have higher qualifications. Figures 14 and 15 show, respectively, qualification levels in the three local authorities in the LEP for young (20-29) and older (50-64) residents.
- The data indicates that younger residents who live in Warrington are the most likely to have university or further education degrees. This is counter to the pattern for older workers (aged 50-64) and suggests that

Warrington may be acting a spill over to Manchester, and attracting young university graduates. This may reflect some of the new urban-style developments being built in Warrington.

- On the flip side, Cheshire East has the highest total number of highly educated residents aged between 50 and 64, but Cheshire West and Chester has the highest share of further and university degrees amongst this age group.

What commuting patterns tell us

Fig 16: Cheshire and Warrington commuting patterns

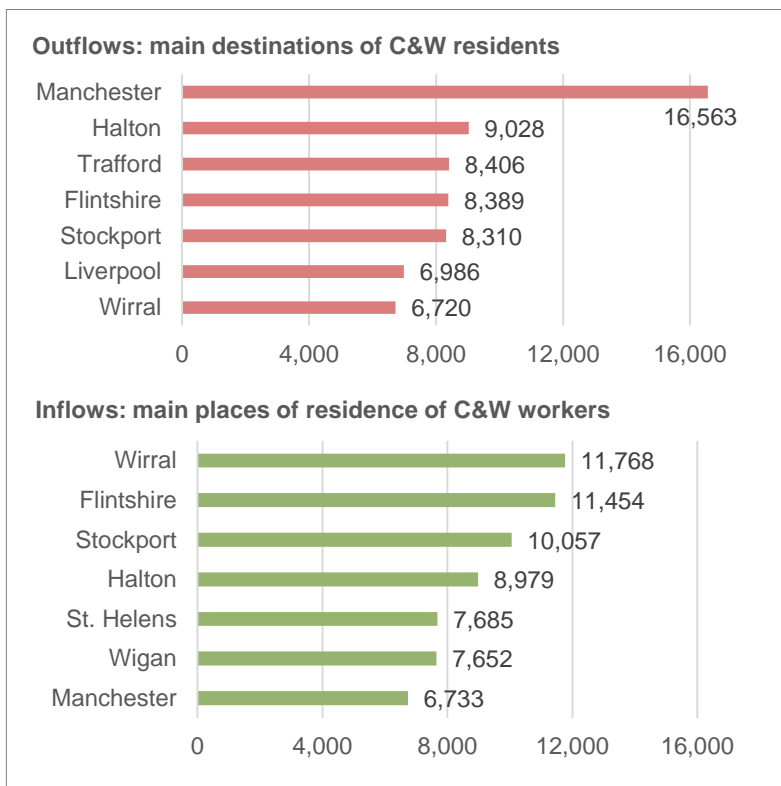
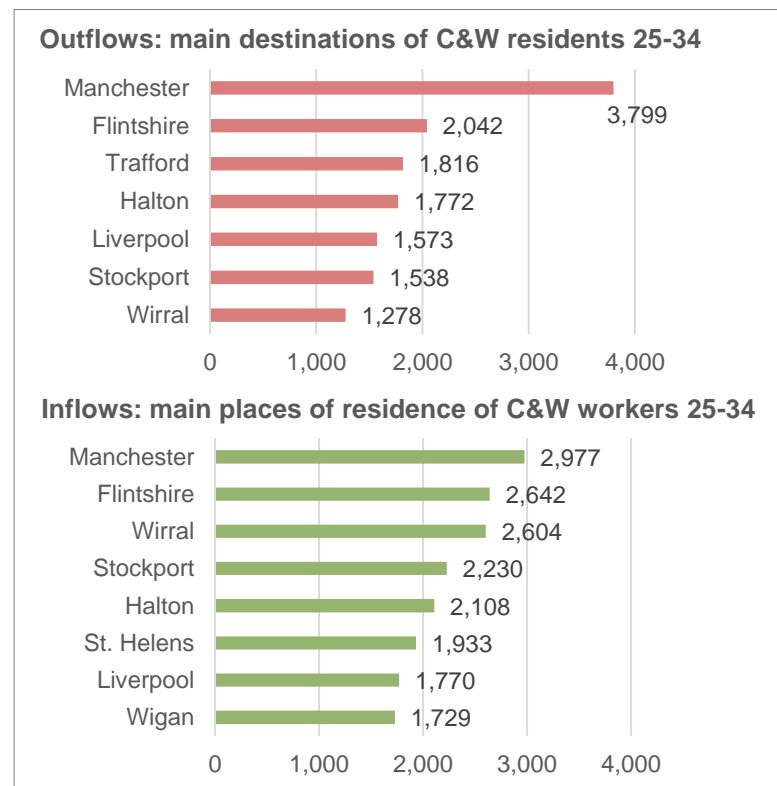


Fig 17: Cheshire and Warrington commuting patterns for aged 25-34



- Almost 70% of Cheshire and Warrington's resident workers work inside the LEP area. For younger residents (between 25 to 34) the number is slightly lower (67%), indicating that more are commuting externally.
- Figure 16 shows, by number of commuters, the main origins and destinations of Cheshire and Warrington's external commuters. Figure 17 presents similar figures, but considers only young commuters.
- Not surprisingly, surrounding local authorities are the main

destination of Cheshire and Warrington's out-commuters and also the main places of origin of the LEP's external workers.

- Manchester is the main destination for all age groups and there is a net outflow of people from the LEP into Manchester. Conversely, the LEP attracts workers mainly from Wirral, Flintshire and Stockport.
- Interestingly, the inflows from Manchester are much more significant among young commuters (it is the most common origin) than when considering all age groups.

Commuting patterns - inflows and outflows

- Figures 18 and 19 consider the total number of external movements to work in the LEP, comparing commuting inflows and outflows.
- Over half of all daily movements (inflows and outflows) take place within C&W.
- The LEP is a net receiver of workers: there are more people living outside and working in C&W (126,155) than C&W residents working outside the LEP area (111,411).
- Manchester and Trafford are the places with the highest net commuting outflows.
- The highest net inflows of commuters are from Wigan, Wirral, and St. Helens.

Fig 19: Cheshire and Warrington commuting flows

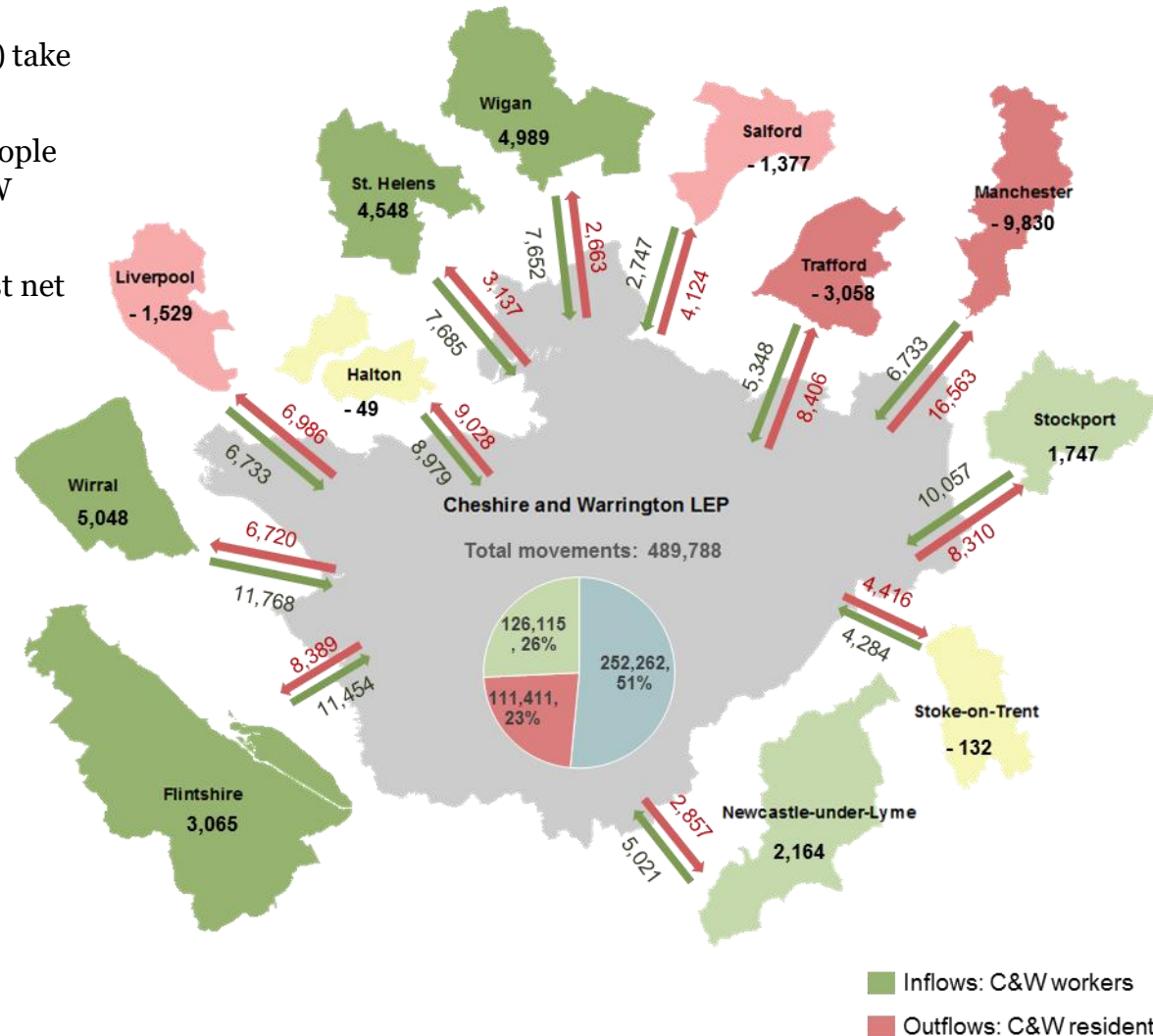
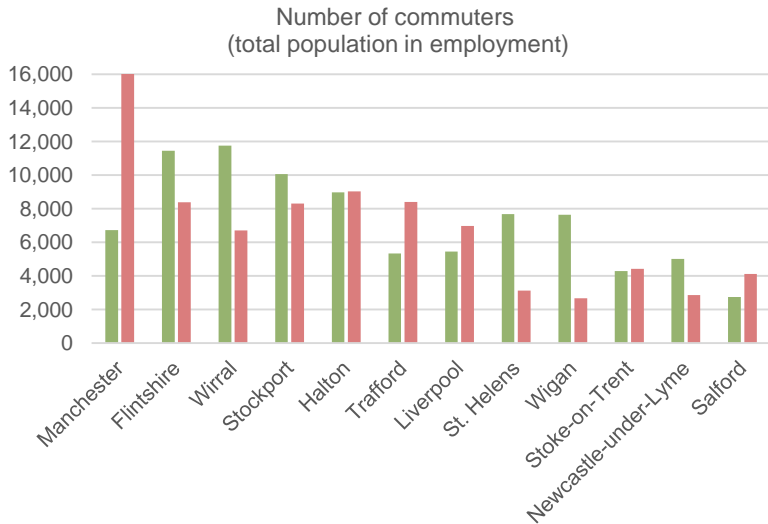


Fig 18: Cheshire and Warrington commuting flows



Source: Metro Dynamics analysis of ONS Census 2011 and Ordnance Survey data

Commuting patterns - inflows and outflows of 25-34 year-olds

- Figures 20 and 21 compare commuting inflows and outflows but considering young commuters only.
- A lower proportion of young people (25-34) of C&W residents or workers are both residents and workers within the LEP (47%, against 51% for all age groups). This suggests more young people commute into the LEP to work, than the average.
- For ages 25-34, there is a net inflow from all surrounding local authorities except for central areas of Manchester (Manchester, Trafford and Salford).
- This suggests that the LEP is serving as an economic magnet for young labour in the region.
- Interestingly, more young Liverpooludians work in the LEP than visa versa. This is very surprising as this pattern does not usually hold for urban areas.

Fig 21: Cheshire and Warrington commuting flows for aged 25-34

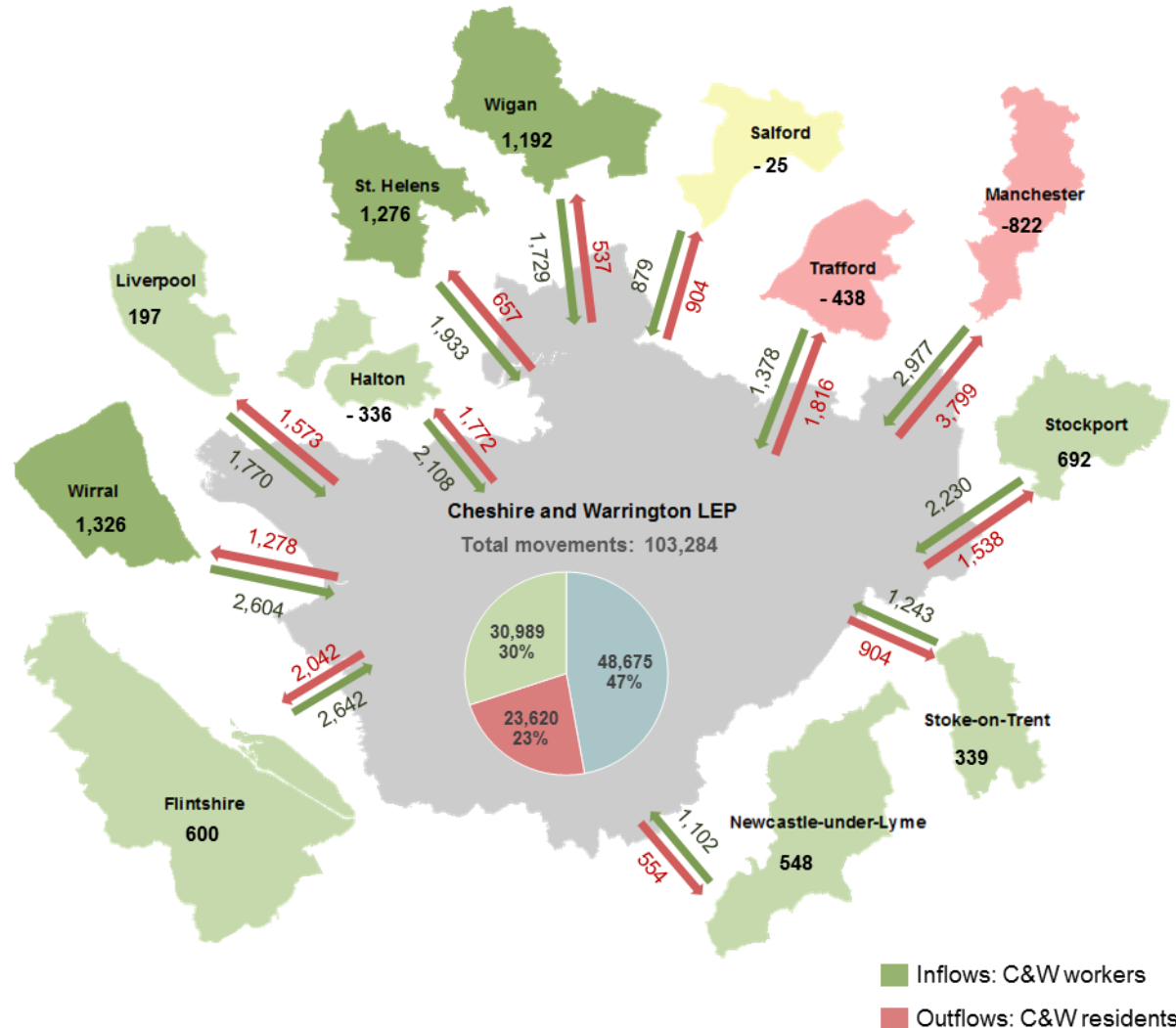


Fig 20: Cheshire and Warrington commuting flows

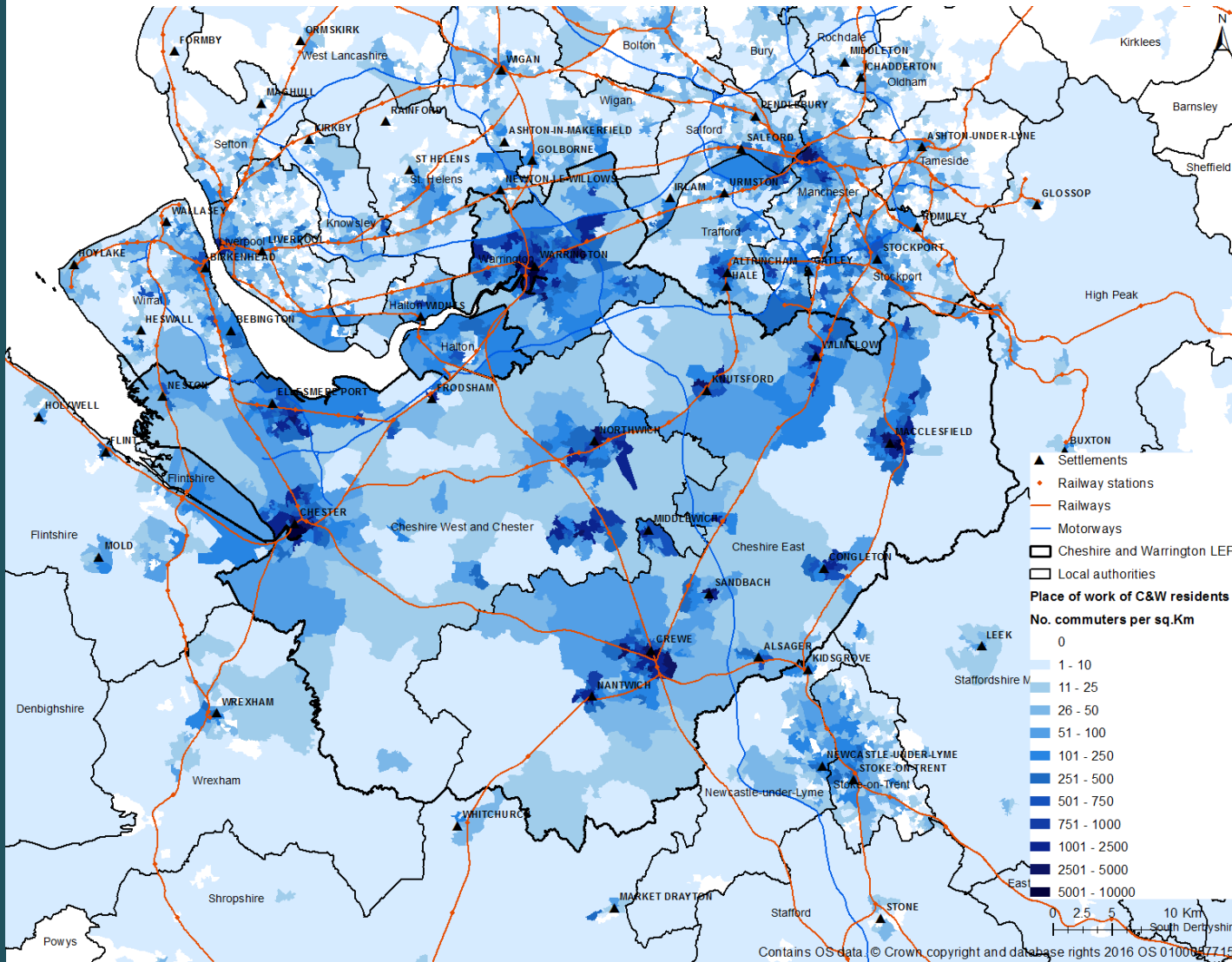
Number of commuters (population in employment aged 25-34)



Source: Metro Dynamics analysis of ONS Census 2011 and Ordnance Survey data

Commuting patterns - where C&W residents work

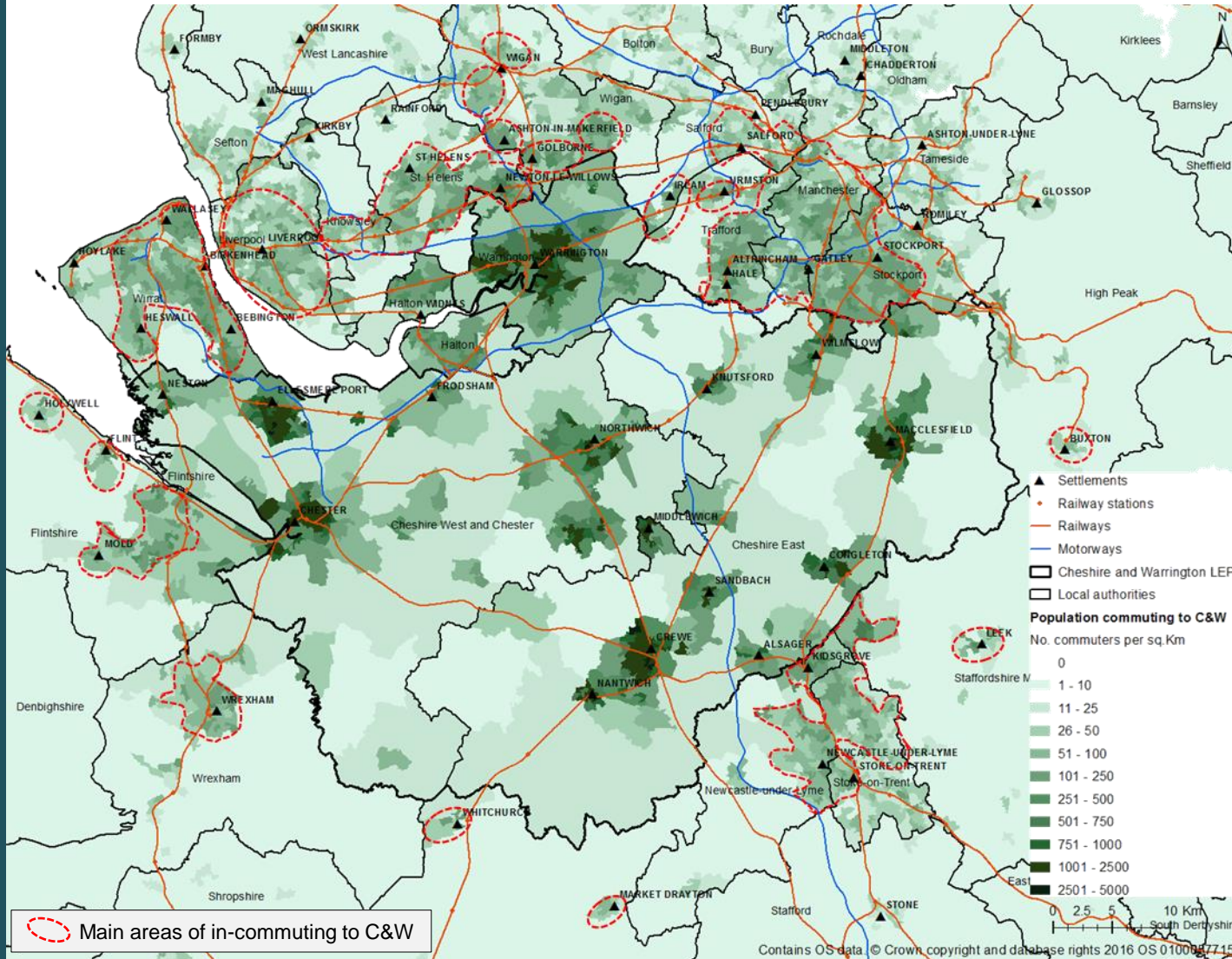
Fig 22: Places of work of Cheshire and Warrington residents



- Figure 22 shows, with high granularity, the main places of work of LEP residents (darker blue).
- The map reinforces the previous finding that most Cheshire and Warrington residents work inside the LEP.
- Main employment destinations inside the LEP area are Warrington, Chester, Ellesmere Port, Crewe, Nantwich, Macclesfield, Northwich and Knutsford.
- Manchester is an important destination for residents in Warrington and the northern part of Cheshire East (see maps in Appendix).
- Residents in the southern areas of Cheshire East also work largely in Stoke and Newcastle-under-Lyme.
- There is considerable external commuting from Cheshire West and Chester to Flintshire, Birkenhead and Halton.
- Overall results suggest that C&W residents tend to work within relatively short distances of their place of residence.

Commuting patterns (who works in C&W)

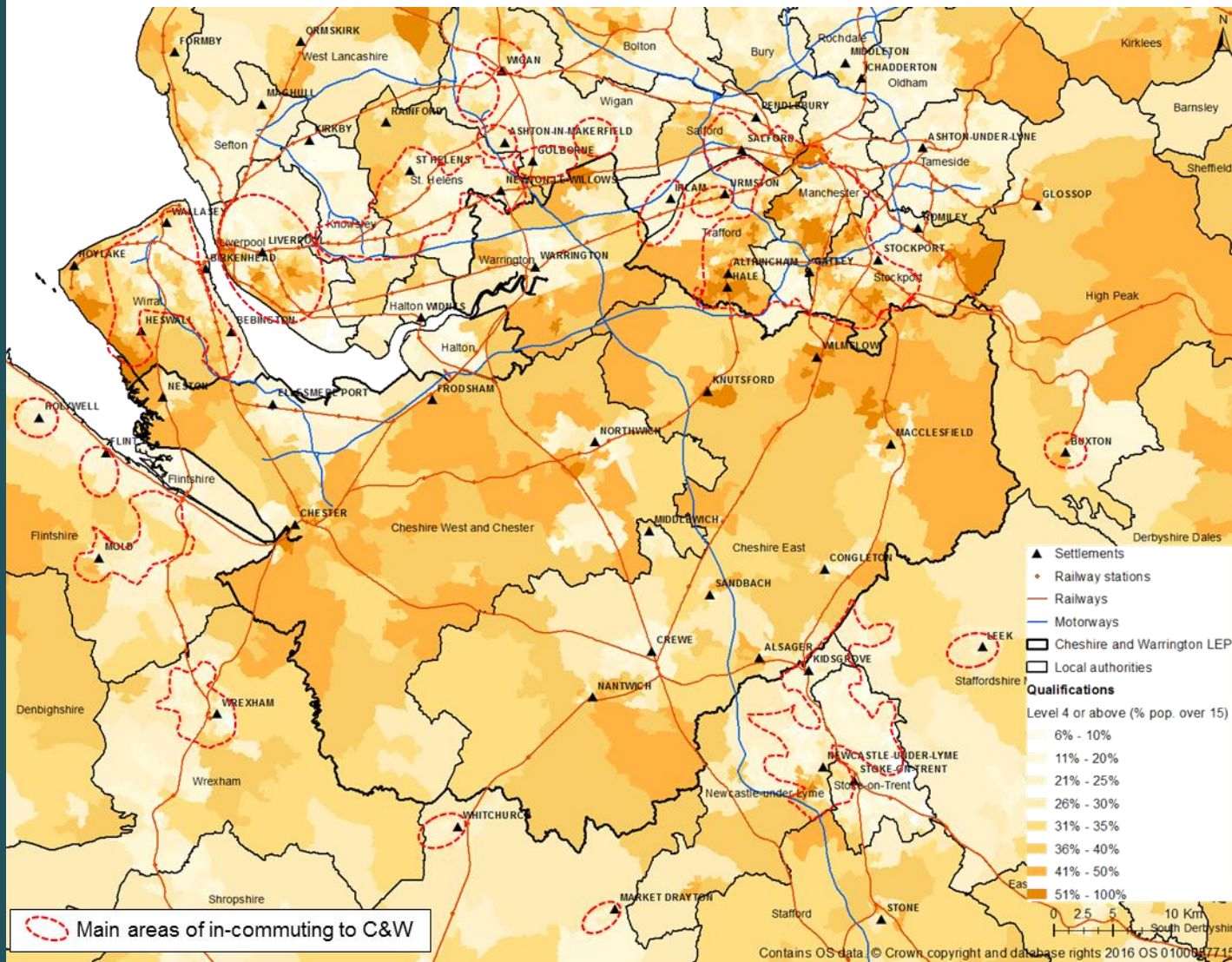
Fig 23: Places of residence of Cheshire and Warrington workers



- Figure 23 maps the main areas of residence of Cheshire and Warrington workers (darker green). Areas of high concentration of C&W workers are circled in red.
- Unsurprisingly, C&W workers live mostly in the LEP's main urban centres and in some important settlements around railway stations.
- Outside the LEP, Cheshire and Warrington attract mainly workers who live immediately North of its boundaries, including the southern parts of Greater Manchester, Halton and St Helens, and Liverpool and Wirral.
- A more detailed analysis (in Appendix) suggests that most of these commuters work in Warrington and the northern areas of Cheshire East, except from residents in Wirral who commute mostly to areas around Chester.
- There are also important concentrations of workers from Stoke and Newcastle who commute to the LEP, mainly to Crewe and the industrial areas of Cheshire West and Cheshire.
- Chester and its surroundings, as well as Ellesmere Port, are also attractive to residents in Flintshire and Wrexham.

Qualifications

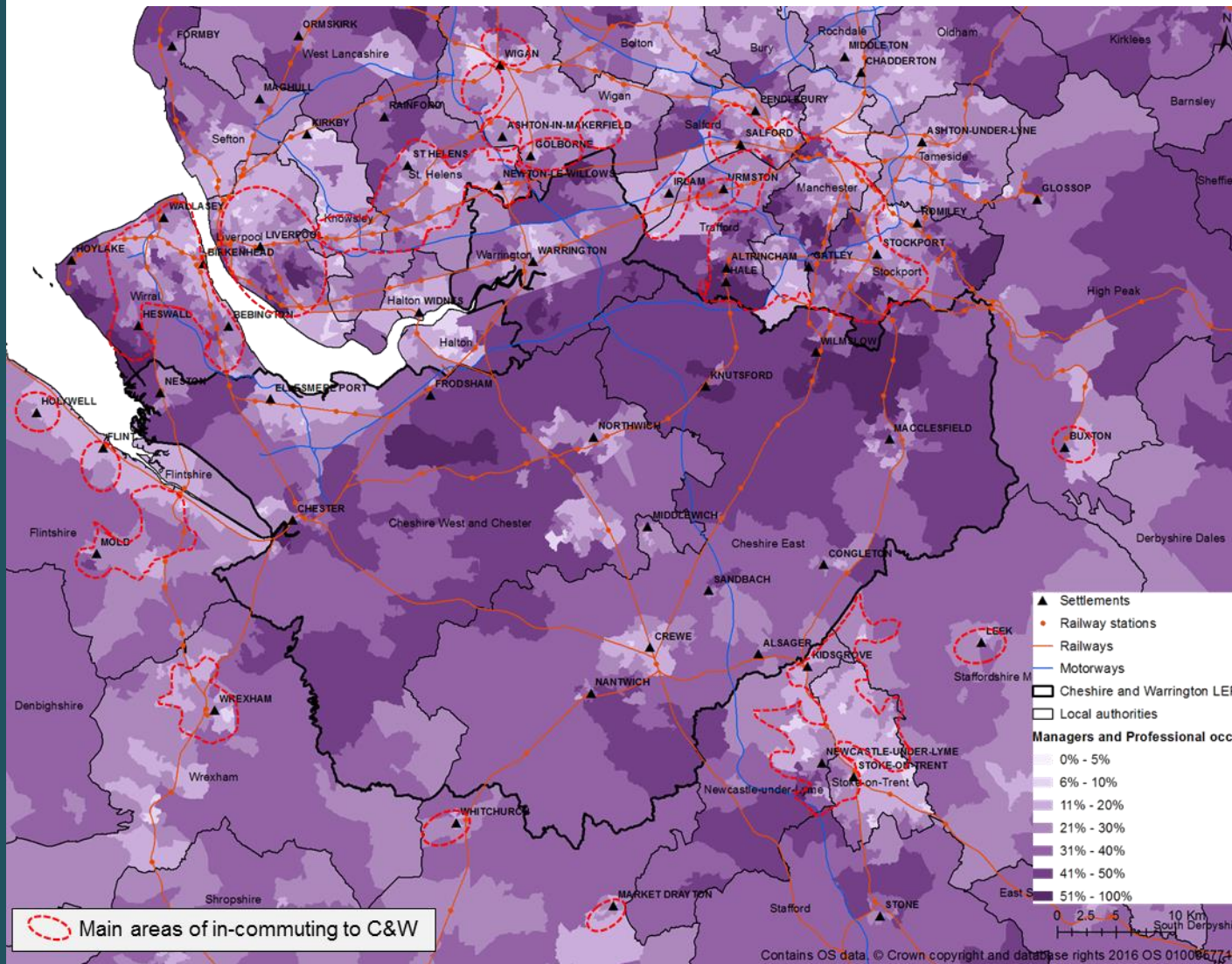
Fig 24: Share of residents with a further or higher education degree



- Figure 24 maps the proportion of highly qualified residents in the LEP and the main areas of commuting to Cheshire and Warrington (circled in red).
- Areas of high qualifications are located mostly in the hinterland and in the northeast side of the LEP, closer to Greater Manchester. Urban centres, particularly central Warrington, Crewe and Northwich, and Ellesmere Port concentrate quite low qualification levels.
- Chester is somewhat an exception, with a mix of high and low qualification areas.
- On the basis of the flow maps, it appears that even though the LEP area is attracting external workers, and in particular younger workers, in-commuters do not appear to have high qualifications.
- This suggests that people are commuting in to work in industrial or other non-business services related fields.
- The exception to this is Manchester and Liverpool, where people come from both areas with higher skills and lower skills. There are a few pockets of high qualifications (e.g. Heswall, Hale), but this is clearly a minority trend.

Occupations

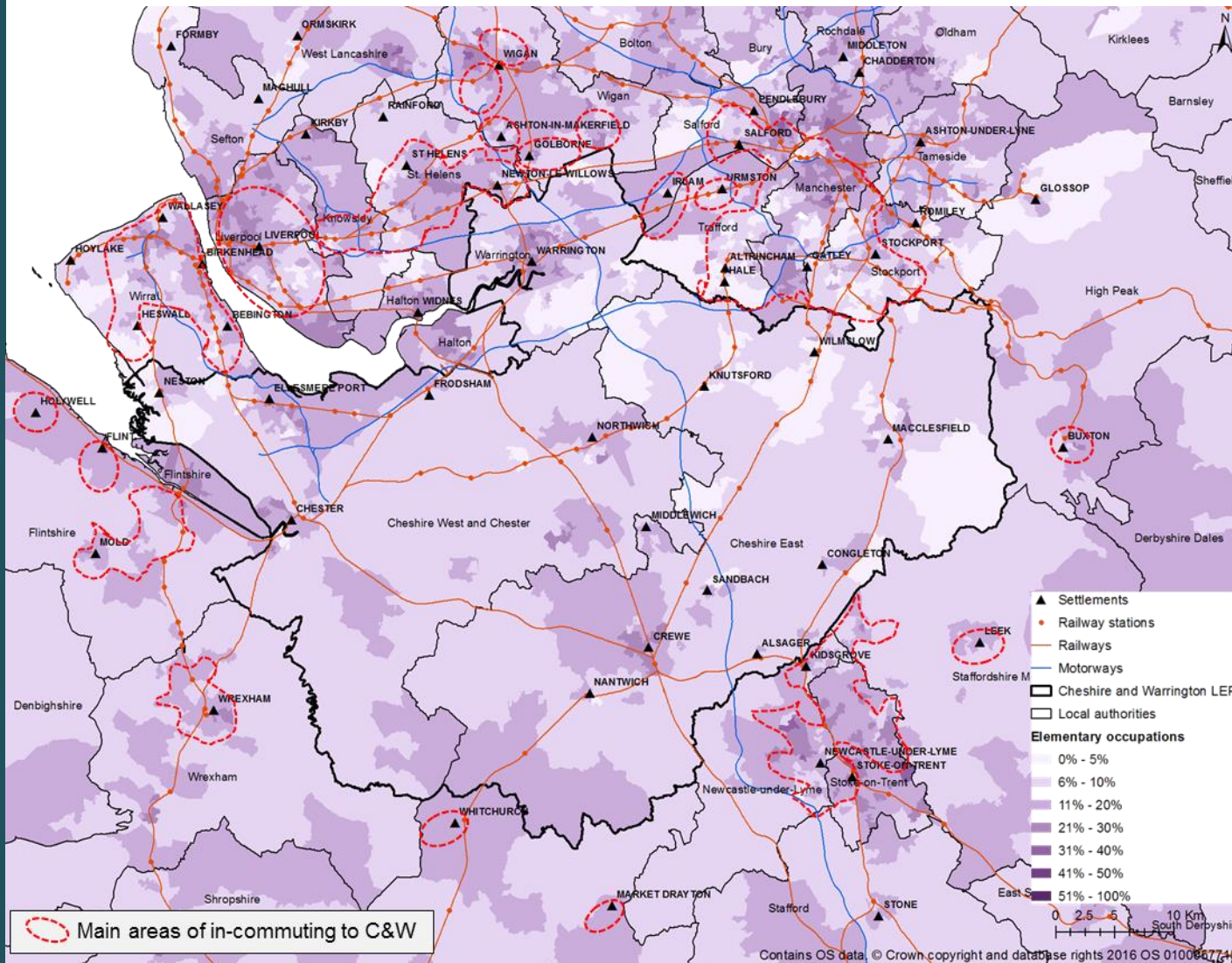
Fig 25: Share of residents in managerial and qualified professional occupations



- Figure 25 shows the proportion of residents (in the LEP area and in the main areas of in-commuting) which work as directors, managers or highly qualified professional jobs.
- Areas with high concentrations of residents working in these jobs are, unsurprisingly, consistent with the patterns of high qualification observed on the previous map: high proportions of high-end professionals are mostly found in the hinterland and in the northeast side of the LEP.
- Central Warrington, Crewe, Northwich, and Ellesmere Port have the lowest shares of residents in these jobs, while Chester shows mixed patterns.
- Outside the LEP area, places of high number of Cheshire and Warrington workers do not appear to have high levels of residents in top jobs.
- This supports the idea that Cheshire and Warrington is home to many highly qualified residents who work in high-end occupations, but many are likely to work outside the LEP area, particularly in Manchester.
- Conversely, the LEP does not appear to attract many external workers for top occupations.

Occupations

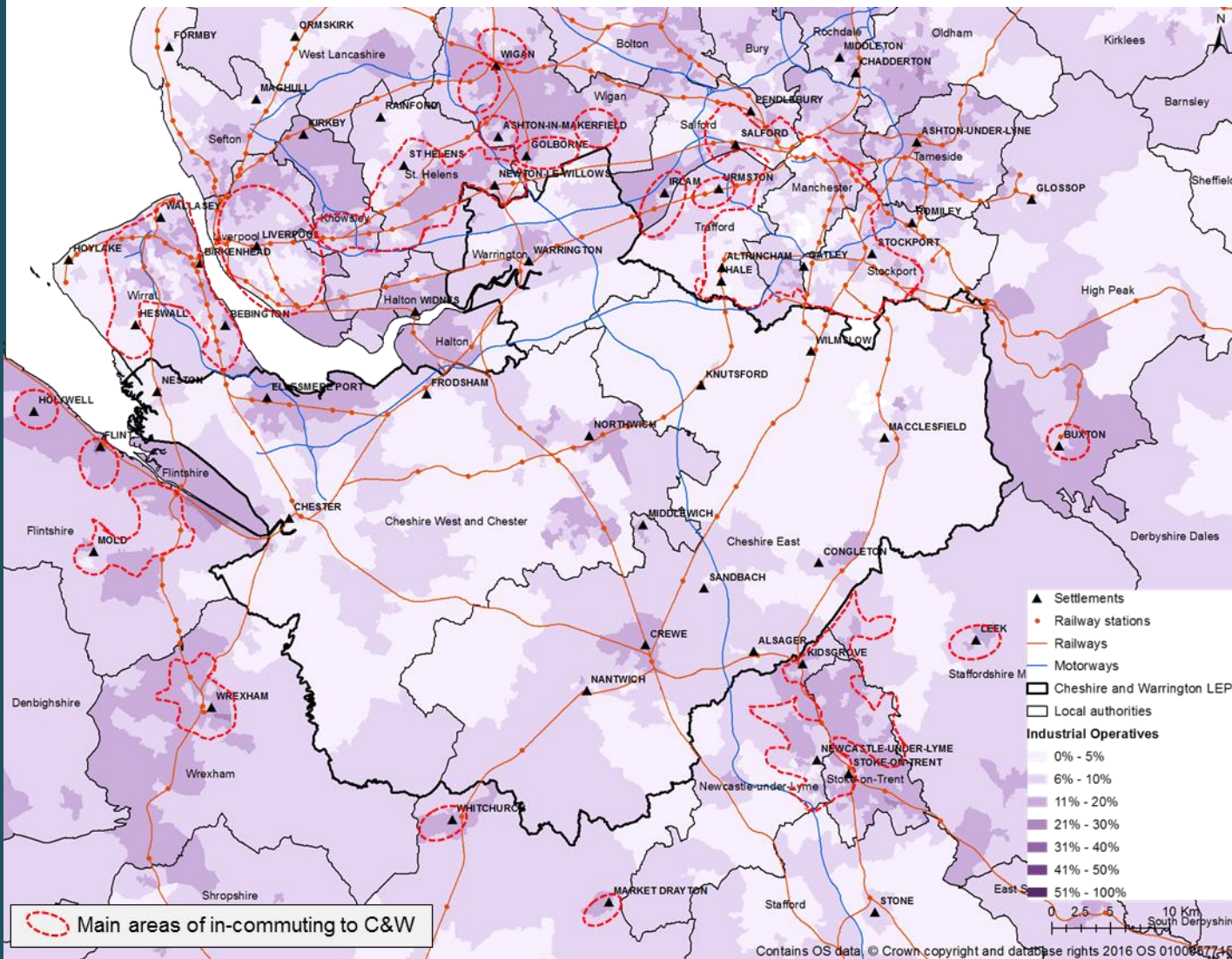
Fig 26: Share of residents in elementary occupations



- Figure 26 maps, in a similar way, the proportion of residents working in elementary occupations.
- Not surprisingly, here the picture is the exact opposite: higher shares are concentrated in urban centres, particularly central Warrington, central Crewe and the industrial areas to its northwest side, Northwich, and Ellesmere Port.
- Again, Chester has a mixed pattern with areas of high as well as low shares of residents in elementary occupations.
- The analysis of areas outside the LEP support the idea that Cheshire and Warrington attract a significant amount of commuters who work in elementary occupations.

Occupations

Fig 27: Share of residents in industrial operative occupations



- In order to test whether Cheshire and Warrington attracts residents from the neighbouring local authorities to work in manufacturing (suggested by spatial patterns of commuting and qualifications), Figure 27 maps the proportion of residents working in industrial operative occupations. This group includes people who work in industrial process, and plant and machine operation, in relatively low-end jobs but which require some degree of training and experience.
- The map appears to confirm the idea that the LEP is quite attractive to these workers, as the main in-commuting areas often coincide with concentrations of high proportions of residents in this occupation group.
- Inside the LEP, the spatial distribution of industrial operatives is very similar to that of workers in elementary occupations, with higher concentrations in central Warrington, Crewe, Northwich, Winsford, Ellesmere Port and some parts of Chester.

Detailed analysis of sectors and companies

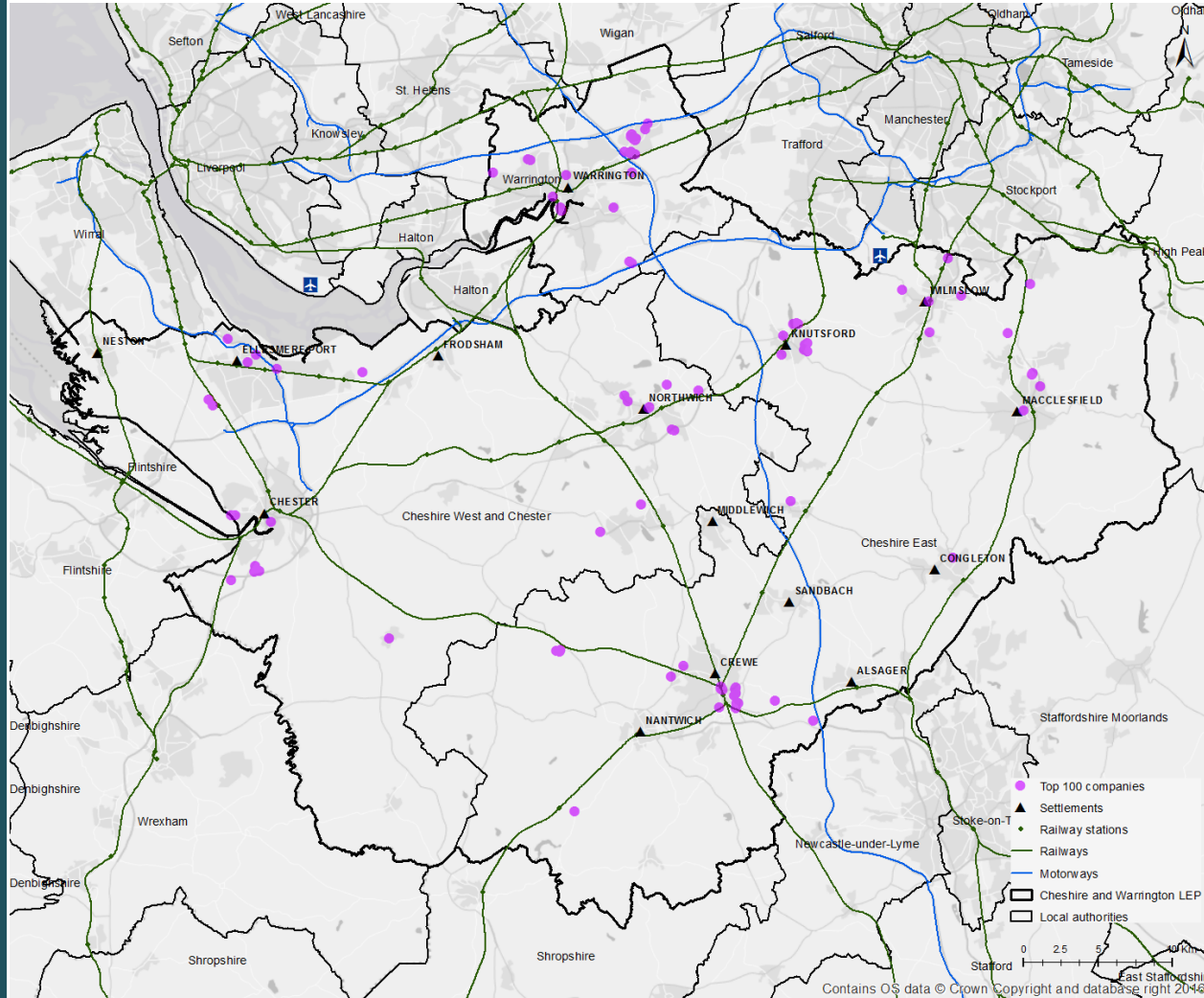
- In order to develop a more detailed understanding of the economic makeup of Cheshire and Warrington, this section will explore in more depth the different economic sectors and compare results with data on individual companies.
- Our business demography analysis (more in the Appendix) found that the LEP is home to 150 large, 590 medium, 3365 small and over 32000 micro enterprises. Almost half (47.7%) of all enterprises are located in Cheshire East.
- Although Warrington has only 18.6% of all enterprises in the LEP, it appears to be particularly appealing to large companies (30% of all the large enterprises in the LEP are located there).
- Compared to the average for Great Britain, Cheshire and Warrington has a considerably higher proportion of enterprises in the professional, scientific and technical sector, and a significantly lower proportion in the construction sector.
- The table below shows the total value of imports and exports by companies based in the LEP area and the three local authorities during 2014.
- Businesses located in Cheshire East are responsible for 57.6% of the total exports and 58.1% of total exports in the LEP. The output of companies based in Warrington and Cheshire West and Chester is roughly 21% of both the LEP's total imports and exports. All three local authorities have a higher value of exports than imports, resulting in a total positive trade balance of just below £2bn for the LEP as a whole.
- Figure 28, on the following page, maps the location of the 100 largest companies by revenue in Cheshire and Warrington. The names of these companies are listed on the right hand side.
- Cheshire East has the highest number of large companies (44) but it is also the biggest by area. Warrington and Cheshire West and Cheshire have roughly the same number of large companies.
- Warrington and Crewe are clearly areas of concentration of large companies. Other clusters can be found around Chester, Ellesmere Port, Knutsford, Northwich and Macclesfield.
- It is important to note that the list only concerns larger companies. There are probably many more small and medium-sized companies which operate in these sectors and across supply chains, which are also extremely relevant to the LEP's economy.

Imports and exports 2014 (£ million)

	Exports	Imports
Cheshire and Warrington LEP	7,851.44	5,888.04
Warrington	1,690.17	1,206.52
Cheshire East	4,519.44	3,421.13
Cheshire West and Chester	1,641.83	1,260.39

Top 100 companies

Fig 28: Spatial distribution of the 100 largest companies by revenue in Cheshire and Warrington

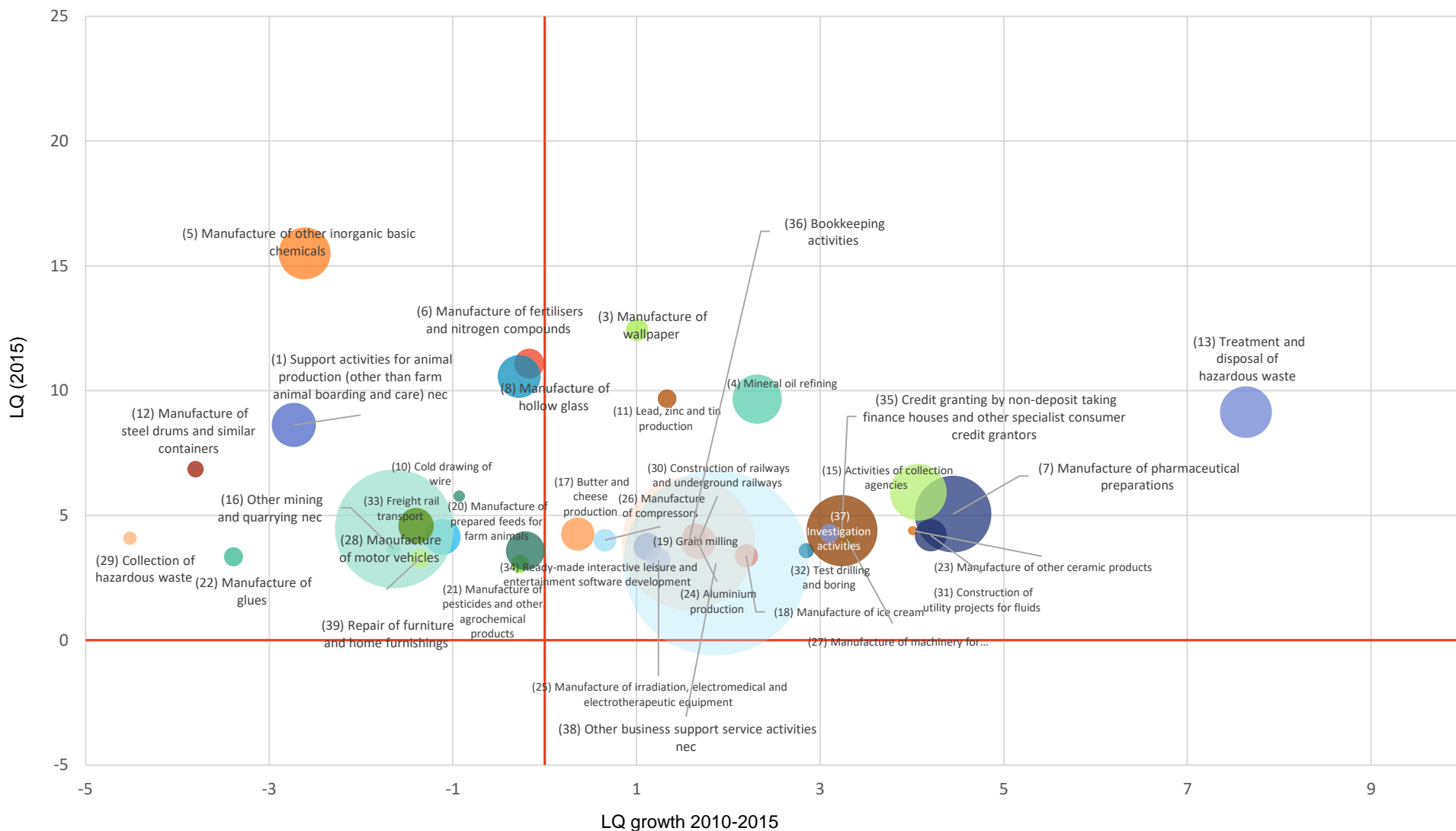


Cheshire East	Cheshire West and Chester	Warrington
AMEC FOSTER WHEELER	ARDAGH METAL BEVERAGE TRADING	AGHOCO 1079
API GROUP	CALDER FINCO	AUSURUS GROUP
ASTRAZENECA	CF FERTILISERS	BETFRED GROUP
BAE SYSTEMS	CREST PLUS EXCHANGE	CERTAS ENERGY
BARGAIN BOOZE	DECHRA PHARMACEUTICALS	DONE BROTHERS
BENTLEY MOTORS	ECOLAB	EDDIE STOBART
BIBENDUM	ENRICHMENT TECHNOL.	ELECTRICITY NORTH WEST
BODYCOTE	ESSAR OIL	EUROPEAN METAL RECYCLING
BRAMMER	EXCHEQUER SOLUTIONS	FIDELITI
BRIGHTSTAR 20:20	GENERAL MOTORS	FIRCROFT ENGINEERING SERVICES
BROOKFIELD ROSE	GLANBIA CHEESE	GREENWHITESTAR
CILANTRO	GRAHAM BELL	HALLIWELL JONES
CONVIVALITY	GREAT BEAR DISTRIB.	IESA
COUNTY MILK PRODUCTS	HOMEFIELD PVT	LIGHTCATCH
DAIRYGOLD FOOD INGREDIENTS	INNOSPEC	NORTH WEST ELECTRICITY NETWORKS
DE POEL	MARKS & SPENCER FINANCIAL SERVICES	NOVELIS
DIRECT FUELS	MBNA	OPTIONIS HOLDCO
EDMUNDSON ELECTRICAL	MEADOW FOODS	PARASOL
ELIOR HOLDINGS	NALCO	PQ SILICAS
EMERSON DEVELOPMENTS	PACARRO	ROANZA
EUROPEAN DIESEL CARD	ROLLS ROYCE	TALKTALK
UK FUELS	SGS HOLDING	UNITED UTILITIES
KINDERTONS TOPCO	TATA CHEMICALS EUROPE HOLDINGS	V.I.P. COMPUTER CENTRE
MARLOWE HOLDINGS	THE HUT GROUP	VUR VILLAGE HOTELS
MASSEY BROS	TROUW	WAIN GROUP HOLDINGS
MCCANN MANCHESTER	URENCO	
MORNING FOODS		
MORRIS HOMES		
NORCROS		
NORKEM HOLDINGS		
NORWEST FOODS		
NWF AGRICULTURE		
NWF FUELS		
NWF GROUP		
OAKES MILLERS		
PETS AT HOME GROUP		
RADIUS PAYMENT SOLUTIONS		
RETAIL PETROLEUM SERVICES		
RYMAN GROUP		
SIEMENS		
SWANSWAY GARAGES		
THE FAYREFIELD GROUP		
WEX EUROPE SERVICES		

Source: Metro Dynamics Analysis of ONS BRES (2015), BvD data pulled on 27 October 2016, and Ordnance Survey data

Location Quotients analysis

Fig 29: Cheshire and Warrington sectoral LQs and LQ growth



Source: Metro Dynamics Analysis using ONS BRES data (2015)

Location Quotients analysis

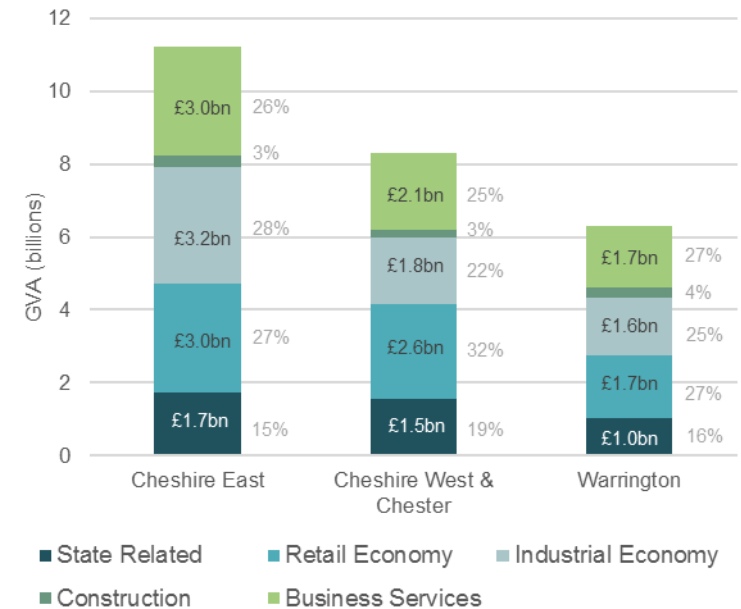
- In order to map out specialisation patterns and forces of concentration and de-concentration for the different activities taking place in Cheshire and Warrington, we carried out a Location Quotients (LQ) analysis at a detailed level (5-digit SIC 2007).
- Bubbles in the chart (Figure 29) report results for the industrial subgroups that exhibited the strongest specialisation in 2015. On the y-axis are the LQs for 2015, with a higher value indicating a higher degree of specialisation. The right quadrant denotes gains in concentration, the left quadrant represents de-concentration, relative to the average for Great Britain over the period 2010-2015. The size of the bubbles indicates total employment in the industrial subgroup.
- Among the sectors that are gaining concentration we have: manufacture of pharmaceutical preparation, mineral oil refining, grant and bookkeeping accountancy. Examples of large companies operating in these sectors are AstraZeneca (Pharmaceuticals) and Essar Oil (oil refining).
- Loss in concentration, conversely, is found in manufacture of inorganic base chemicals, support activities for breeding, automotive assembling, manufacture steel drums and manufacture of prepared feeds for farm animals. Examples of large companies in these sectors are Innospec, Nalco and Tata Chemicals (chemicals), Bentley and General Motors (automotive) and NWF and Oakes Millers (animal feeds).

Breakdown of GVA using bottom-up approach

- In order to continue to develop a granular understanding of the economic makeup of the LEP, we used a bottom-up sectoral GVA estimation method. We aggregated industrial classification groups into 5 high level economic classifications ('MD sectors') each of which reflects the origins of the spending, separating the economic levers to drive growth. We estimate GVA for each sector using ONS regional GVA estimations by industry and job, crossed with the total number of local jobs by sector, and adjusted for 2015. The 5 MD sectors are as follows:

 - State Related:** sectors that are driven off state spending (e.g. education, health, social services);
 - Retail Economy:** sectors that are driven off of household disposable income (e.g. retail, food);
 - Industrial Economy:** sectors that are involved in the production, manufacturing, logistics, transport or warehousing of any physical good;
 - Construction:** activities related to construction;
 - Business Services:** sectors that are driven off business spend for services (consultancy, legal, accountancy).
- Figure 30 shows the results of GVA estimation for the three local authorities in Cheshire and Warrington using the method described above.
- Business Services, Industrial Economy and Retail Economy are the dominant sectors in the three local authorities. Cheshire East has the highest GVA and the highest share of industrial economy, which is the largest sector with £3.2bn GVA.

Fig 30: GVA by MD sectors



Breakdown of GVA using bottom-up approach

Fig 31: GVA per head by MD sectors - LAs

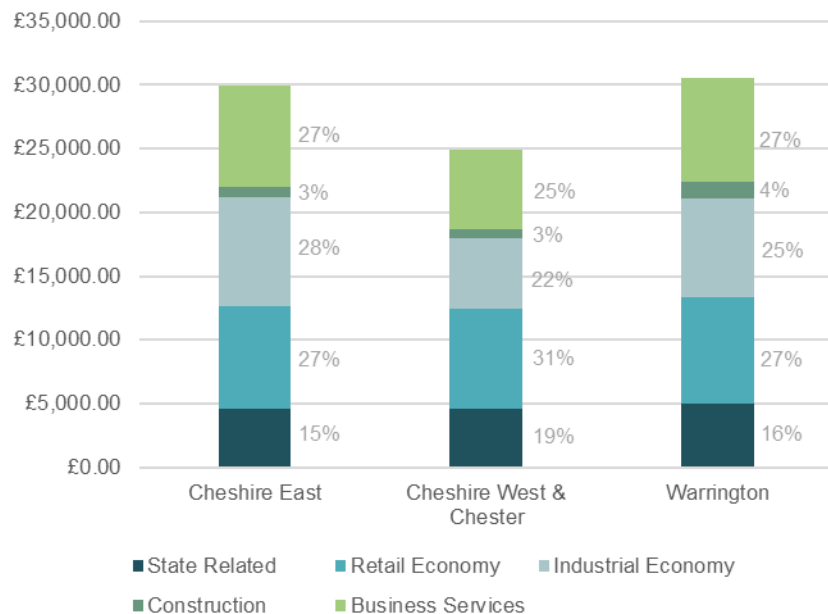


Fig 32: GVA per head by MD sectors - LEP



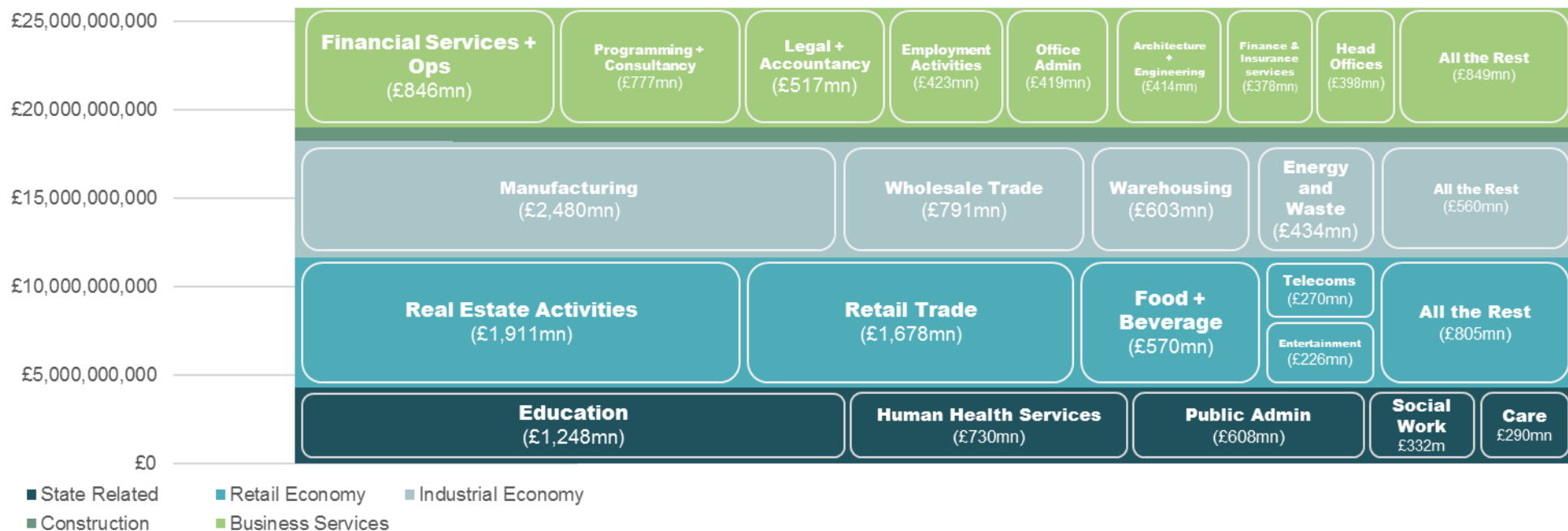
- Figure 31 shows GVA per head for the three local authorities in Cheshire and Warrington using the same method.
- Warrington and Cheshire East have very similar levels of GVA per head while Cheshire West and Chester is a bit behind, which reinforces the trends observed previously.
- This might be related to the economic makeup of these areas: while Cheshire East and Warrington have higher shares of Business Services and Industrial Economy, Cheshire West and Chester is stronger in Retail and State related spending.
- Figure 32 compares GVA per head figures in the LEP with the UK

average.

- GVA per head is higher in Cheshire and Warrington than in the UK as a whole. Cheshire and Warrington GVA per head is higher than the UK in all sectors except for State Related and Construction, whose figures are roughly similar to the national average.
- Although Industrial Economy has a slightly lower share of GVA than the UK as a whole, if we take Manufacturing alone this share is higher (12% in the LEP against 11% in the UK).
- It is important to note the high share of Business Services in the LEP, which is 4% higher than in the UK and a whole.

Bottom-up GVA Cheshire & Warrington

Fig 33: Breakdown of Cheshire & Warrington LEP GVA



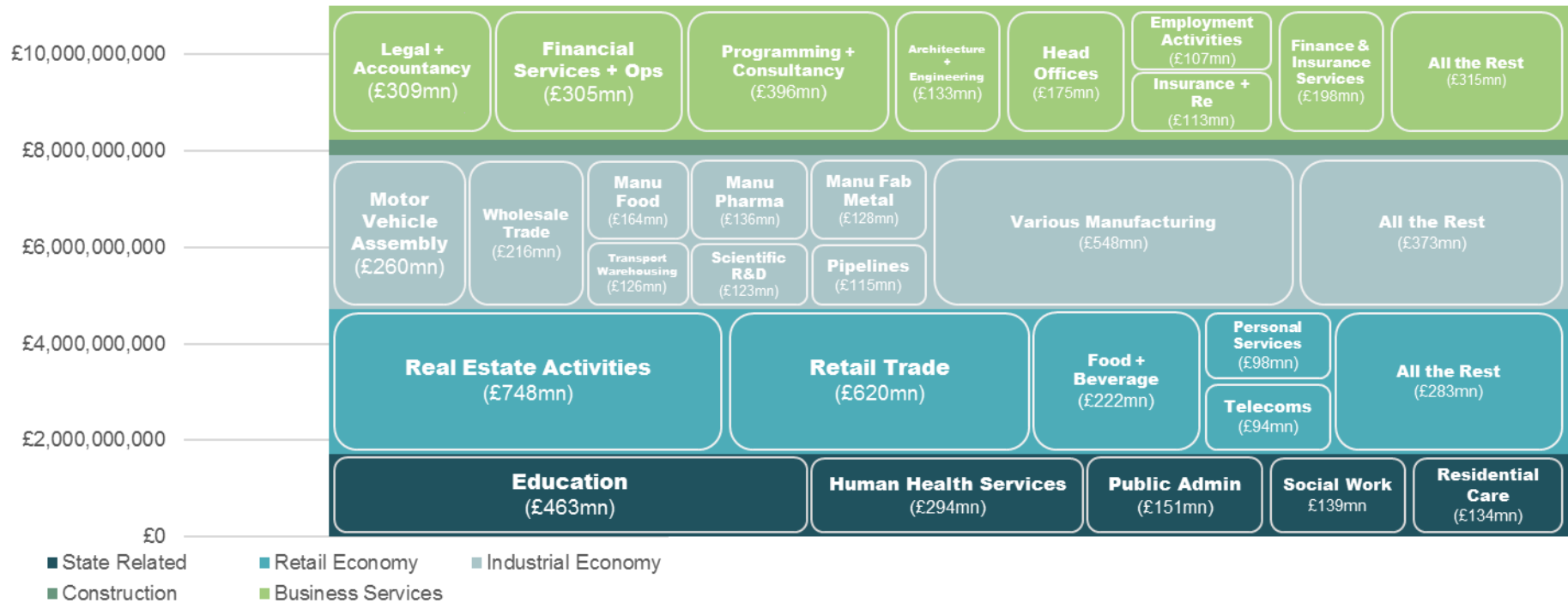
- Figures 33 to 36 in the current and following slides present a more detailed view of the GVA components of each MD sector. On this slide we present the sectoral breakdown for the whole LEP, while the breakdown for the three separate local authorities is found in the next three slides. A similar breakdown for the UK is provided in appendix.
- The LEP Industrial Economy is remarkably dominated by manufacturing activities (worth about £2.5bn), with important roles played by wholesale trade (almost £800mn) and warehousing (over

£600mn). This pattern is considerably different from the UK overall pattern and suggests that the LEP is a place where things are produced and then sold in bulk within the area.

- The Retail Economy is largely constituted by real estate activities (£1.9bn) and retail trade (£1.7bn), which is in line with the overall UK pattern. Business Services present a mix of financial services (£846mn), programming, consultancy, legal and accountancy activities.

Bottom-up GVA Cheshire East

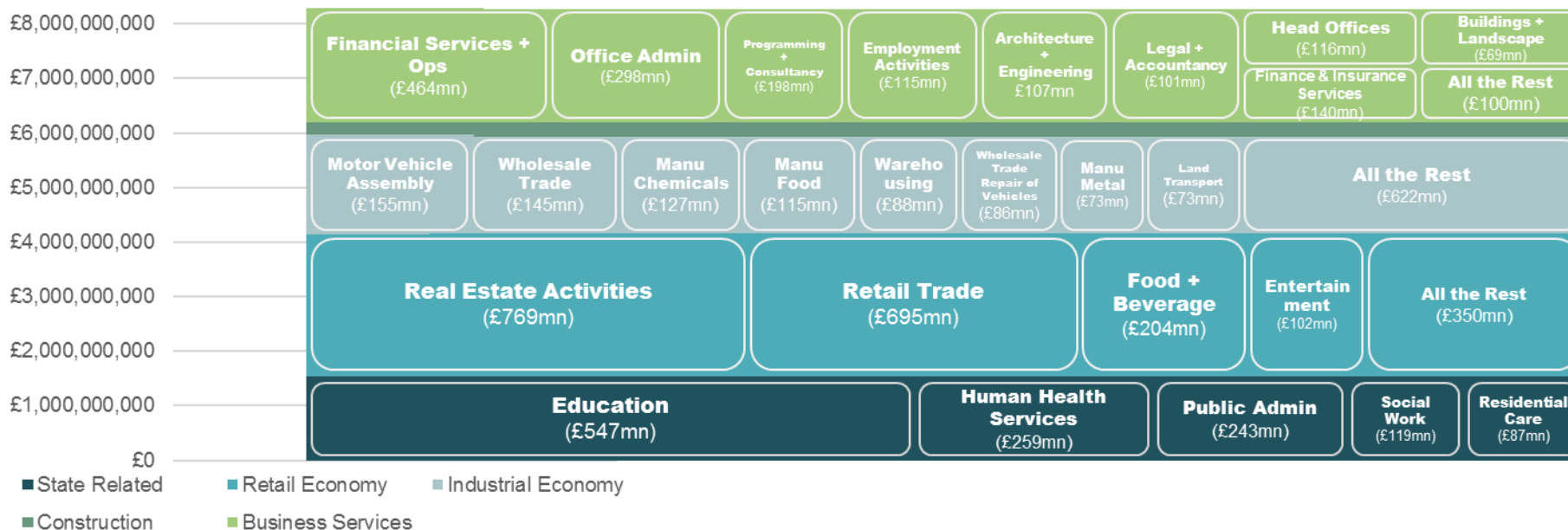
Fig 34: Breakdown of Cheshire East GVA



- Figure 34 presents the breakdown of Cheshire East's GVA. The largest single-component GVA contribution derives from real estate activities (worth £748mn), followed by retail trade (£620mn).
- The most interesting economic components, however, are those associated with the Industrial Economy, which is diverse, with a range of manufacturing activities spanning from the manufacturing of food, pharmaceuticals to the assembly of motor vehicles.
- Scientific R&D also occupies an important space in the Industrial Economy of Cheshire East, with an estimate value of £123mn.
- The components of Business Services are relatively mixed, confirming the pattern observed at the LEP level.

Bottom up GVA Cheshire West and Chester

Fig 35: Breakdown of Cheshire West and Chester GVA



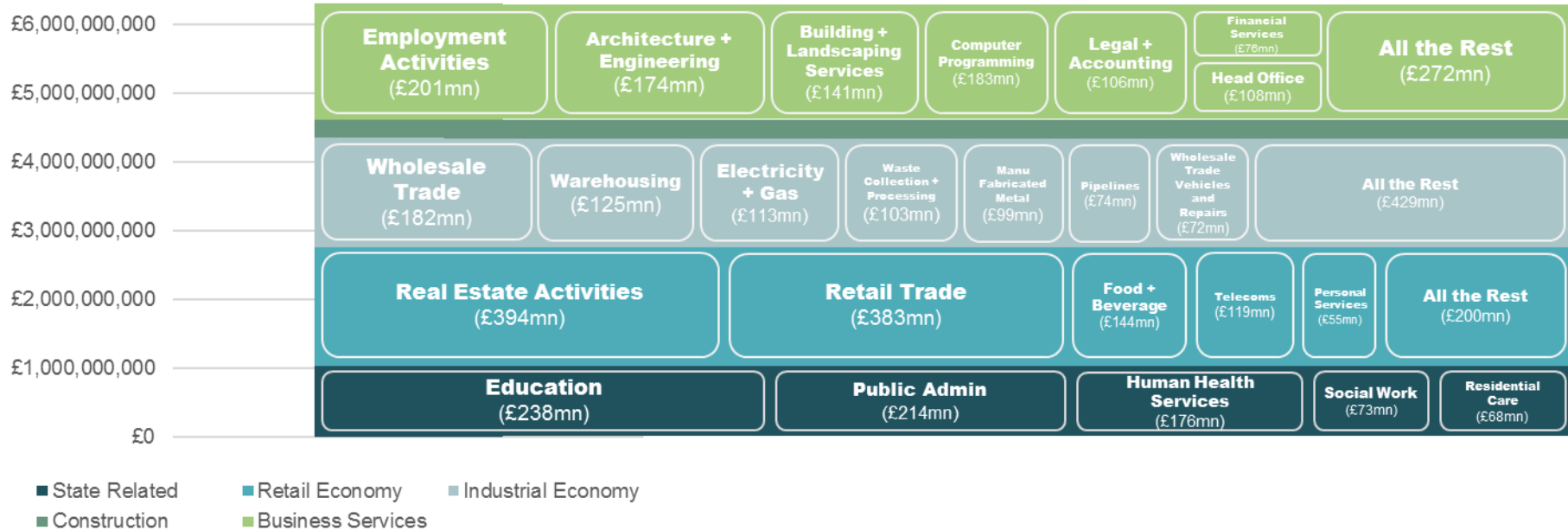
- Figure 35 presents the breakdown of Cheshire West and Chester's GVA. The structure of the Industrial Economy is less diversified, with the assembly of motor vehicles (£155mn) and the manufacturing of chemicals (£127mn) and food (£115mn) being the most significant production activities.
- Wholesale trade (£145mn), warehousing (£88mn) and land transport (£73mn) all together constitute a relatively sizable part of

the Industrial Economy of Chester West and Chester (worth £306mn), but are comparatively smaller than the one found in Cheshire East.

- Highlighting the significance of Chester University in the area, the education component of State Related activities is worth £547mn, the highest in the LEP.

Bottom up GVA Warrington

Fig 36: Breakdown of Warrington GVA

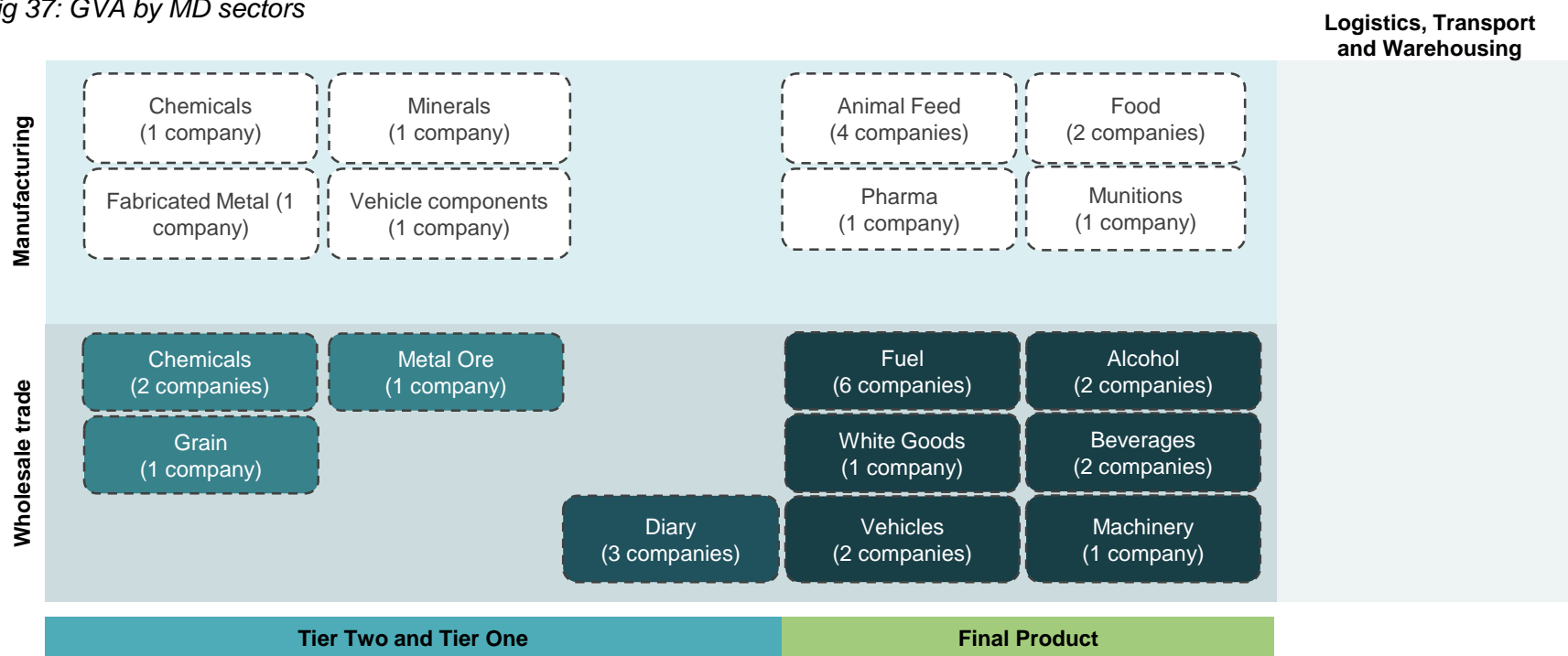


- Finally, Figure 36 presents the breakdown of Warrington’s GVA. Within the Industrial Economy we observe the importance of warehousing and wholesale trade (including wholesale trade of vehicles and repair) activities, worth £379mn, and of energy (electricity & gas £113mn) and waste collection & processing (£103mn). These findings are an indication of the functional role played by Warrington on the periphery of the Manchester economy.
- The breakdown of Business Services presents a more interesting mix of sectoral components. While computer programming, legal & accounting, and financial services activities are still important with a total value of £365mn, we also observe the presence of architecture & engineering (£174mn) and building & landscape services (£141mn). These activities cover a comparatively significant role as an economic component of Business Services and suggest a potential link to the creative industries based in Manchester.

Industrial Supply Chain Analysis: Cheshire East

- Figure 37 maps the supply chain breakdown of the Industrial Economy, considering major companies based in Cheshire East. The scheme specifies the type of activity (manufacturing, wholesale trade or logistics) as well as the position in the supply chain: 'Final Product' for companies that produce goods for the consumer marketplace, 'Tier One' for companies that are direct suppliers of the former, and 'Tier Two' for companies that supply Tier One companies.
- Although Cheshire East supports a relatively well developed supply chain around manufacturing and wholesale trade activities across different industries, there is a complete absence of big companies playing an important role in logistics, transport and warehousing activities. This might be due to deficiencies in connectivity infrastructure (e.g. deficit of road connectivity or high congestion), or due to poor availability of land or high land prices in well connected areas, making the area less competitive than companies which demand relatively large spaces.
- The industrial base appears to be well diversified, and the supply chain has a particular strength in the wholesale trade of final products, with different sectors and many large companies.

Fig 37: GVA by MD sectors

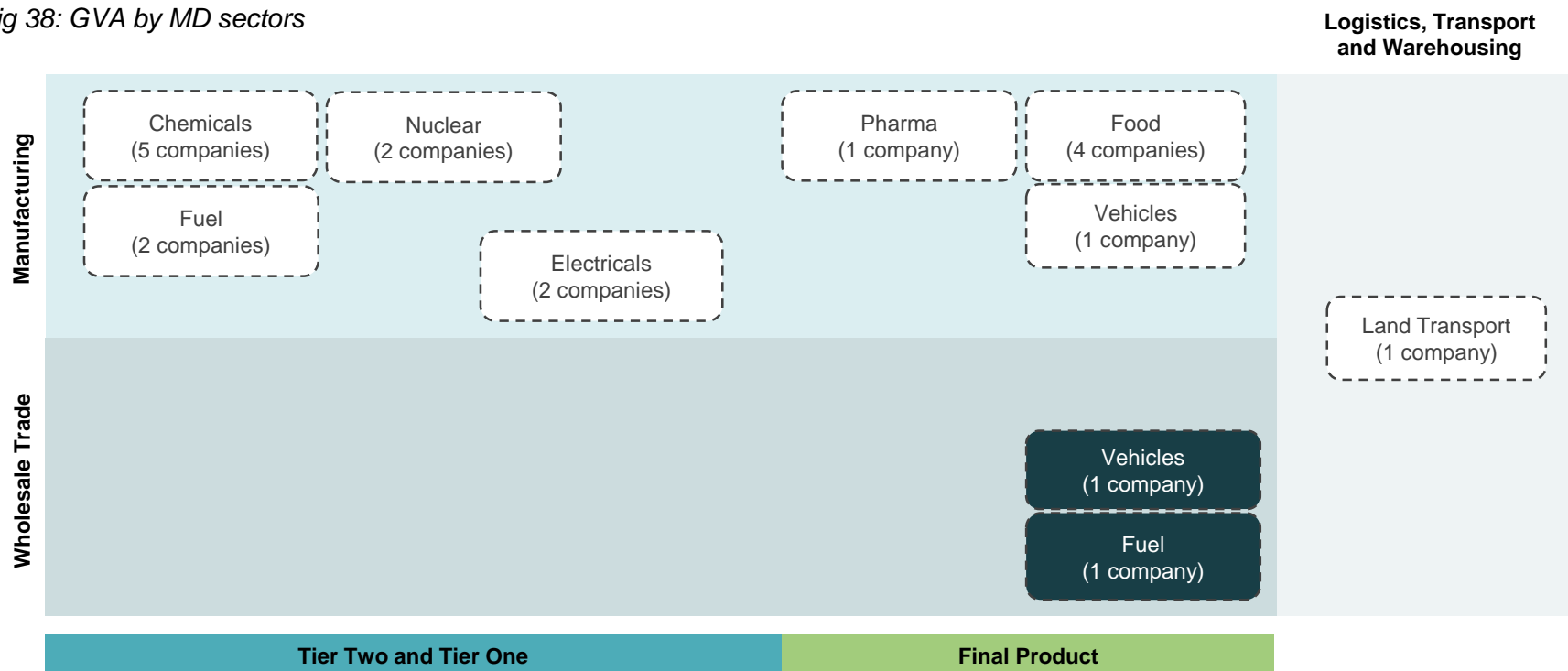


Source: Metro Dynamics analysis using ONS BRES and GVA Regional Input tables, and BvD data pulled on 27 October 2016.

Industrial Supply Chain: Analysis Cheshire West and Chester

- Figure 38 presents a high-level supply chain analysis for Cheshire West and Chester using a similar method.
- Supply chains appear to be developed for fuels (two companies in manufacturing tier two/one and one in wholesale trade) and vehicles (manufacturing and wholesale trade of vehicles as a final product).
- Overall the industrial base is less diversified. This suggests that supply chains in Cheshire West and Chester developed vertically within specific sectors, rather than horizontally across sectors.
- This reflects the high importance of manufacturing related to chemicals (mainly around Northwich) and energy (predominantly in Ellesmere Port) to the local authority, but a less diverse economy might also be less resilient to shocks in the economy.

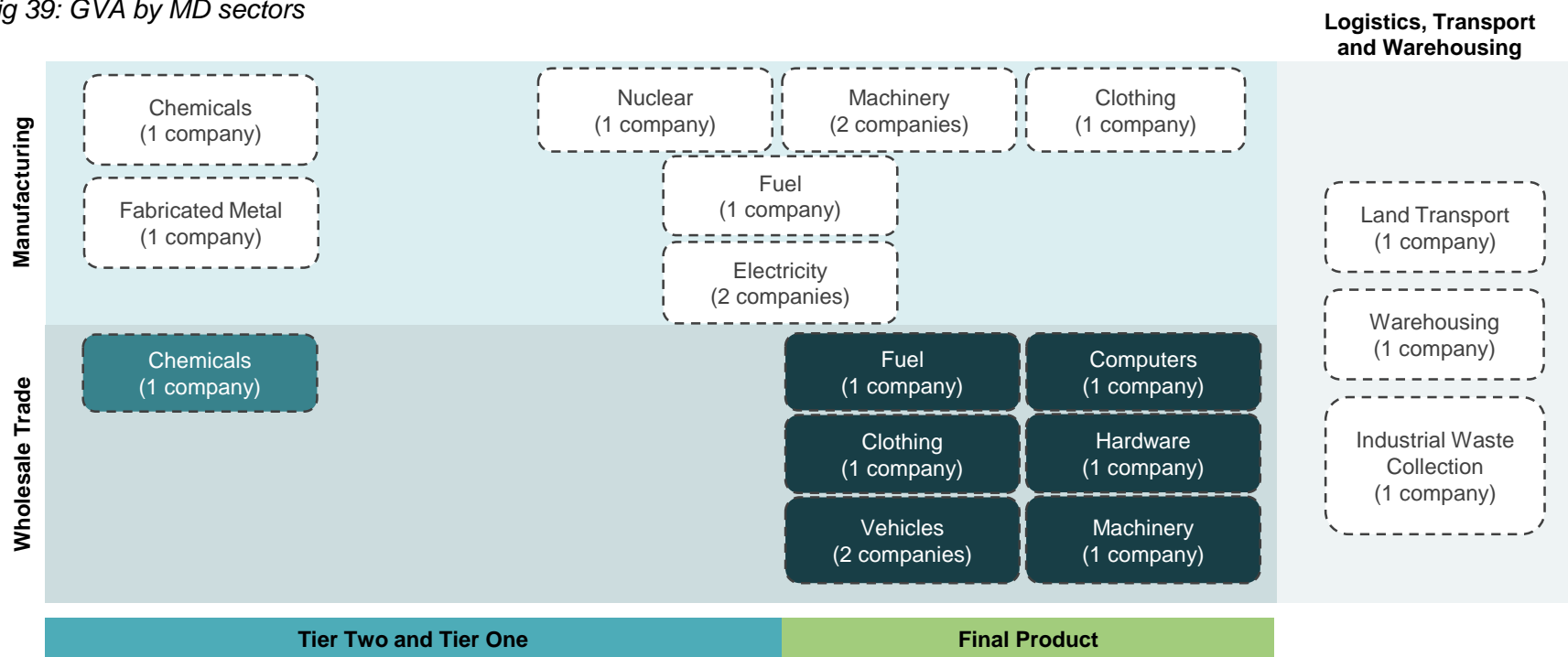
Fig 38: GVA by MD sectors



Industrial Supply Chain Analysis: Warrington

- Finally, Figure 39 presents the high-level supply chain analysis for Warrington.
- Logistics, transport and warehousing activities are the strongest feature of Warrington's supply chain, highlighting the role played by the area in supplying the conurbation of Manchester with final products from a wide range of industries.
- This is not surprising given the geographical location of Warrington between Liverpool and Manchester and the high connectivity by road.
- It appears that supply chain activities are vertically developed for the industries of chemicals, fuels, machinery, but there is not clear evidence of horizontal integration in Warrington among large companies.

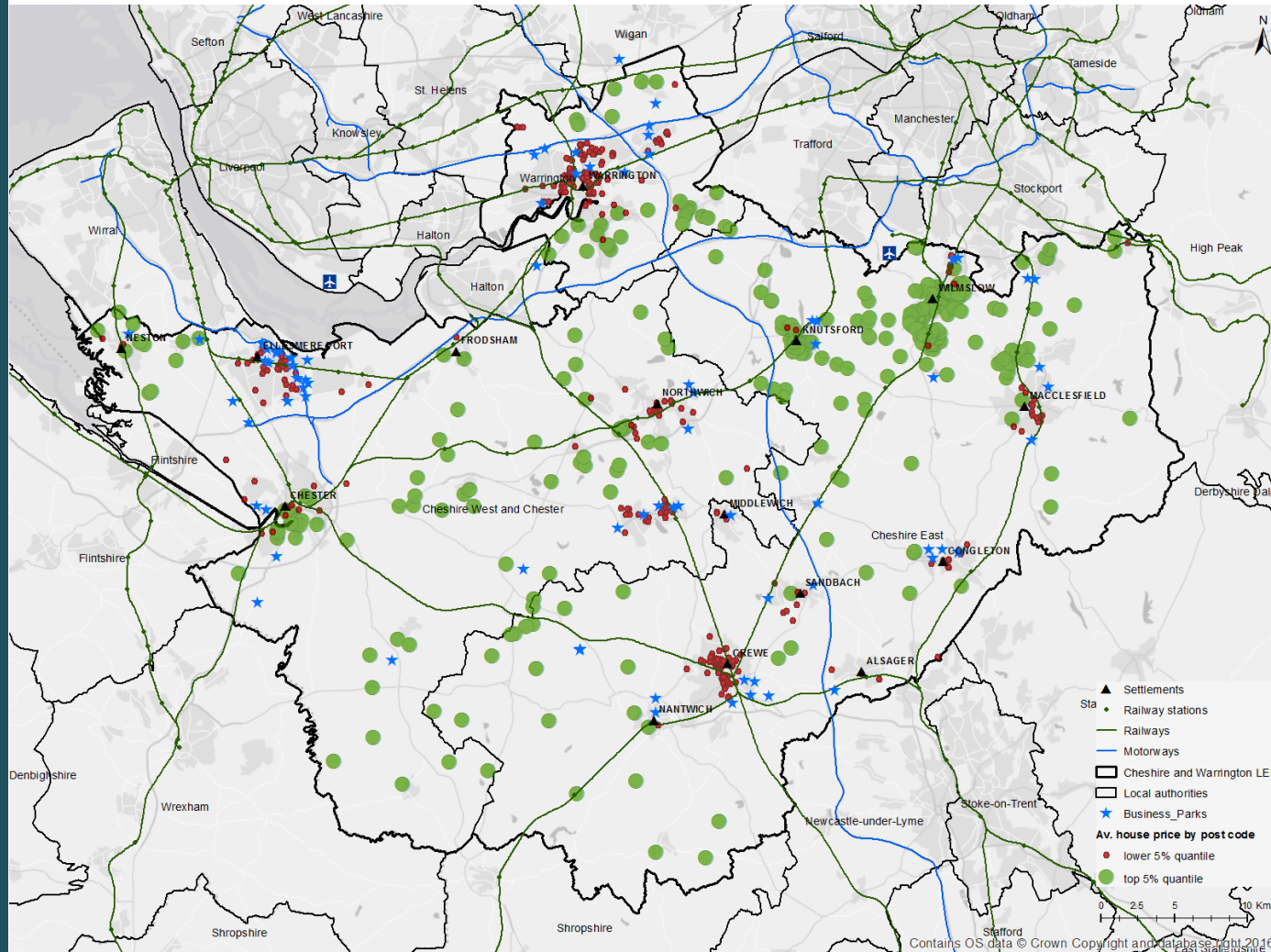
Fig 39: GVA by MD sectors



Source: Metro Dynamics analysis using ONS BRES and GVA Regional Input tables, and BvD data pulled on 27 October 2016.

Highest and lowest house prices by post code

Fig 40: Highest and lowest residential prices (2015)



Source: Metro Dynamics analysis Land Registry and Ordnance Survey data

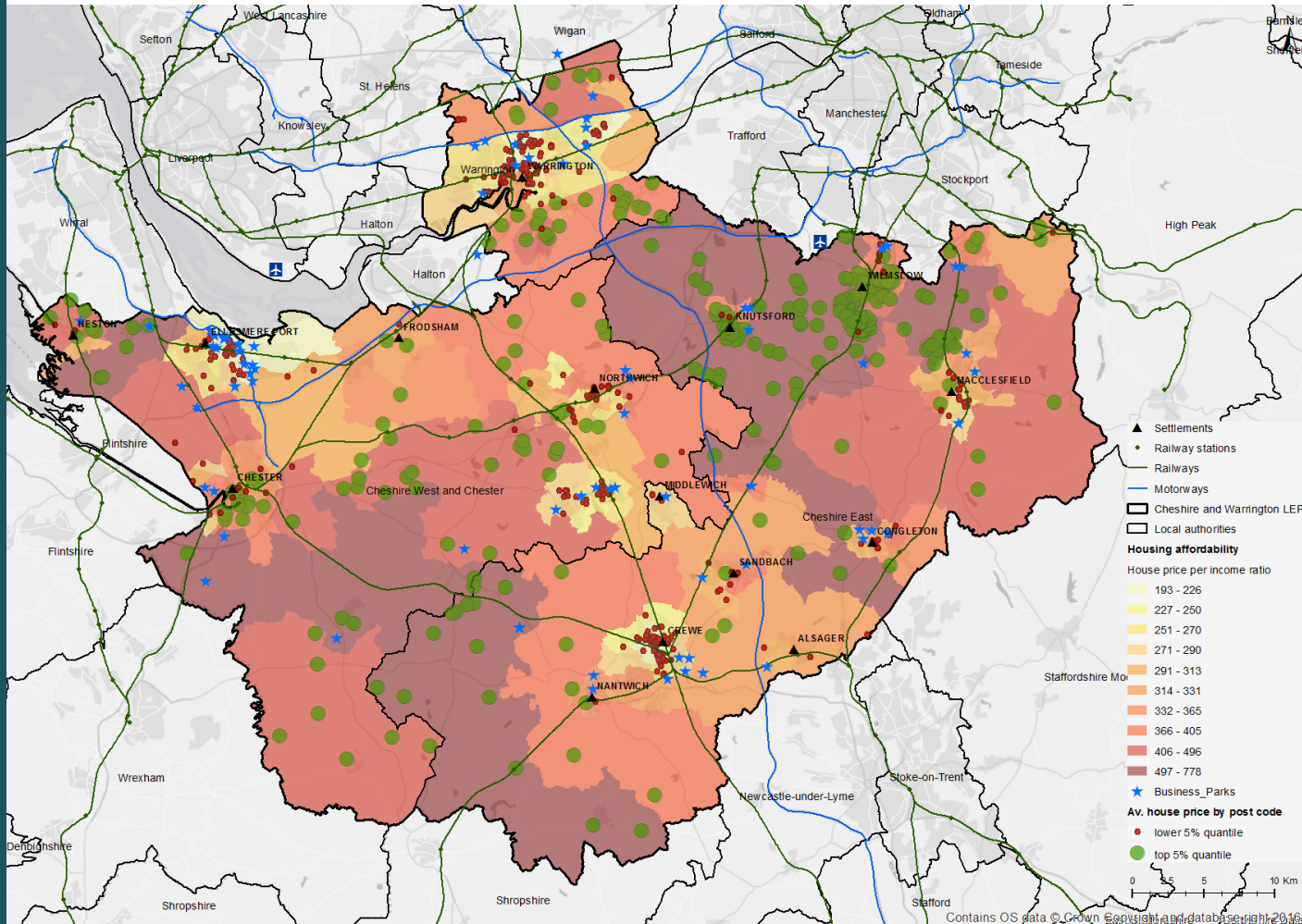
- The map on the left shows the location of properties sold in the top 5% (green dots) and bottom 5% (red dots) of LEP house prices distribution in 2015.
- The patterns emerging from the map reveal the dynamics that are at play between the different settlements within the LEP.
- Areas of wealth (underscored by properties in the top 5%) are found predominantly across the countryside, with clusters around Wilmslow and Knutsford, and in the territory surrounding Warrington. Chester escapes this pattern by being the only urban area with a mix of high and low property prices.
- Clusters of properties in the bottom 5% are found in Crewe, inner/old Warrington, and in the industrial town of Ellesmere Port.
- The presence of business parks in proximity to clusters of the lowest house prices indicates that, unsurprisingly, business parks are located in the less desirable, industrial areas in the LEP.

Property and Place

Housing affordability

- In order to better understand the patterns observed in the previous map, we looked at housing affordability (Figure 40). Darker areas on the map indicate less affordable places.

Fig 41: Housing affordability (2015)



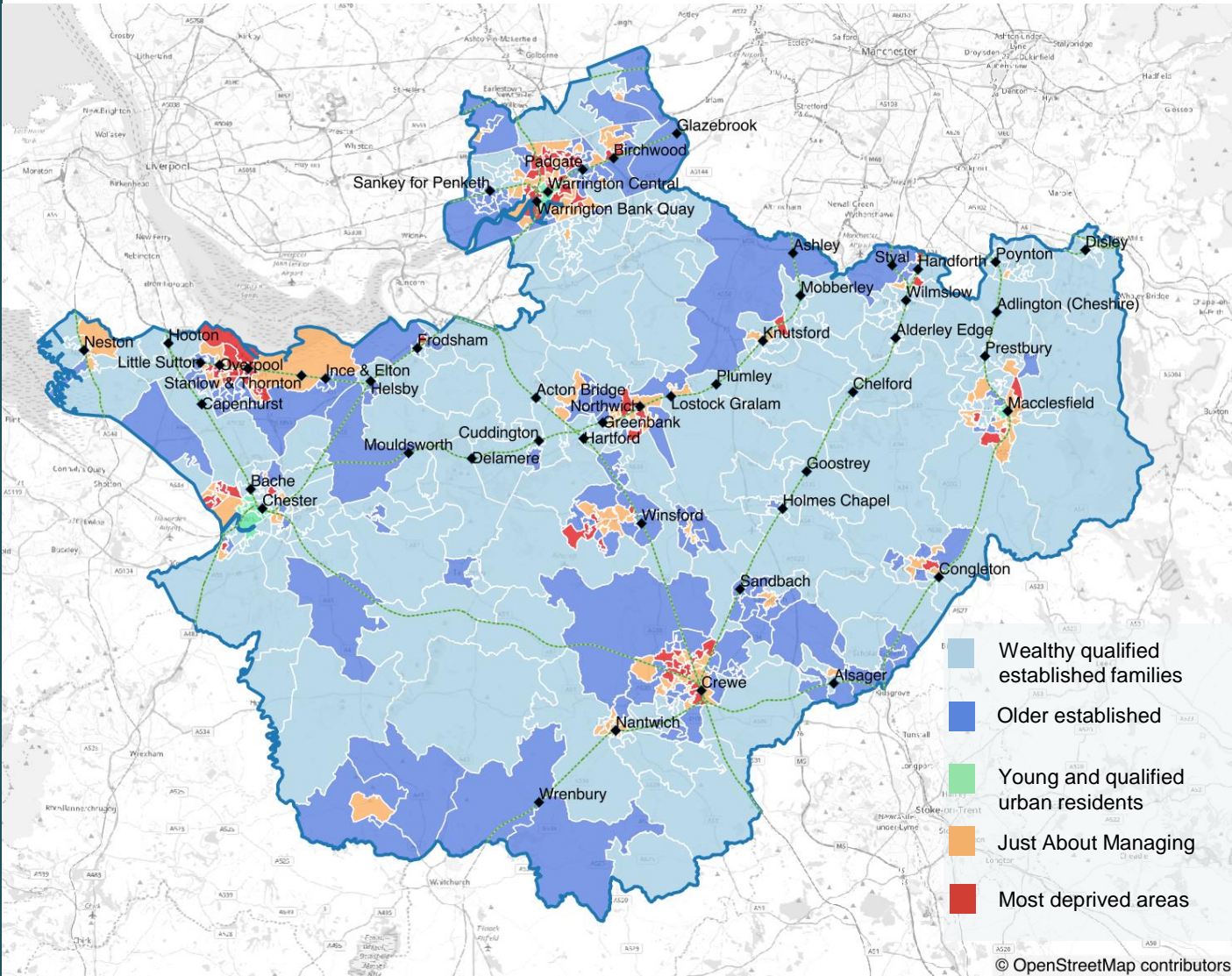
Source: Metro Dynamics analysis of ONS and Ordnance Survey data

- The first striking but unsurprising feature of the map on the left is that the properties in the countryside are the least affordable and located in areas that attract the wealthiest residents in the LEP.
- Chester is the only urban area which shows relatively low levels of affordability, which is consistent with the pattern of mixed house prices previously observed and with the presence of dynamic urban residents as illustrated in the next slide.
- The relative affordability of the various light-coloured areas on the map can be associated with two different dynamics: it can be a symptom of spirals of deprivation that keep houses prices and income low, or can denote a healthier economy with affordable housing.
- While Warrington seems to support a more dynamic urban environment with more attractive housing stock that appeals to a younger and wealthier cohort of workers, the relatively affordable areas of Crewe and Ellesmere Port do not appear to be very attractive young residents yet.

Property and Place

Population clusters

Fig 42: Map of population clusters

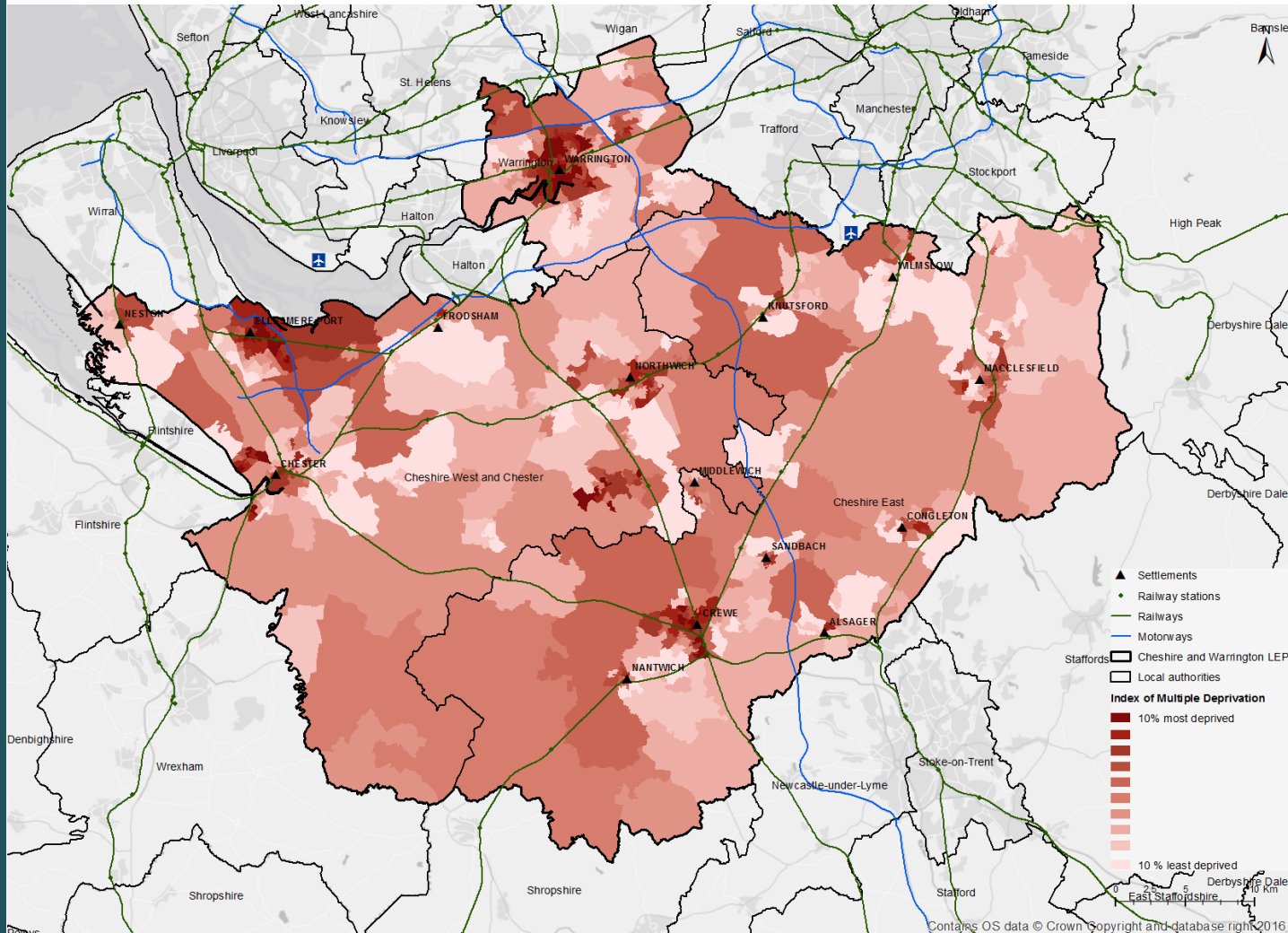


Source: Metro Dynamics analysis of Census 2011 and Ordnance Survey data

- In order to better understand the type of residents inhabiting the different areas in the LEP, we conducted a cluster analysis over a series of socio-economic variables and identified five broad categories that ascribe the LEP's residents to different socio-economic groups. These clusters are mapped in Figure 42.
- Validating the picture behind housing affordability patterns, the cluster map confirms that the countryside and the territories outside the town centres attracts wealthy families and the more educated residents of the LEP.
- The more deprived areas instead are found in the urban centres, and are particularly extensive in Crewe and Ellesmere Port.
- Warrington and Macclesfield, however, present pockets of young and highly qualified people residing in proximity to the central stations. Chester stands out for having a more extensive concentration of this group of people, which explains the comparatively higher house prices we previously observed.

Index of Multiple Deprivation (IMD)

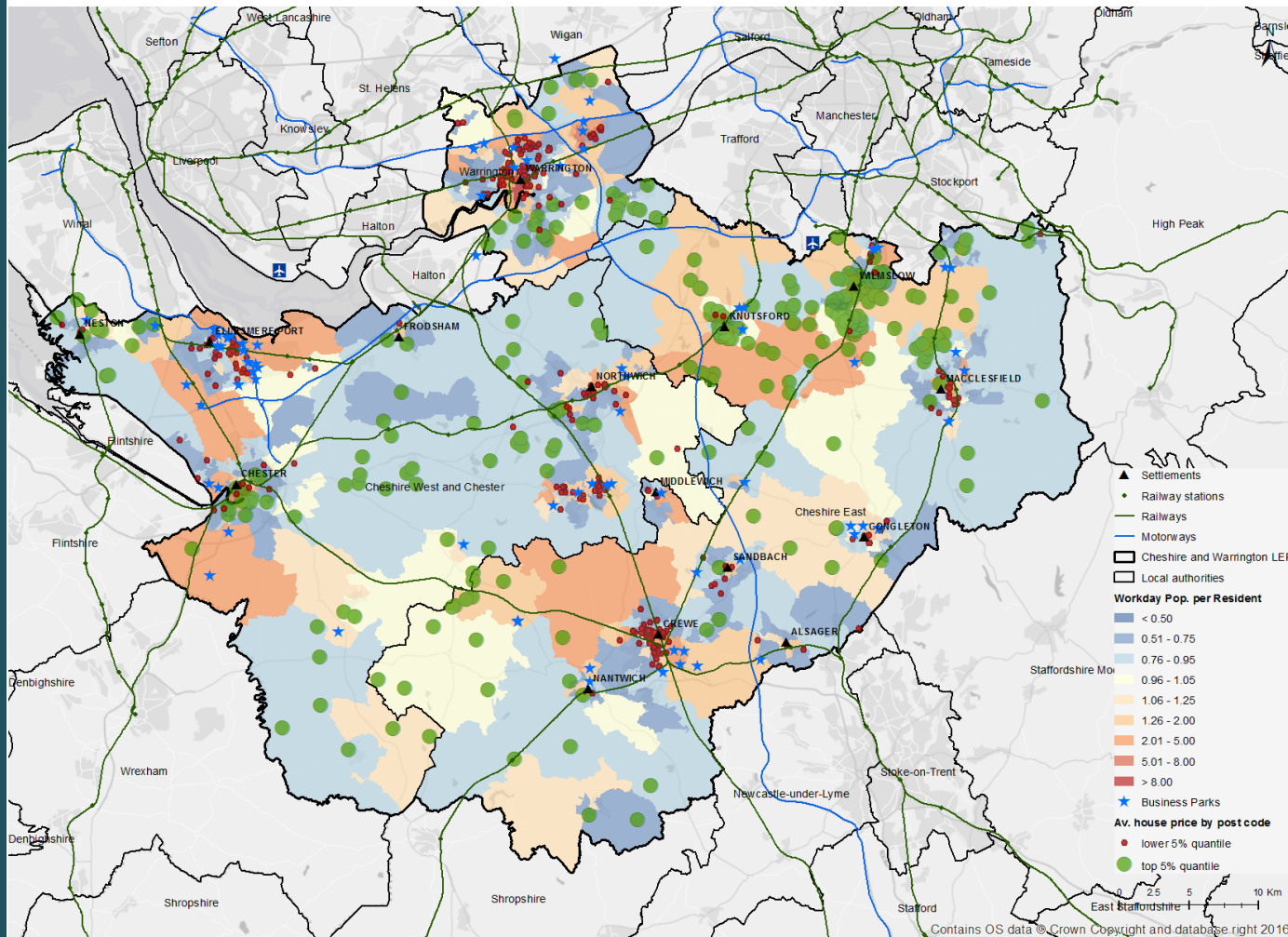
Fig 43: Index of multiple deprivation (2015) - deciles



- The Indices of Multiple Deprivation (IMD) are built combining information from multiple domains of deprivation such as income, health and crime, and are used to identify areas of relative high and low deprivation in England.
- Figure 43 maps the IMD for the Cheshire and Warrington LEP, where areas of darker red indicated higher deprivation.
- The map confirms the pattern of deprivation observed in the cluster analysis, with significant pockets of deprivation located around Ellesmere Port, Crewe, and Warrington.
- Using IMD adds more depth to the deprivation analysis as only deprivation domains are considered when creating the index. It follows that some areas that in the cluster analysis appeared dominated by one some socio-economic group - such as the young and qualified urban residents in Warrington centre – here are revealed as presenting also high levels of deprivation.

Land use (employment vs. residential areas)

Fig 44: Highest and lowest residential prices (2015)



- Figure 44 completes the picture of our analysis of the LEP's urban/countryside divide.
- Areas which are predominantly for employment use are displayed in darker shades of red, while predominantly residential areas are in darker shades of blue. Yellow areas denote a balanced mix of residential and employment use.
- Not surprisingly, urban centres are markedly employment areas surrounded by residential areas.
- The situation in the countryside is more diverse, with no clear pattern dominating the picture. We find localities that support a balanced mixed-use, some markedly for employment use, others distinctively residential.

Ratio of workday to night time population:

■ **Red:** employment areas


■ **Blue:** residential areas

Source: Metro Dynamics analysis of ONS Census 2011 and Ordnance Survey data

Key findings

The main findings of the high level economic and residential baseline analysis presented in this pack can be summarized as follows:

- The LEP's growth targets are achievable. Considering current UK growth trends the LEP would need an additional £6.5bn growth by 2040 in order to meet the £50bn target. Our analysis of the economic strengths in Cheshire and Warrington, together with the latest GVA data updates recently published by the ONS, suggest that, with the right policies, the LEP has the capacity to meet and perhaps outperform its goal.
- Manufacturing is a very important sector in Cheshire and Warrington. The share of manufacturing GVA in Cheshire and Warrington is more than twice as high as in the UK as a whole. Moreover, this is one of the few sectors which has consistently grown over the past decades at a higher rate than the national average. While this growth in manufacturing and business services is an important part of the progress of Cheshire & Warrington, most other sectors have all grown at a slower rate than the national average.
- The LEP has experienced relatively low population growth, and has a relatively ageing population. The low number of young residents and their low qualifications are perhaps the main demographic challenge the LEP faces.
- Cheshire and Warrington appears to be home to highly qualified older residents, many of whom work in high-end jobs in Manchester. Simultaneously the LEP is a net attractor of workers, particularly younger people, from surrounding areas (including Liverpool) but these do not appear to be highly qualified and probably work in elementary occupations and relatively low-qualified industrial jobs.
- The LEP has several strong industrial sectors, including the manufacture of chemicals, pharmaceuticals, energy (oil and nuclear), production of animal feeds and automotive industries, among others. Transport and warehousing is also important, particularly in Warrington. These sectors are supported by a relatively wide set of large companies located in the LEP area. The current uncertainties of the British economy – particularly Brexit – might bring challenges for some of these companies and thus have an important impact on the LEP's economy.
- The LEP area shows a diverse spatial pattern of property prices, with relatively high house prices in sought-after residential locations in the hinterland (mostly in areas closer to Manchester), contrasting with quite low prices in the urban centres, mainly in the centres of Warrington and Crewe. Our results suggest that there might be some housing affordability challenges in some areas of the LEP, particularly in Chester.
- Population clusters are consistent with this pattern, with qualified, home-owning and wealthier families tending to live in the hinterlands, while the main urban centres (Warrington, Crewe, Northwich, Macclesfield and Ellesmere Port) contain some pockets of deprivation. Only the centres of Chester and Warrington appear to be attractive to young qualified residents working in high-end jobs, but still to a low extent. Creating the conditions to attract more residents from this cohort, including different housing provision (e.g. high quality private rental flats) and good amenities will be key to achieving this.
- The commuting patterns of both residents and workers in the LEP underline the polycentric nature of the area. There are significant concentrations of people residing and working in specific areas, clustering around popular employment areas, such as Warrington, Chester, Crewe, and others.



Metro — Dynamics

