



Cheshire and Warrington LEP

**Consolidated Industrial Strategy Evidence
Base – Methodology and Appendices**

February 2019 – Final version for publication

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Methodology

Report references and data sources

Report references and official data sources used in this pack are noted on the bottom right corner of each page. A comprehensive list of reports and data sources used in this pack is available on pages 6 and 7.

Geography, comparators and temporality

The analysis has considered C&W as a whole, but also variation within the LEP area. This involves looking at differences between the three local authorities, as well as identifying patterns at the small area level, data permitting.

Comparators have been used to provide context for C&W's performance, data permitting. This includes similar successful areas of fast economic growth, such as Enterprise M3 (EM3) and Greater Manchester (GM). Some outputs from the SEP may refer to alternative comparators, such as GFirst or Coventry and Warwickshire. Performance in C&W will also be compared to the regional level to the North West (NW) and at the national level to the United Kingdom (UK), Great Britain (GB) or England.

Throughout, the most up to date data has been used, except where analysis has been taken from the SEP, which uses the most up-to-date data available at the time, which may refer to an older release than data used elsewhere.

Where possible, temporal data and change over time has been used to contextualise current performance and show trends. In some cases, data is not available for previous years or may use a different methodology and not be comparable.

Key sectors

Analysis of the key sectors is carried out using the SIC code definitions stated on pages 8-9. Please note there is some overlap between a) manufacturing and energy and environment (**shown in this colour**) and energy and environment and life sciences (**shown in this colour**).

GVA

For GVA, GVA per head and GVA per job by broad sector from the December 2018 release, the December 2018 GVA deflator is used. Other GVA figures updated earlier in the analysis process, such as GVA per hour worked and GVA per job by sub-sector, use the February 2017 deflator. GVA is deflated to give values in 2017 terms.

GVA figures from the SEP evidence base use historic deflators and are not in 2017 terms.

Economic growth ambition

To track C&W's progress, we generate a base case trajectory which shows the implied level of growth if C&W follows average growth. This is based on average GDP growth in the UK over the last 20 years (at the time the SEP evidence base was written) at 1.9% a year and the average annual GVA growth of C&W over the past 20 years at 1.8%. The average of 1.85% is applied.

To reach the £50bn target by 2040 a compound interest formula has been used over 27 periods between 2013 and 2040. This gives the required annual growth rate. C&W must meet or exceed this rate to meet its target.

To understand how C&W is performing relative to this target, the £50bn figure has been converted to 2017 prices.

* Cheshire (which includes the exact geography of the Cheshire and Warrington LEP) is a NUTS 2.

GVA and GVA per job (productivity) at the broad sector group level

GVA and GVA per job at the broad sector group level (definitions set out on page 10) are calculated using the ONS regional gross value added (balanced) reference tables for combined authority, city region and other economic and enterprise regions, and country and region, and ONS Business Register and Employment Survey (BRES). This data was released in December 2018 for the year of 2017. We have also used jobs data from 2017 to calculate GVA per job. Please note that elsewhere in the pack, where analysis was conducted in September 2018, jobs are quoted for 2016. There are no overlaps where broad sector groups are used.

GVA and GVA per job (productivity) at the sub-sector level

GVA and GVA per job at the sub-sector level are calculated using the ONS Regional gross value added (balanced) reference tables for NUTS 2* and ONS Business Register and Employment Survey for 2016.

Data from the December 2017 release has been used to analyse sub-sectoral productivity, as this dataset is more detailed with a greater number of SIC2 sub-sectors (70 compared to 34 in the December 2018 release).

Please note, that for GVA available at the SIC2 sub-sectoral level, some SIC2 codes are aggregated and only available at this level e.g. manufacture of petroleum, chemicals and pharmaceuticals.

Disaggregating these groups of SIC2 codes would undermine the robustness of the data. Therefore, the SIC code definitions of the key sectors when analysing productivity may differ as is set out on page 11.

Business birth and death rates

These are expressed as a proportion of the active business population

for that year.

Qualifications and occupations

An in house model is used to calculate qualification and occupation figures at the small area level using an in house model based on a combination of Census and Annual Population Survey data.

Population clusters

We use an in house model, based on a range of socio-economic variables, to group small areas according to the socio-economic characteristics of their residents.

Rural and town analysis

Where small area level data is available, it has been used to analyse the social and economic characteristics of C&W's rural areas and towns. Small area level data has been aggregated for the five principal towns of Chester, Crewe, Ellesmere Port, Macclesfield and Warrington using the MSOA 2011/01 definitions listed on pages 12-14, depending upon the data source. The number of jobs and businesses in 2012 is calculated using MSOA 2001 definitions of the towns. The rural area is considered to be the areas of C&W outside of these five towns.

Bibliography

Report references

BEIS (2018) Automotive: Sector Deal

BEIS (2017) Life Sciences: Sector Deal

BEIS (2018) Life Sciences: Sector Deal 2

BEIS (2018) Nuclear: Sector Deal

BMG Research (2017) Cheshire Business Survey

Champs Public Health Collaborative

Chemical Council (2018) Sustainable Innovation for a Better World

Cheshire and Warrington LEP Transport Strategy Consultation (2018)

Cheshire and Warrington LEP Draft Transport Strategy (2018)

Cheshire and Warrington LEP Skills and Education Plan (2017)

Cheshire and Warrington LEP Strategic Economic Plan (2017)

Cheshire Science Corridor (2018)

Constellation Partnership Growth Strategy (November 2018)

Developing a Housing Strategy for Cheshire and Warrington (2018)

Mickledore and Bizcat (2018) Development of an Energy Strategy and Implementation Plan for Cheshire and Warrington

Public Health Institute, Liverpool John Moores University (2017) Worklessness in Cheshire and Warrington

Regeneris (2017) Cheshire and Warrington Value Proposition

ScaleUp Institute and Beauhurst (2018) The ScaleUp Index 2018

Smart Specialisation Hub (2018) LEP Profile: Cheshire and Warrington

Official data sources – accessed Summer – Autumn 2018 for new analysis (plus SEP older data)

BvD Fame (2016)

Census (2011)

Defra (2018) AQMAs interactive map

DCLG Index of Multiple Deprivation (2015)

DfE Proportion of 16-17 year olds recorded as not in education, employment or training (NEET) or whose activity is not known, end 2016

DfE GCSE and equivalent results in England 2016/17 (revised)

DfE Data Cube (2018)

DIT FDI reports (2018) [confidential]

DWP claimant data (2018)

DWP NINo Registrations to Adult Overseas Nationals Entering The UK (2018)

Eurostat R&D data (2015)

Experian MarketIQ (2018)

HM Land Registry (2015 and 2016)

HMRC Growth Hub Data – Exports (2015)

HMRC Research and Development Tax Credits (2015-16)

Innovate UK (2018)

OECD GDP historical data deflators	ONS Regional gross value added (balanced) reference tables (2011-16)
Ofcom Connected Nations (2018)	ONS Small area income estimates for middle layer super output areas, England and Wales (2015/16)
Ofsted State-funded schools inspections and outcomes as of 31 March 2018	Ordnance Survey
ONS Annual Population Survey (2004-17)	PHE (2016/17)
ONS Annual Survey of Hours and Earnings (2015 and 2017)	
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 (2017)	
ONS Balanced GVA data (2015)	
ONS Balanced GVA indices by UK Local Authorities, LEPs and UK NUTS 1, NUTS 2 and NUTS 3 (1998-16)	
ONS Balanced GVA by industry – country and region; NUTS 1, NUTS 2 and NUTS 3; combined authorities, city regions and other economic and enterprise regions of the UK (1998-2017)	
ONS Business Counts (2012-17)	
ONS Business Demography (2016)	
ONS Business Enterprise Research and Development by LEP (2013)	
ONS Business Register and Employment Survey (2010-17)	
ONS GVA per hour worked – indices by UK Local Authorities, LEPs and UK NUTS 1, NUTS 2 and NUTS 3 (2004-16)	
ONS Internal migration: by local authority and region, five-year age group and sex	
ONS MSOA Mid-Year Population Estimates (2011-16)	
ONS Population Estimates (2012-17)	

Sector definitions

Manufacturing (excluding chemicals and pharmaceuticals)	
10	Manufacture of food products
11	Manufacture of beverages
12	Manufacture of tobacco products
13	Manufacture of textiles
14	Manufacture of wearing apparel
15	Manufacture of leather and related products
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
17	Manufacture of paper and paper products
18	Printing and reproduction of recorded media
19	Manufacture of coke and refined petroleum products
22	Manufacture of rubber and plastic products
23	Manufacture of other non-metallic mineral products
24	Manufacture of basic metals
25	Manufacture of fabricated metal products, except machinery and equipment
26	Manufacture of computer, electronic and optical products
27	Manufacture of electrical equipment
28	Manufacture of machinery and equipment n.e.c.
29	Manufacture of motor vehicles, trailers and semi-trailers
30	Manufacture of other transport equipment
31	Manufacture of furniture
32	Other manufacturing
33	Repair and installation of machinery and transport

Chemicals	
20	Manufacture of chemicals and chemical products
Energy and environment	
08990	Other mining and quarrying n.e.c.
19201	Mineral oil refining
19209	Other treatment of petroleum products (excluding oil refining/petrochemicals manufacture)
25300	Manufacture of steam generators, except central heating hot water boilers
27900	Manufacture of other electrical equipment
29100	Manufacture of motor vehicles
29201	Manufacture of bodies (coachwork) for motor vehicles (except caravans)
29320	Manufacture of other parts and accessories for motor vehicles
35110	Production of electricity
35120	Transmission of electricity
35130	Distribution of electricity
35140	Trade of electricity
35210	Manufacture of gas
35220	Distribution of gaseous fuels through mains
35230	Trade of gas through mains
35300	Steam and air conditioning supply
39000	Remediation activities and other waste management services
42210	Construction of utility projects for fluids

Energy and environment (continued)	
42220	Construction of utility projects for electricity and telecommunications
42910	Construction of water projects
42990	Construction of other civil engineering projects n.e.c.
71121	Engineering design activities for industrial process and production
71122	Engineering related scientific and technical consulting activities
71129	Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)
71200	Technical testing and analysis
72110	Research and experimental development on biotechnology
72190	Other research and development on natural sciences and engineering
Life sciences (including pharmaceuticals)	
2110	Manufacture of basic pharmaceutical products
2120	Manufacture of pharmaceutical preparations
46460	Wholesale of pharmaceutical goods
72110	Research and experimental development on biotechnology
72190	Other research and development on natural sciences and engineering
Finance and business services	
64	Financial service activities, except insurance and pension funding
65	Insurance, reinsurance and pension funding, except compulsory social security
66	Activities auxiliary to financial services and insurance activities

77	Rental and leasing activities
78	Employment activities
79	Travel agency, tour operator and other reservation service and related activities
80	Security and investigation activities
81	Services to buildings and landscape activities
82	Office administrative, office support and other business support activities
Logistics and distribution	
49	Land transport and transport via pipelines
50	Water transport
51	Air transport
52	Warehousing and support activities for transportation
53	Postal and courier activities

GVA per job broad sector group definitions

Primary industries and energy, water and waste

A – Agriculture, forestry and fishing

B – Mining and quarrying

D – Electricity, gas, steam and air conditioning supply

E – Water supply; sewerage and waste management

Manufacturing

C – Manufacturing (including chemicals and pharmaceuticals)

Construction

F – Construction

Retail and hospitality

G – Wholesale and retail trade; repair of motor vehicles

I – Accommodation and food service activities

Transportation and storage

H – Transportation and storage

Information and communication

J – Information and communication

Finance and insurance

K – Financial and insurance activities

Real estate

L – Real estate activities

Professional, scientific and technical activities

M – Professional, scientific and technical activities

Administrative and support services

N – Administrative and support service activities

Public services

O – Public administration and defence

P – Education

Q – Human health and social work activities

Other services

R – Arts, entertainment and recreation

S – Other service activities

GVA per job key sector definitions

Manufacturing (excluding chemicals and pharmaceuticals)

The SIC code definition for manufacturing is the same.

Chemicals

The individual SIC2 code for chemicals cannot be looked at in isolation, as the manufacture of coke and refined petroleum products (SIC2 19), chemicals and chemical products (SIC2 20) and basic pharmaceutical products and pharmaceutical (SIC2 21) is aggregated at the NUTS 2 level.

Energy and environment

The SIC code definition for energy and environment is based on the following SIC2s:

- 19-21: Manufacture of petroleum, chemicals and pharmaceuticals
- 29: Manufacture of motor vehicles, trailers and semi-trailers
- 35: Electricity, gas, steam and air conditioning supply
- 71: Architectural and engineering activities; technical testing and analysis
- 72: Scientific research and development

It also excludes the following SIC codes:

- 8990 – the SIC2s 5-9 are aggregated and there are a small number of jobs in SIC5 code 8990 relative to other SIC5s in SIC2 code 8
- 25300 – there are a relatively small number of jobs in SIC5 code 25300 relative to other SIC5s in SIC2 code 25

- 27900 – there are a relatively small number of jobs in SIC5 code 27900 relative to other SIC5s in SIC2 code 27

- 39000 – the SIC2 codes 38-39 are aggregated and there are a small number of jobs in this code relative to SIC2 code 38

Life Sciences (including pharmaceuticals)

The SIC code definition for life sciences is based on the following SIC2s:

- 19-21: Manufacture of petroleum, chemicals and pharmaceuticals
- 29: 72: Scientific research and development

The life sciences sector excludes SIC5 46460, as there are a small number of jobs in the wholesale of pharmaceuticals relative to other SIC5 codes in SIC2 46.

Finance and business services

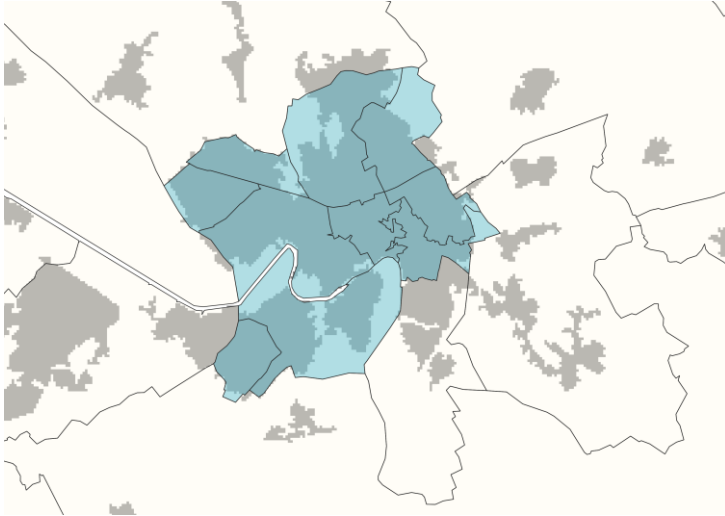
The SIC code definition for finance and business services is the same.

Logistics and distribution

The SIC code definition for logistics and distribution is the same.

MSOA town definitions

Chester



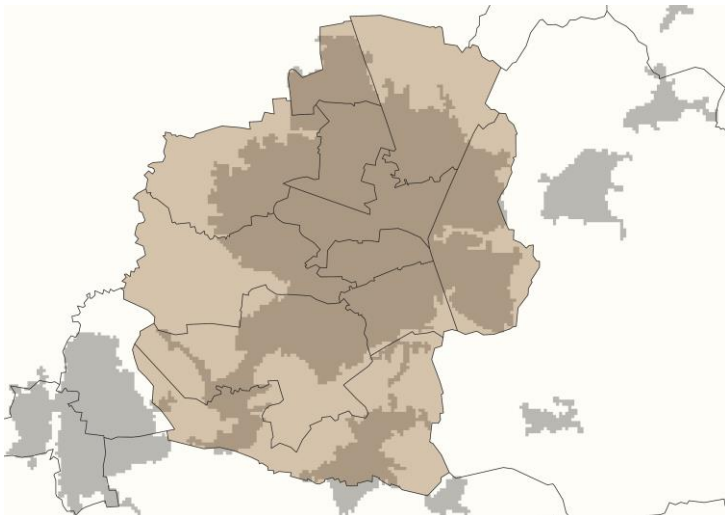
MSOA 2011

Cheshire West and Chester 027
 Cheshire West and Chester 028
 Cheshire West and Chester 029
 Cheshire West and Chester 031
 Cheshire West and Chester 032
 Cheshire West and Chester 033
 Cheshire West and Chester 034
 Cheshire West and Chester 036
 Cheshire West and Chester 039
 Cheshire West and Chester 043
 Cheshire West and Chester 044

MSOA 2001

Chester 003
 Chester 004
 Chester 005
 Chester 006
 Chester 008
 Chester 009
 Chester 010
 Chester 011
 Chester 014
 Chester 015

Crewe



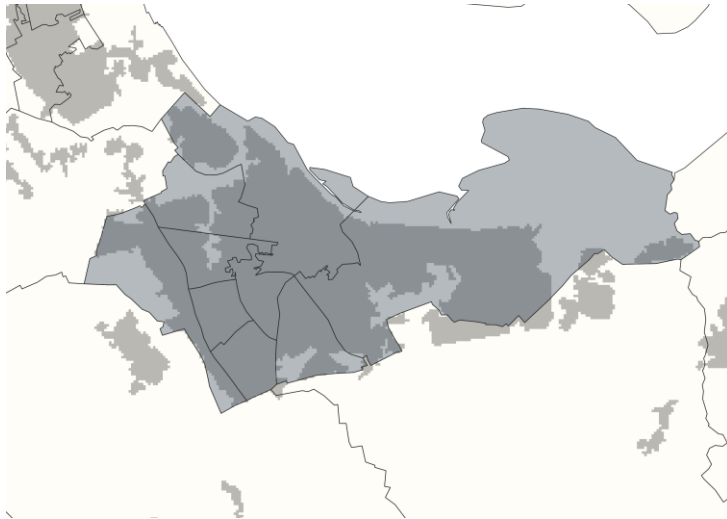
MSOA 2011

Cheshire East 034
 Cheshire East 035
 Cheshire East 036
 Cheshire East 037
 Cheshire East 038
 Cheshire East 039
 Cheshire East 043
 Cheshire East 044
 Cheshire East 045
 Cheshire East 046
 Cheshire East 048

MSOA 2001

Crewe and Nantwich 001
 Crewe and Nantwich 002
 Crewe and Nantwich 003
 Crewe and Nantwich 004
 Crewe and Nantwich 005
 Crewe and Nantwich 006
 Crewe and Nantwich 008
 Crewe and Nantwich 009
 Crewe and Nantwich 010
 Crewe and Nantwich 011
 Crewe and Nantwich 014

Ellesmere Port



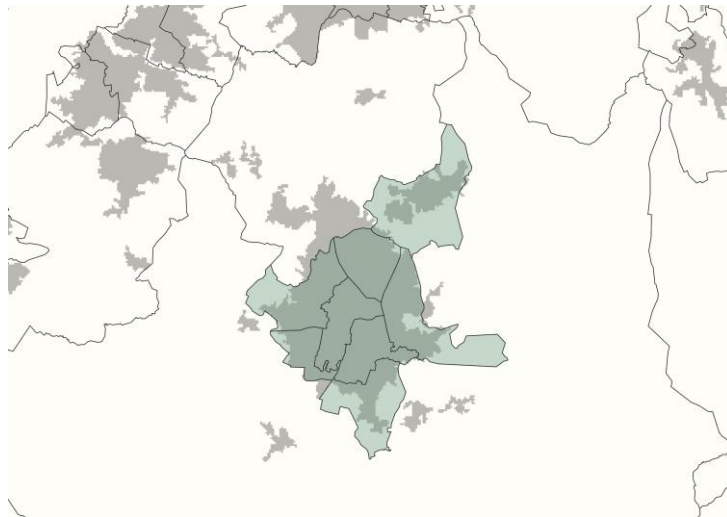
MSOA 2011

- Cheshire West and Chester 005
- Cheshire West and Chester 007
- Cheshire West and Chester 008
- Cheshire West and Chester 009
- Cheshire West and Chester 010
- Cheshire West and Chester 011
- Cheshire West and Chester 013
- Cheshire West and Chester 014
- Cheshire West and Chester 016

MSOA 2001

- Ellesmere Port and Neston 003
- Ellesmere Port and Neston 005
- Ellesmere Port and Neston 006
- Ellesmere Port and Neston 007
- Ellesmere Port and Neston 008
- Ellesmere Port and Neston 009
- Ellesmere Port and Neston 010
- Ellesmere Port and Neston 011
- Ellesmere Port and Neston 012

Macclesfield



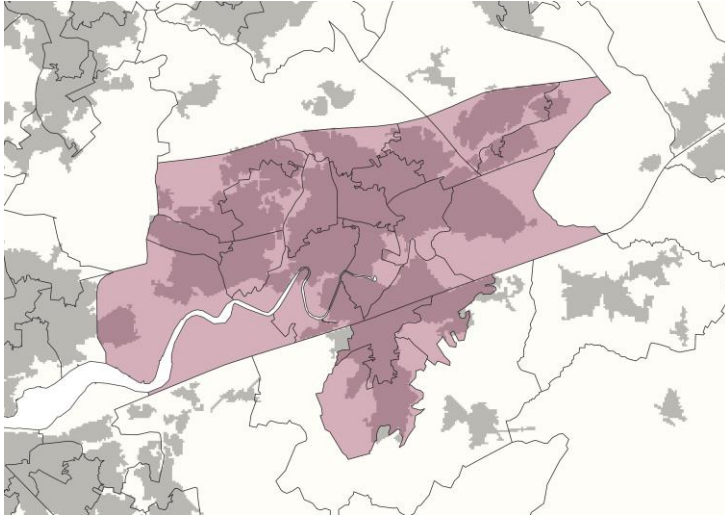
MSOA 2011

- Cheshire East 013
- Cheshire East 014
- Cheshire East 015
- Cheshire East 016
- Cheshire East 017
- Cheshire East 018
- Cheshire East 019
- Cheshire East 021

MSOA 2001

- Macclesfield 013
- Macclesfield 014
- Macclesfield 015
- Macclesfield 016
- Macclesfield 017
- Macclesfield 018
- Macclesfield 019
- Macclesfield 021

Warrington



MSOA 2011 and MSOA 2001

- Warrington 004
- Warrington 005
- Warrington 006
- Warrington 007
- Warrington 008
- Warrington 009
- Warrington 010
- Warrington 011
- Warrington 012
- Warrington 013
- Warrington 014

- Warrington 015
- Warrington 016
- Warrington 017
- Warrington 018
- Warrington 019
- Warrington 020
- Warrington 022
- Warrington 023
- Warrington 025

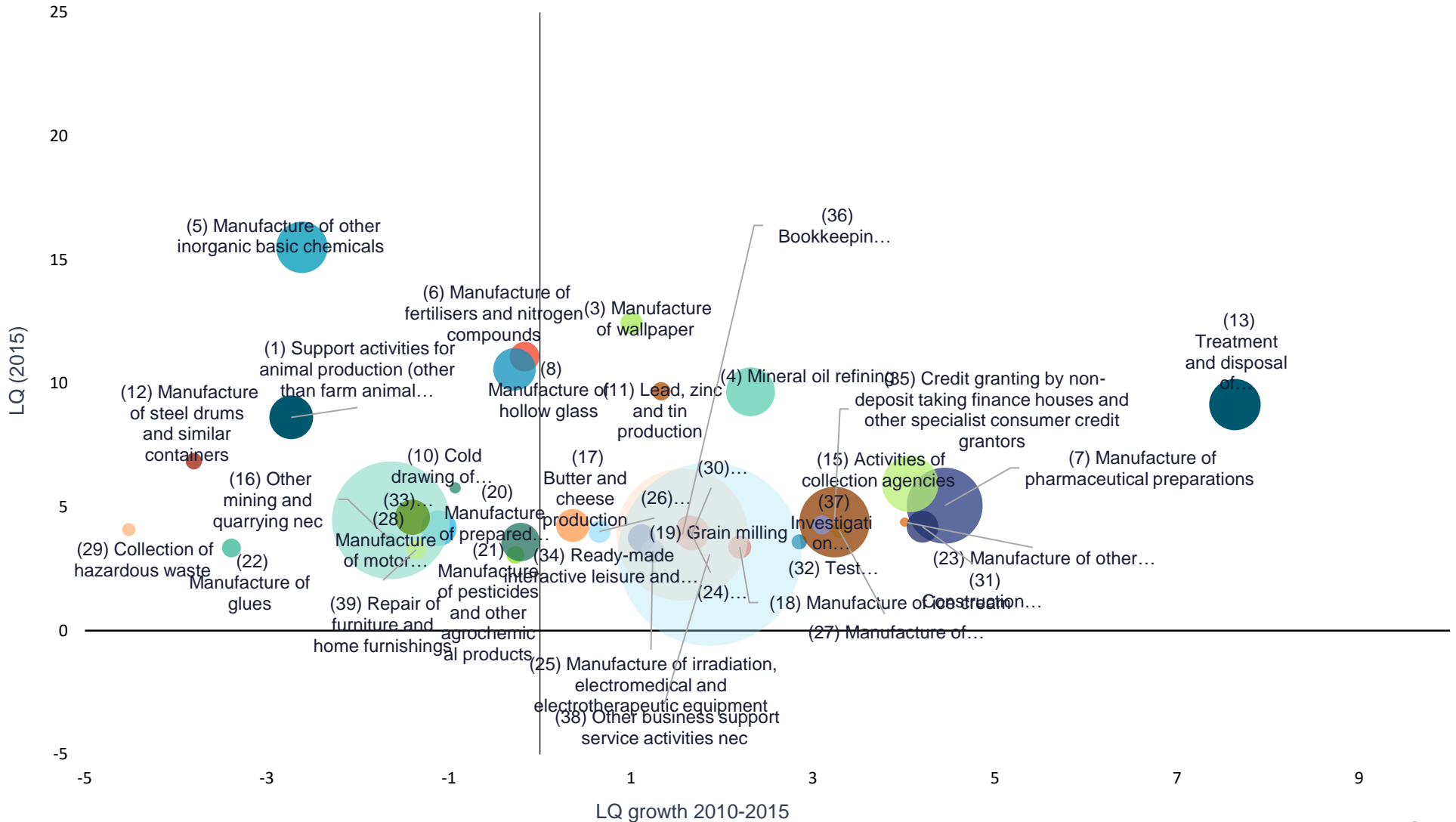
Appendices



Metro — Dynamics

Location Quotients analysis for SIC5

SIC5 sub-sectors by LQ for Cheshire and Warrington (2015)



This output is from the SEP evidence base and uses the most up-to-date data at the time.

Source: ONS Business Register and Employment Survey (2010-15)

GVA and hours worked growth

Growth in GVA and the number of hours worked (2011-16)

	Average annual GVA growth (2011-16)	Average annual hours worked growth (2011-16)
Cheshire and Warrington	2.6%	3.0%
Cheshire East	4.0%	3.4%
Cheshire West and Chester	1.7%	2.7%
Warrington	1.4%	3.2%

Productivity by broad sector group in GB

Productivity by broad sector group (2017)

Broad sector	GVA (£m)	GVA per job	GVA per job growth	Jobs
Real estate	£243,527	£447,660	3.3%	544,000
Financial and insurance	£127,432	£122,472	1.3%	1,040,500
Information and communication	£115,346	£89,036	-6.3%	1,295,500
Primary industries, energy water and waste	£66,222	£75,424	12.8%	878,000
Manufacturing	£178,422	£73,334	11.1%	2,433,000
Construction	£108,765	£72,317	1.5%	1,504,000
Transportation and storage	£75,492	£52,903	-0.2%	1,427,000
Professional, scientific and technical activities	£136,945	£52,580	-0.3%	2,604,500
Other services	£68,705	£49,005	5.8%	1,402,000
Public services	£309,656	£39,336	-1.6%	7,872,000
Retail and hospitality	£239,168	£34,806	5.1%	6,871,500
Administrative and support services	£86,866	£31,924	1.2%	2,721,000

Productivity in professional, scientific and technical activities

Productivity by sub-sector in professional, scientific and technical activities (2016)

Sub-sector	C&W jobs	C&W GVA (£m)	C&W GVA per job (£)	GVA per job growth	Difference with GB
Scientific research and development	2,000	£584	292,111	112.2%	268.8%
Activities of head offices; management consultancy activities	15,000	£429	28,598	14.5%	-11.1%
Architectural and engineering activities; technical testing and analysis	13,000	£585	45,019	-8.6%	-15.9%
Other professional, scientific and technical activities	3,750	£161	43,034	-32.9%	-17.3%
Advertising and market research	3,000	£186	61,963	94.3%	-17.9%
Veterinary activities	1,500	£49	32,684	-50.7%	-36.4%
Legal and accounting activities	19,500	£463	23,727	-35.4%	-60.2%

Overall, C&W was 17% less productive than the GB average in professional, scientific and technical activities in 2016; this gap widens to 33% in 2017. Looking at GVA per job in 2016 by sub-sector, this shows that C&W is overperforming GB by almost 270% for scientific research and development. The large increases in productivity since 2011 in this sector are most likely due to large job losses.

However, this does not make up for the fact that it is less productive for all other SIC2 sub-sectors in this broad sector group. It is performing worst for legal and account activities (60.2% less productive) and veterinary activities (36.4% less productive). We also see that these sub-sectors have experienced large declines in productivity since 2011 and both have had large job increases, particularly legal and accounting (10,500 new jobs).

High productivity sub-sectors in GB

Top 15 sub-sectors by productivity for GB (2016)

Sub-sector	GVA (£m)	GVA per job	GVA per job growth	Jobs	Job change	In C&W top sub-sectors?
Real estate activities	£243,990	£460,358	5.5%	530,000	70,500	Yes
Electricity, gas, steam and air conditioning supply	£28,518	£225,436	69.5%	126,500	12,000	Yes
Manufacture of petroleum, chemicals and pharmaceuticals	£28,058	£213,369	16.9%	131,500	-20,500	Yes
Water and air transport	£16,513	£184,508	23.4%	89,500	6,500	No
Water supply and sewerage	£10,188	£177,185	-23.0%	57,500	13,500	Yes
Manufacture of beverages and tobacco products	£5,772	£157,569	1.6%	36,630	505	No
Programming and broadcasting activities	£6,559	£150,787	-17.5%	43,500	16,000	No
Telecommunications	£30,292	£147,405	7.2%	205,500	3,500	Yes
Financial service activities, except insurance and pension funding	£72,944	£146,034	-3.3%	499,500	-24,500	Yes
Travel agency, tour operator and other reservation service and related activities	£11,728	£117,873	23.2%	99,500	4,000	No
Gambling and betting activities	£10,621	£114,824	11.3%	92,500	-4,500	No
Mining and quarrying	£4,377	£112,220	3.3%	39,000	-18,500	Yes
Rental and leasing activities	£16,423	£105,952	3.0%	155,000	12,500	No
Construction of buildings	£45,093	£103,307	2.8%	436,500	43,500	No
Civil engineering	£22,634	£99,488	9.6%	227,500	29,500	No

Low productivity sub-sectors in GB

Bottom 15 sub-sectors by productivity for GB (2016)

Sub-sector	GVA (£m)	GVA per job	GVA per job growth	Jobs	Job change	In C&W bottom sub-sectors?
Sports activities and amusement and recreation activities	£5,434	£11,673	7.2%	465,500	66,500	Yes
Services to buildings and landscape activities	£10,569	£15,002	4.3%	704,500	81,500	No
Security and investigation activities	£3,794	£18,831	10.1%	201,500	8,000	Yes
Social work activities without accommodation	£17,283	£19,023	5.0%	908,500	35,500	Yes
Employment activities	£18,579	£19,193	-3.1%	968,000	175,000	Yes
Residential care activities	£14,057	£20,067	4.1%	700,500	-6,000	Yes
Crop and animal production, hunting and related service activities	£9,194	£20,592	-3.3%	446,500	-5,000	No
Food and beverage service activities	£39,236	£22,148	8.4%	1,771,500	294,500	Yes
Accommodation	£13,626	£28,596	23.3%	476,500	56,000	Yes
Activities of head offices; management consultancy activities	£25,037	£32,160	0.7%	778,500	216,000	No
Retail trade, except of motor vehicles and motorcycles	£93,752	£32,706	8.2%	2,866,500	21,500	Yes
Warehousing and support activities for transportation	£18,177	£34,889	-8.4%	521,000	111,500	Yes
Libraries, archives, museums and other cultural activities	£3,708	£34,977	15.2%	106,000	7,000	No
Forestry and fishing	£1,038	£36,411	-11.6%	28,500	8,000	Yes
Education	£100,564	£38,560	-6.7%	2,608,000	87,500	Yes

High productivity sub-sectors in the NW

Top 15 sub-sectors by productivity for the NW (2016)

Sub-sector	GVA (£m)	GVA per job	GVA per job growth	Jobs	Job change	In C&W top sub-sectors?
Real estate activities	£21,749	£378,244	-11.0%	57,500	10,500	Yes
Manufacture of petroleum, chemicals and pharmaceuticals	£9,080	£331,688	66.6%	27,375	-7,625	Yes
Electricity, gas, steam and air conditioning supply	£2,063	£165,053	69.0%	12,500	-1,000	Yes
Insurance, reinsurance and pension funding, except compulsory social security	£1,511	£159,011	-0.9%	9,500	-2,000	No
Water supply and sewerage	£826	£150,234	14.2%	5,500	2,375	Yes
Water and air transport	£1,060	£130,484	-6.9%	8,125	1,625	No
Telecommunications	£2,862	£124,429	33.5%	23,000	-5,000	Yes
Scientific research and development	£898	£119,704	20.5%	7,500	-3,500	Yes
Gambling and betting activities	£1,255	£109,153	18.9%	11,500	-1,500	No
Air transport	£764	£109,140	1.5%	7,000	1,500	No
Financial service activities, except insurance and pension funding	£5,426	£106,382	5.3%	51,000	-5,000	Yes
Manufacture of other non-metallic mineral products	£664	£102,137	135.5%	6,500	-5,500	No
Manufacture of other transport equipment	£2,427	£95,167	25.7%	25,500	1,000	Yes
Manufacture of paper and paper products	£993	£94,549	12.3%	10,500	1,500	No
Construction of buildings	£3,216	£91,894	-9.8%	35,000	1,500	No

Low productivity sub-sectors in the NW

Bottom 15 sub-sectors by productivity for the NW (2016)

Sub-sector	GVA (£m)	GVA per job	GVA per job growth	Jobs	Job change	In C&W bottom sub-sectors?
Manufacture of wood and of products of wood and cork	£197	£14,080	-46.4%	14,000	5,500	No
Security and investigation activities	£360	£15,979	18.1%	22,500	-2,500	Yes
Sports activities and amusement and recreation activities	£802	£16,879	6.1%	47,500	10,000	Yes
Services to buildings and landscape activities	£1,307	£16,979	6.2%	77,000	15,000	No
Crop and animal production, hunting and related service activities	£644	£17,657	-5.5%	36,500	1,500	No
Employment activities	£1,934	£19,740	11.2%	98,000	23,000	Yes
Food and beverage service activities	£4,114	£20,217	7.7%	203,500	41,500	Yes
Accommodation	£1,355	£22,038	13.8%	61,500	11,000	Yes
Social work activities without accommodation	£2,144	£22,102	8.1%	97,000	-18,000	Yes
Activities of head offices; management consultancy activities	£2,071	£26,219	31.4%	79,000	24,000	No
Veterinary activities	£193	£27,577	-64.3%	7,000	4,250	No
Residential care activities	£2,168	£28,161	29.5%	77,000	-6,000	Yes
Warehousing and support activities for transportation	£1,971	£28,363	-21.4%	69,500	27,500	Yes
Activities auxiliary to financial services and insurance activities	£1,099	£29,306	-9.2%	37,500	1,500	No
Retail trade, except of motor vehicles and motorcycles	£10,770	£30,994	0.9%	347,500	25,500	Yes

Sub-sectors with high job growth

Top sub-sectors by growth in the number of jobs (>1,000) for C&W (2016)

Sub-sector	GVA (£m)	GVA per job	GVA per job growth	LQ	Jobs	Job change	Sector
Legal and accounting activities	£463	£23,727	-35.4%	1.69	19,500	10,500	Other commercial services
Human health activities	£1,277	£34,978	-19.6%	0.96	36,500	10,000	Health and social care
Food and beverage service activities	£700	£21,864	22.4%	1.10	32,000	8,000	Visitor economy
Warehousing and support activities for transportation	£338	£26,006	-22.3%	1.51	13,000	6,000	Logistics and distribution
Retail trade, ex. motor vehicles and motorcycles	£1,467	£28,205	-1.8%	1.10	52,000	4,000	Retail
Education	£1,026	£28,123	-20.1%	0.85	36,500	4,000	Public services
Activities of head offices; management consultancy activities	£429	£28,598	14.5%	1.17	15,000	3,500	Other commercial services
Office administrative, office support and other business support activities	£512	£56,856	3.6%	1.04	9,000	3,000	Finance and business services
Employment activities	£345	£17,261	-12.4%	1.25	20,000	3,000	Finance and business services
Services to buildings and landscape activities	£607	£55,154	82.1%	0.95	11,000	2,500	Finance and business services
Architectural and engineering activities; technical testing and analysis	£585	£45,019	-8.6%	1.41	13,000	2,500	Energy and environment
Land transport and transport via pipelines	£472	£44,940	-33.3%	1.06	10,500	2,500	Logistics and distribution
Accommodation	£250	£27,804	-1.5%	1.15	9,000	2,500	Visitor economy
Sports activities and amusement and recreation activities	£68	£9,776	-35.0%	0.91	7,000	2,000	Other commercial services
Other professional, scientific and technical activities	£161	£43,034	-32.9%	0.98	3,750	1,750	Other commercial services
Real estate activities	£3,351	£418,889	-14.1%	0.92	8,000	1,500	Other commercial services
Manufacture of motor vehicles, trailers and semi-trailers	£825	£103,158	29.9%	3.00	8,000	1,500	Manufacturing, and energy and environment
Waste collection, disposal and remediation activities	£202	£53,571	-42.7%	1.68	3,775	1,400	Other commercial services
Computer programming, consultancy and related activities	£575	£60,529	-33.8%	0.84	9,500	1,000	Digital

Sub-sectors with high job growth

Top sub-sectors by growth in the number of jobs for Cheshire East (2016)

Sub-sector	Jobs	Job change	LQ	Sector
Legal and accounting activities	8,000	3,750	1.81	Other commercial services
Food and beverage service activities	12,500	3,500	1.12	Visitor economy
Land transport and transport via pipelines	5,500	2,000	1.45	Logistics and distribution
Activities of head offices; management consultancy activities	7,000	2,000	1.43	Other commercial services
Education	13,500	2,000	0.82	Public services
Human health activities	13,500	2,000	0.92	Health and social care
Warehousing and support activities for transportation	4,500	1,750	1.37	Logistics and distribution
Accommodation	4,000	1,500	1.33	Visitor economy
Services to buildings and landscape activities	3,250	1,500	0.73	Finance and business services
Architectural and engineering activities; technical testing and analysis	4,000	1,250	1.14	Energy and environment
Employment activities	6,000	1,250	0.98	Finance and business services
Waste collection, treatment and disposal activities; materials recovery	1,125	800	1.36	Other commercial services
Manufacture of basic pharmaceutical products and pharmaceutical preparations	3,000	750	13.40	Life Sciences (including pharmaceuticals)
Construction of buildings	2,375	750	0.86	Construction
Computer programming, consultancy and related activities	5,000	750	1.15	Digital
Other professional, scientific and technical activities	1,500	750	1.02	Other commercial services
Civil engineering	2,125	625	1.48	Construction
Activities of membership organisations	1,375	575	0.96	Other commercial services
Manufacture of motor vehicles, trailers and semi-trailers	4,500	500	4.40	Manufacturing, and energy and environment
Activities auxiliary to financial services and insurance activities	3,250	500	1.14	Other commercial services

Sub-sectors with high job growth

Top sub-sectors by growth in the number of jobs for Cheshire West and Chester (2016)

Sub-sector	Jobs	Job change	LQ	Sector
Legal and accounting activities	7,500	4,750	1.86	Other commercial services
Retail trade, except of motor vehicles and motorcycles	21,500	3,000	1.30	Retail
Warehousing and support activities for transportation	4,500	3,000	1.51	Logistics and distribution
Human health activities	12,000	3,000	0.90	Health and social care
Office administrative, office support and other business support activities	4,000	2,375	1.33	Finance and business services
Food and beverage service activities	11,000	2,000	1.08	Visitor economy
Sports activities and amusement and recreation activities	2,750	1,625	1.04	Other commercial services
Activities of head offices; management consultancy activities	4,250	1,250	0.93	Other commercial services
Architectural and engineering activities; technical testing and analysis	3,500	1,125	1.09	Energy and environment
Services to buildings and landscape activities	2,375	1,125	0.60	Finance and business services
Education	15,500	1,000	1.03	Public services
Accommodation	4,000	750	1.46	Visitor economy
Real estate activities	3,000	750	0.97	Other commercial services
Other professional, scientific and technical activities	1,375	625	1.04	Other commercial services
Land transport and transport via pipelines	2,750	500	0.81	Logistics and distribution
Computer programming, consultancy and related activities	2,375	500	0.62	Digital
Residential care activities	3,500	500	0.87	Health and social care
Veterinary activities	750	475	2.13	Other commercial services
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	550	360	1.17	Manufacturing, and energy and environment
Manufacture of motor vehicles, trailers and semi-trailers	3,000	250	3.18	Manufacturing, and energy and environment

Sub-sectors with high job growth

Top sub-sectors by growth in the number of jobs for Warrington (2016)

Sub-sector	Jobs	Job change	LQ	Sector
Legal and accounting activities	11,000	9,125	3.46	Other commercial services
Employment activities	10,500	3,500	2.38	Finance and business services
Human health activities	9,000	3,500	0.85	Health and social care
Food and beverage service activities	8,000	2,000	0.99	Visitor economy
Retail trade, except of motor vehicles and motorcycles	12,000	1,000	0.92	Retail
Warehousing and support activities for transportation	3,750	750	1.57	Logistics and distribution
Activities auxiliary to financial services and insurance activities	1,375	625	0.67	Other commercial services
Real estate activities	1,875	625	0.80	Other commercial services
Manufacture of fabricated metal products, except machinery and equipment	1,625	500	1.20	Manufacturing, and energy and environment
Land transport and transport via pipelines	2,750	500	1.01	Logistics and distribution
Activities of head offices; management consultancy activities	3,750	500	1.05	Other commercial services
Architectural and engineering activities; technical testing and analysis	5,500	500	2.17	Energy and environment
Education	7,000	500	0.59	Public services
Activities of membership organisations	1,000	400	0.93	Other commercial services
Waste collection, treatment and disposal activities; materials recovery	1,625	375	2.78	Other commercial services
Travel agency, tour operator and other reservation service and related activities	900	350	2.13	Other commercial services
Manufacture of motor vehicles, trailers and semi-trailers	375	340	0.56	Manufacturing, and energy and environment
Accommodation	1,125	325	0.51	Visitor economy
Civil engineering	1,250	250	1.20	Construction
Wholesale and retail trade and repair of motor vehicles and motorcycles	2,750	250	1.09	Other commercial services

Productivity tables

Manufacturing sub-sectors by productivity (2016)

SIC2 sub-sector(s)	GVA (£m)	GVA per job	GVA per job growth	LQ	Jobs	Job change
Other transport equipment	£150	£250,235	24.0%	0.27	600	-150
Wearing apparel and leather products	£17	£173,633	552.1%	0.16	100	-315
Motor vehicles, trailers and semi-trailers	£825	£103,158	29.9%	3.00	8,000	1,500
Other manufacturing	£55	£84,852	70.6%	0.54	650	-150
Other non-metallic mineral products	£95	£84,433	-2.0%	0.91	1,125	-375
Furniture	£38	£68,710	-36.2%	0.38	550	150
Basic and fabricated metal products	£401	£64,224	-2.6%	1.02	6,250	700
Rubber and plastic products	£108	£57,741	-19.0%	0.77	1,875	-250
Electrical equipment	£60	£53,565	43.6%	0.92	1,125	325
Machinery and equipment	£89	£50,777	-8.3%	0.65	1,750	-625
Textiles	£23	£49,456	-17.3%	0.56	475	50
Repair and installation of machinery and equipment	£70	£43,369	10.8%	0.77	1,625	-125
Computer, electronic and optical products	£69	£42,740	53.3%	0.87	1,625	0
Wood and paper products	£103	£39,298	-30.7%	1.22	2,625	675
Food products	£237	£33,851	29.3%	1.14	7,000	500
Printing and reproduction of recorded media	£46	£30,641	20.6%	0.83	1,500	-500
Beverages and tobacco products	£12	£25,803	9.5%	0.79	475	100
Total	£2,401	£57,164	12.5%	1.00	37,350	1,510

Chemicals sector by productivity (2016)

SIC2 sub-sector(s)	GVA (£m)	GVA per job	GVA per job growth
Manufacture of petroleum, chemicals and pharmaceuticals	£5,011	£646,559	58.4%

Energy and environment sub-sectors by productivity (2016)

SIC2 sub-sector(s)	GVA (£m)	GVA per job	GVA per job growth
Manufacture of petroleum, chemicals and pharmaceuticals	£5,011	£646,559	58.4%
Scientific research and development	£584	£292,111	112.2%
Electricity, gas, steam and air conditioning supply	£341	£227,425	138.0%
Manufacture of motor vehicles, trailers and semi-trailers	£825	£103,158	29.9%
Architecture and engineering activities; technical testing and analysis	£585	£45,019	-8.6%
Total	£7,347	£158,286	43.9%

Life sciences sub-sectors by productivity (2016)

SIC2 sub-sector(s)	GVA (£m)	GVA per job	GVA per job growth
Manufacture of petroleum, chemicals and pharmaceuticals	£5,011	£646,559	58.4%
Scientific research and development	£584	£292,111	112.2%
Total	£5,595	£573,852	93.1%

Finance and business services sub-sectors by productivity (2016)

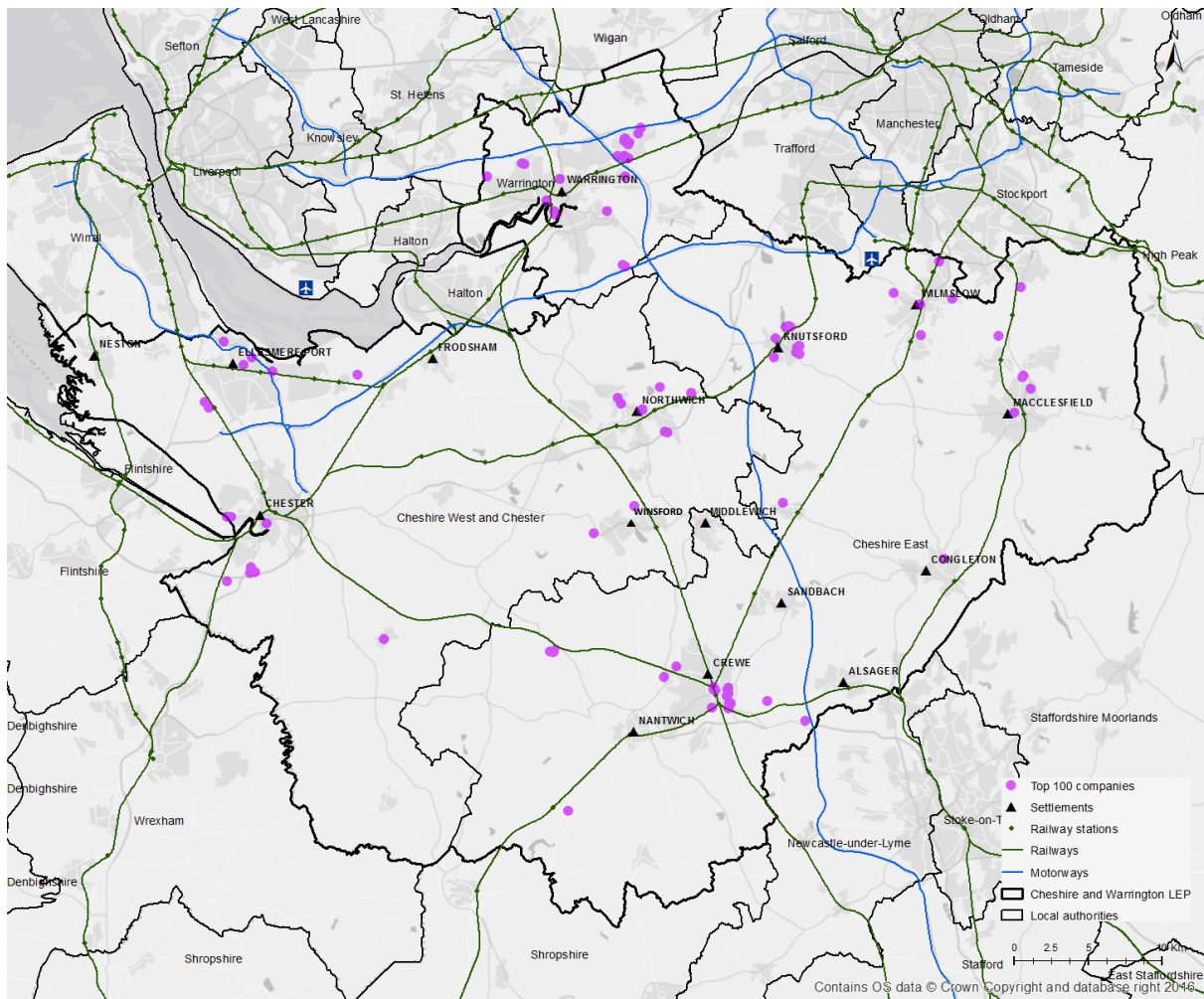
SIC2 sub-sector(s)	GVA (£m)	GVA per job	GVA per job growth	LQ	Jobs	Job change
Financial services	£1,377	£101,985	-7.8%	1.64	13,500	0
Rental and leasing activities	£175	£77,624	55.8%	0.88	2,250	-500
Travel, tour and reservation services	£155	£68,999	-12.5%	1.37	2,250	750
Office administration/support and business support	£512	£56,856	3.6%	1.04	9,000	3,000
Services to buildings and landscaping activities	£607	£55,154	82.1%	0.95	11,000	2,500
Insurance, pension funding and auxiliary financial activities	£415	£52,657	-1.3%	0.86	7,875	375
Employment activities	£345	£17,261	-12.4%	1.25	20,000	3,000
Security and investigation activities	£52	£16,028	-3.8%	0.98	3,250	0
Total	£3,637	£52,616	1.0%	1.13	69,125	9,125

Logistics and distribution sub-sectors by productivity (2016)

SIC2 sub-sector(s)	GVA (£m)	GVA per job	GVA per job growth	LQ	Jobs	Job change
Water and air transport	£18	£183,846	-50.1%	0.05	100	40
Land transport and transport via pipelines	£472	£44,940	-33.3%	1.06	10,500	2,500
Postal and courier activities	£217	£43,306	-8.4%	1.28	5,000	0
Warehousing and support activities for transportation	£338	£26,006	-22.3%	1.51	13,000	6,000
Total	£1,045	£36,534	-29.0%	1.20	28,600	8,540

Top 100 companies

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



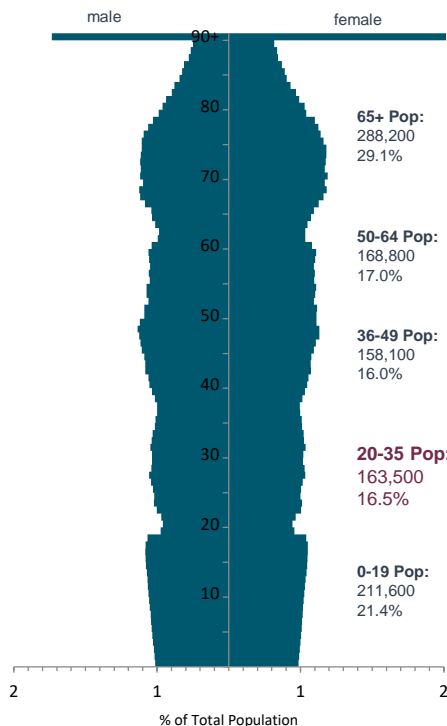
Cheshire East	Cheshire West and Chester	Warrington
API GROUP	ARDAGH METAL BEVERAGE TRADING	AGHOCO 1079
ASTRAZENECA	CALDER FINCO	AUSURUS GROUP
BAE SYSTEMS	CF FERTILISERS	BETFRED GROUP
BARGAIN BOOZE	CREST PLUS EXCHANGE	CERTAS ENERGY
BENTLEY MOTORS	DECHRA PHARMACEUTICALS	DONE BROTHERS
BIBENDUM	ECOLAB	EDDIE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

This output is from the SEP evidence base and uses the most up-to-date data at the time.

Population pyramids – 2039 projections

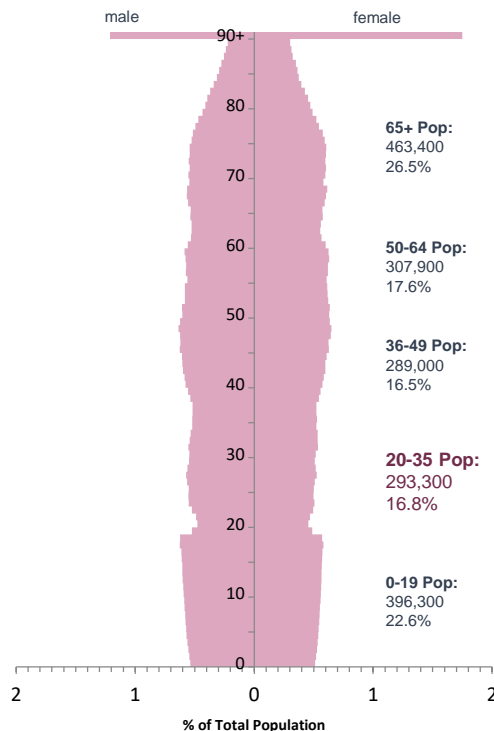
Population pyramids for 2039 projections by LEP

Cheshire and Warrington



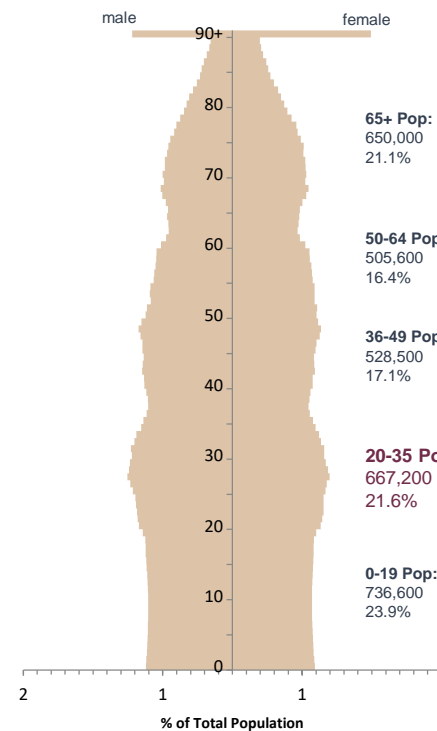
Total Population:
990,300

Enterprise M3



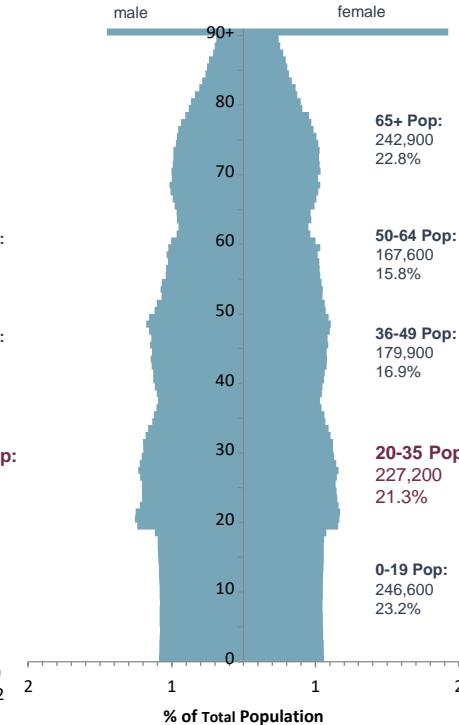
Total Population:
1,749,900

Greater Manchester



Total Population:
3,087,900

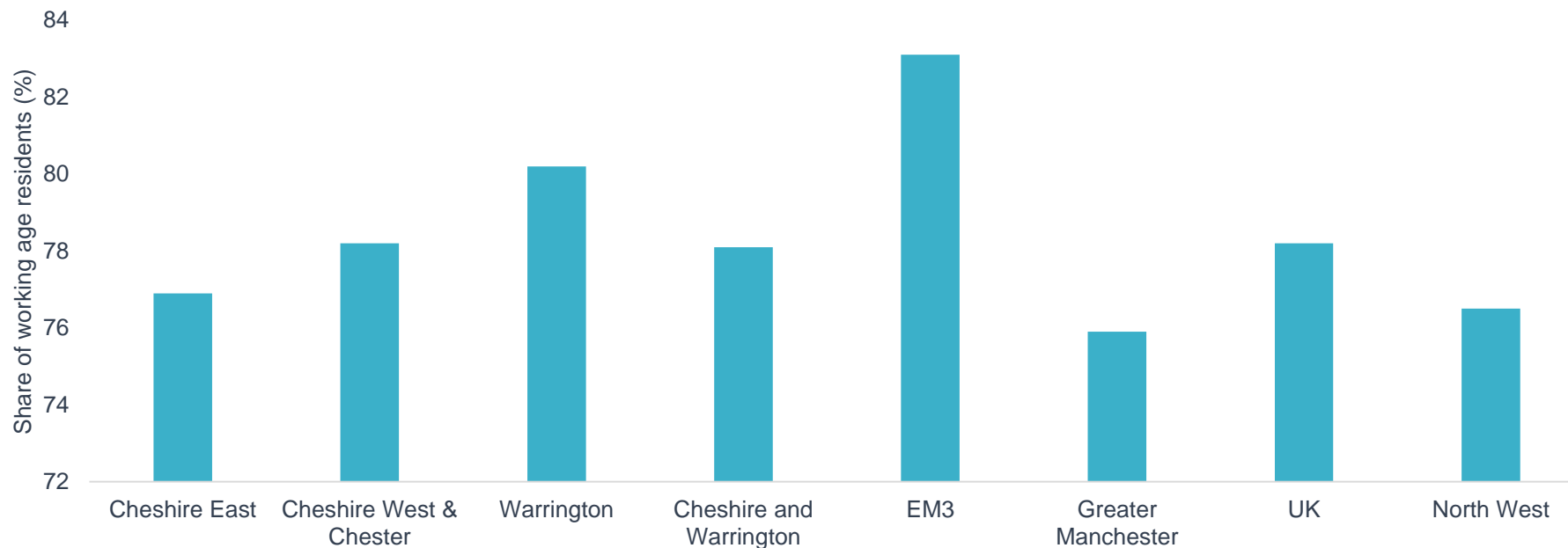
Coventry and Warwickshire



Total Population:
1,064,200

Level of economic activity

Economic activity rate (2017)



The above graph compares the economic activity rates of Cheshire and Warrington with EM3, Greater Manchester, the UK, North West and its three component authorities.

Warrington and Cheshire West & Chester possess greater or equal levels of economic activity to the UK as a whole. However, economic activity in Cheshire East brings down Cheshire and Warrington’s overall economic activity to 78.1% which just trails the UK rate of

78.2%.

Although Cheshire and Warrington’s economic activity rate is on par with the UK, comparison with the North West demonstrates that it is higher than the regional rate of 76.5%. Notwithstanding, comparisons with other LEPs find that economic activity exceeds Greater Manchester (75.9%) by 2.2% but trails EM3 (83.1%) by a substantial 5%.

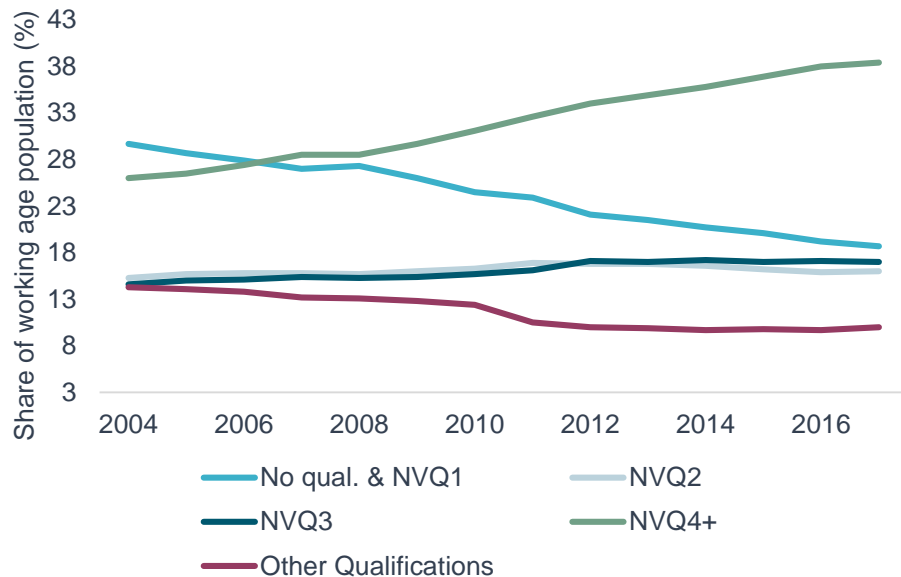
If Cheshire and Warrington seeks to lift its

economic activity underutilized parts of the population need to be identified. One such source is the high proportion of early retirees in the area.

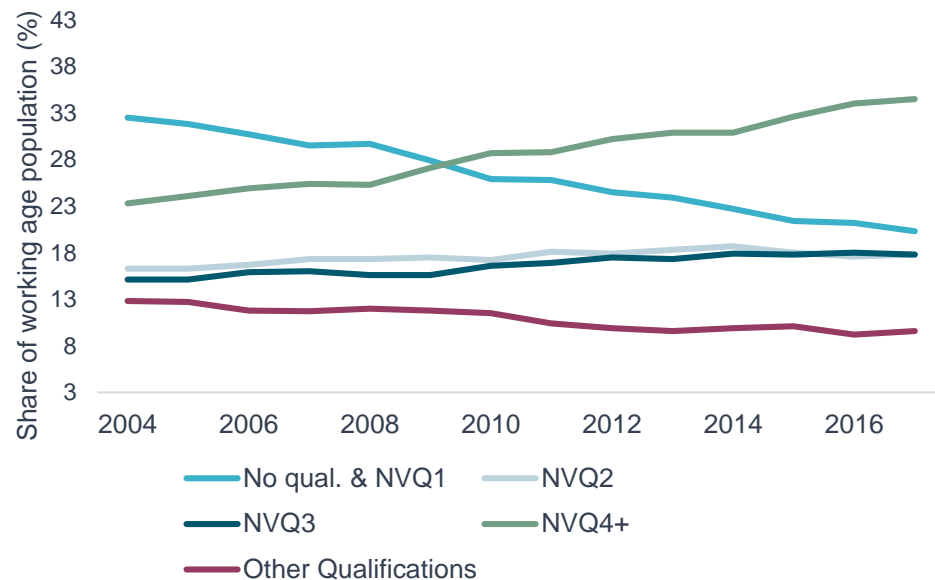
If part-time or work from home roles can be developed for this segment of the population, engagement of this workforce is likely to present an opportunity for Cheshire and Warrington.

Skills profile trends

Qualifications level change in the UK (2004-17)

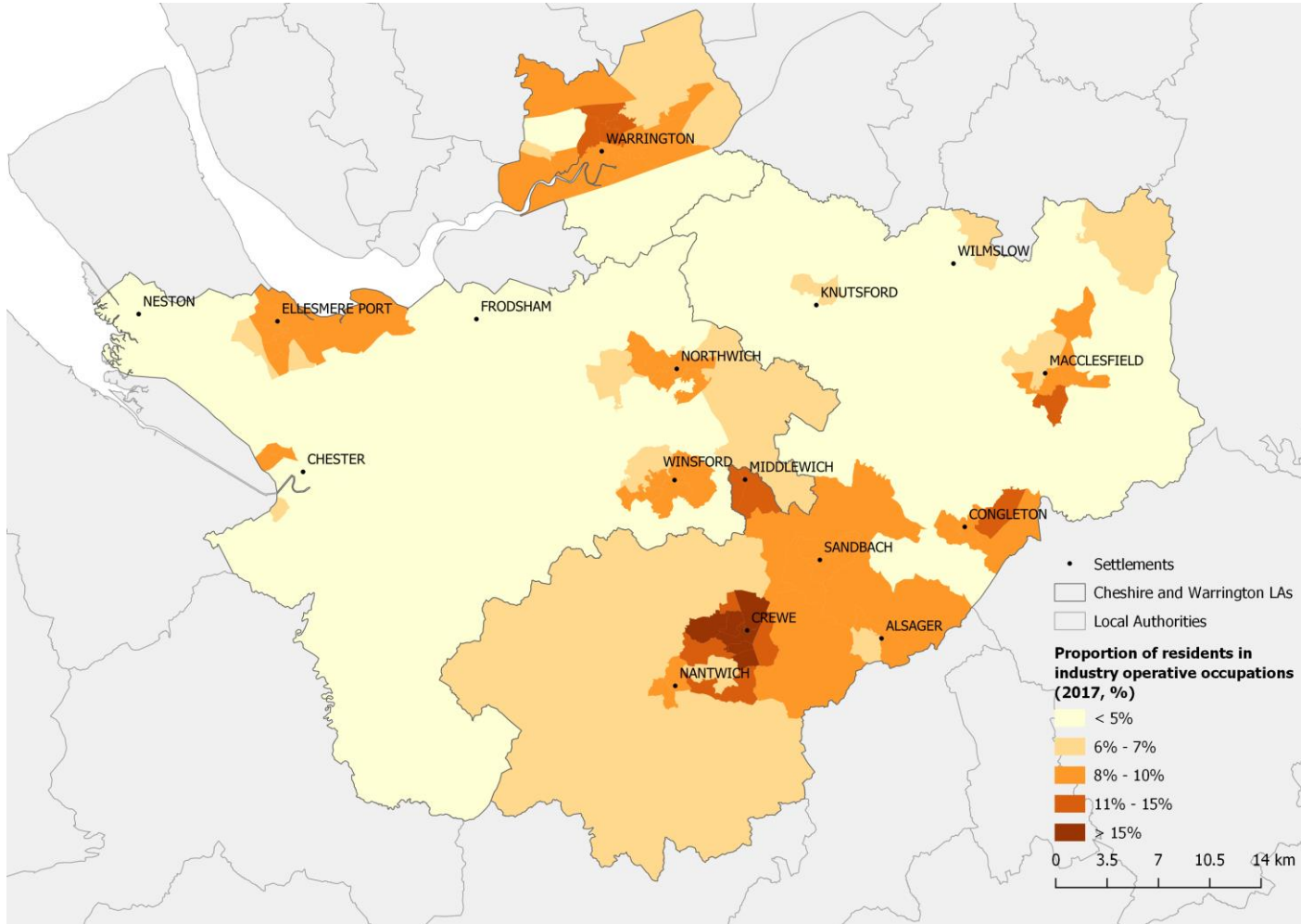


Qualifications level change in the NW (2004-17)



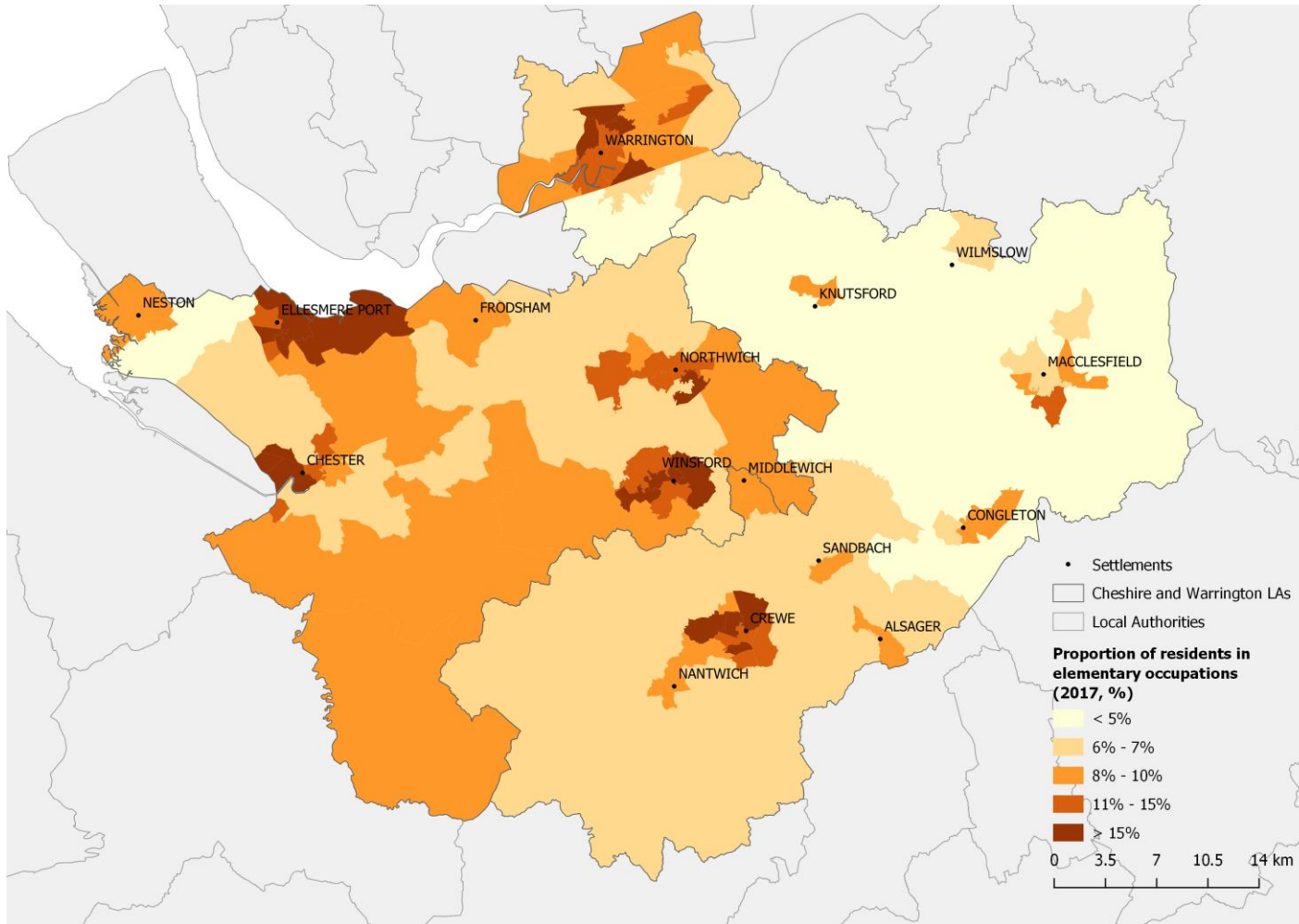
Spatial distribution of industry operatives

Residents in industry operative occupations (2017)



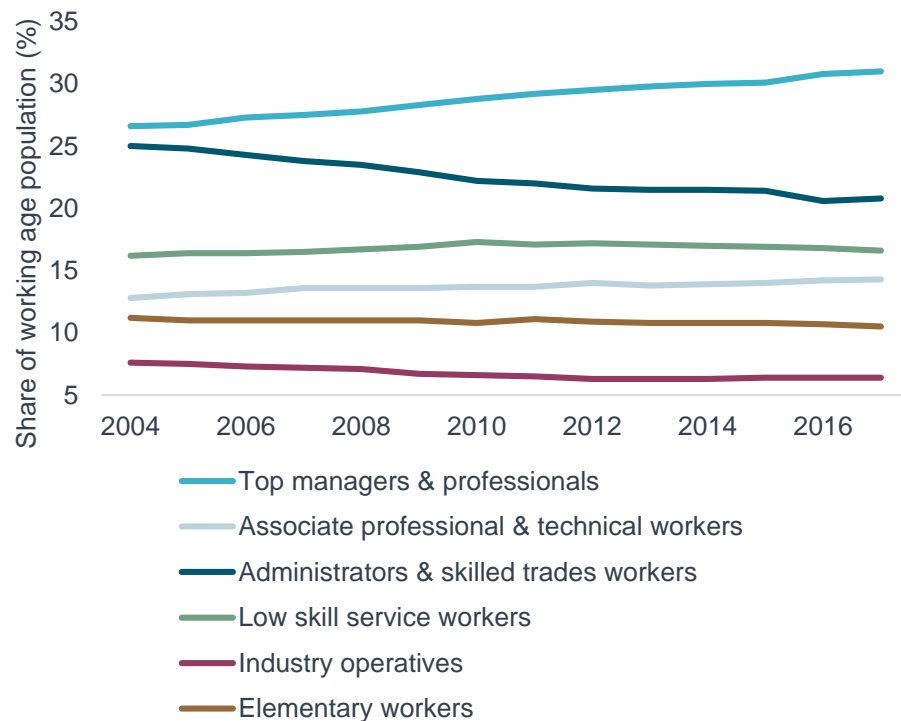
Spatial distribution of elementary workers

Residents in elementary occupations (2017)

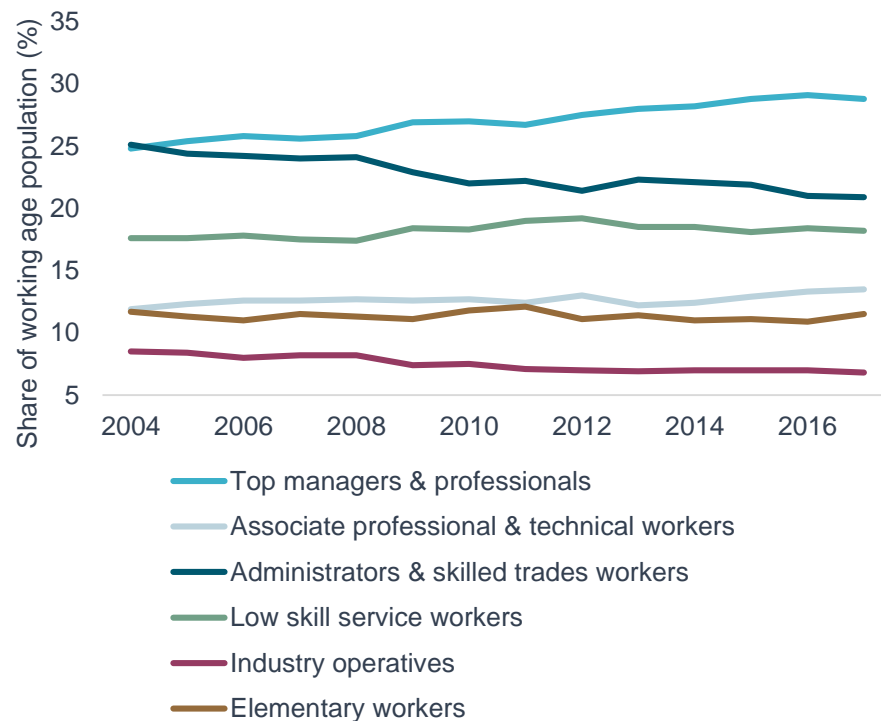


Occupations profile trends

Occupational change in the UK (2004-17)

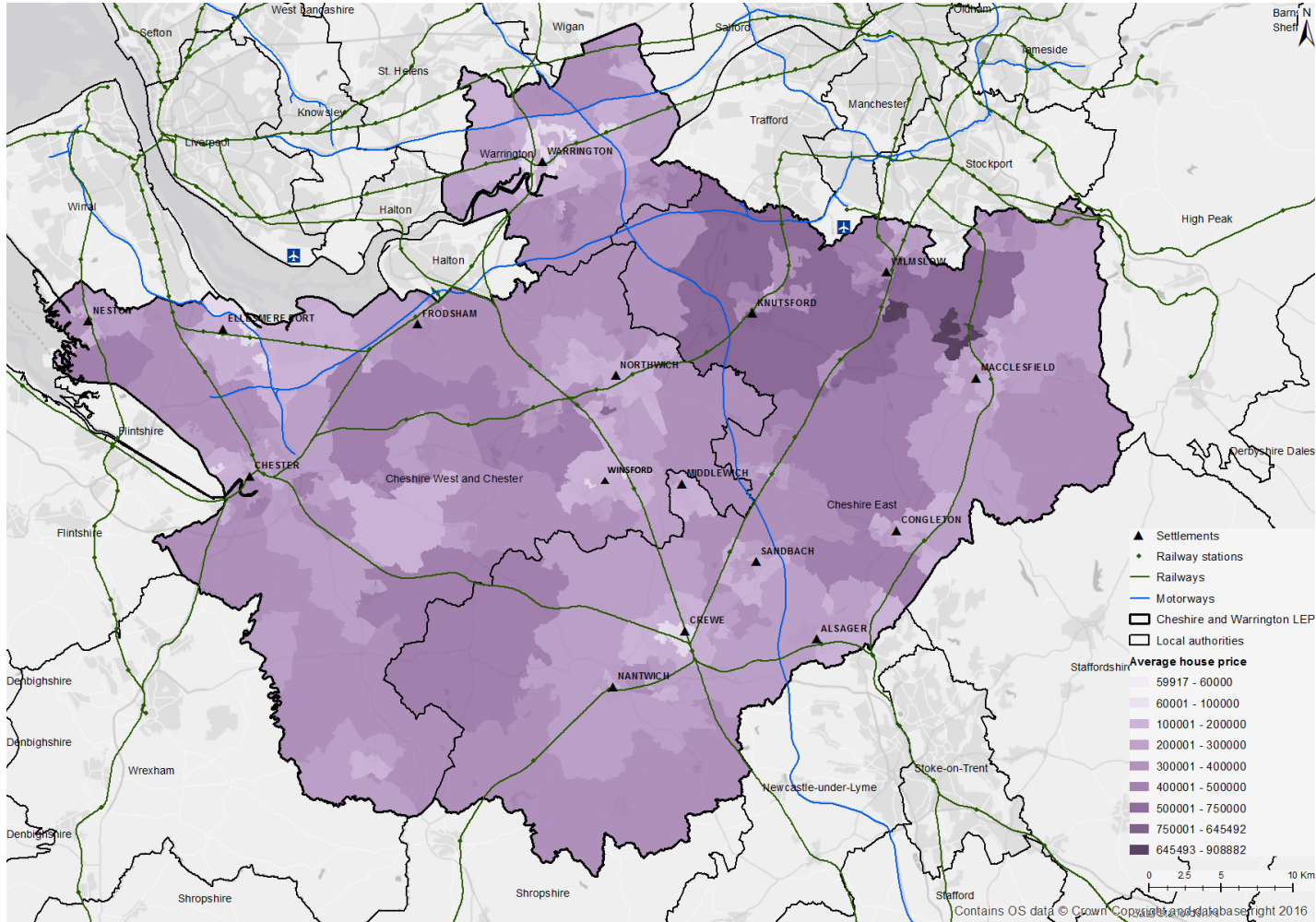


Occupational change in the NW (2004-17)



Average house prices

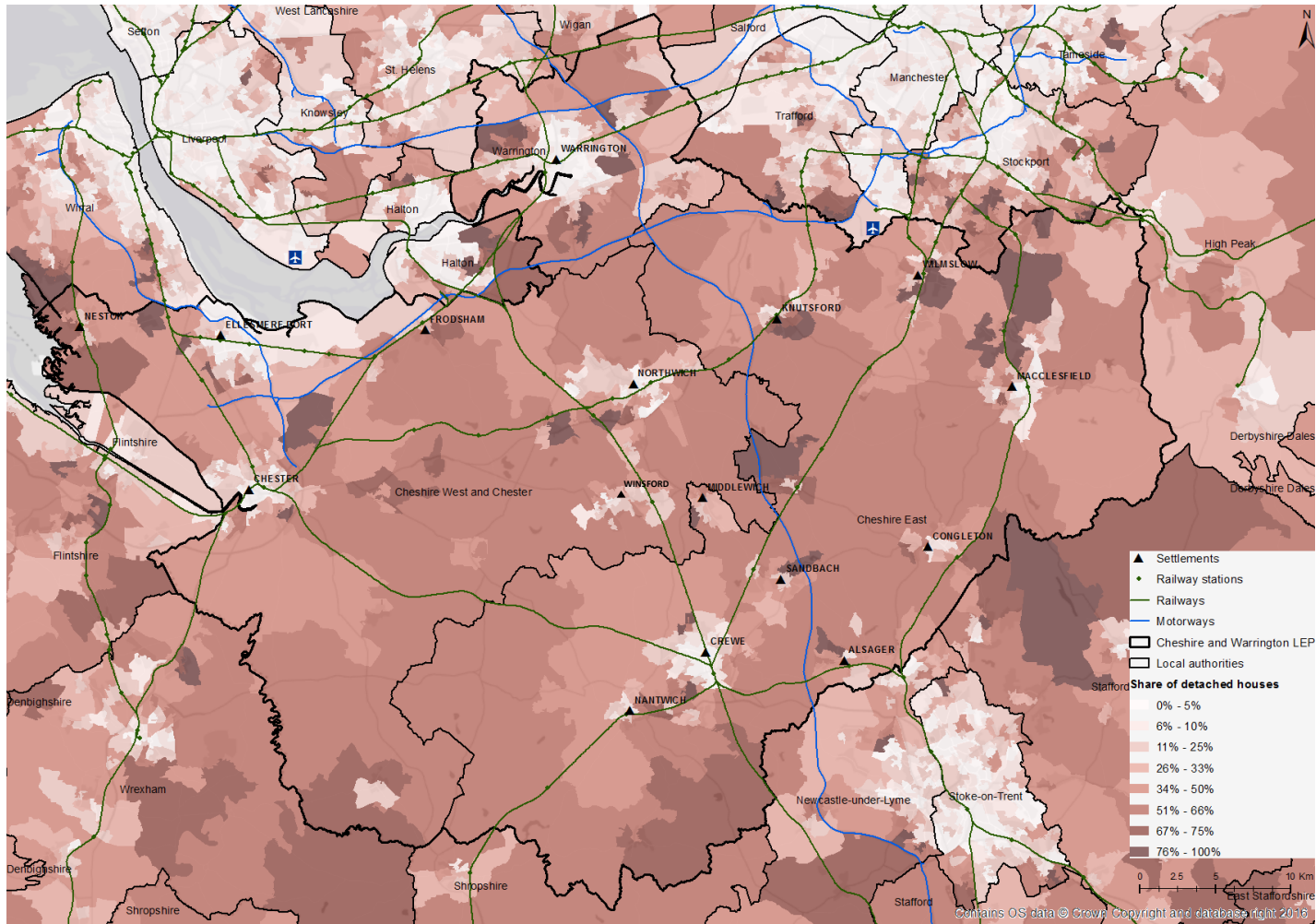
Average house prices (2015)



This output is from the SEP evidence base and uses the most up-to-date data at the time.

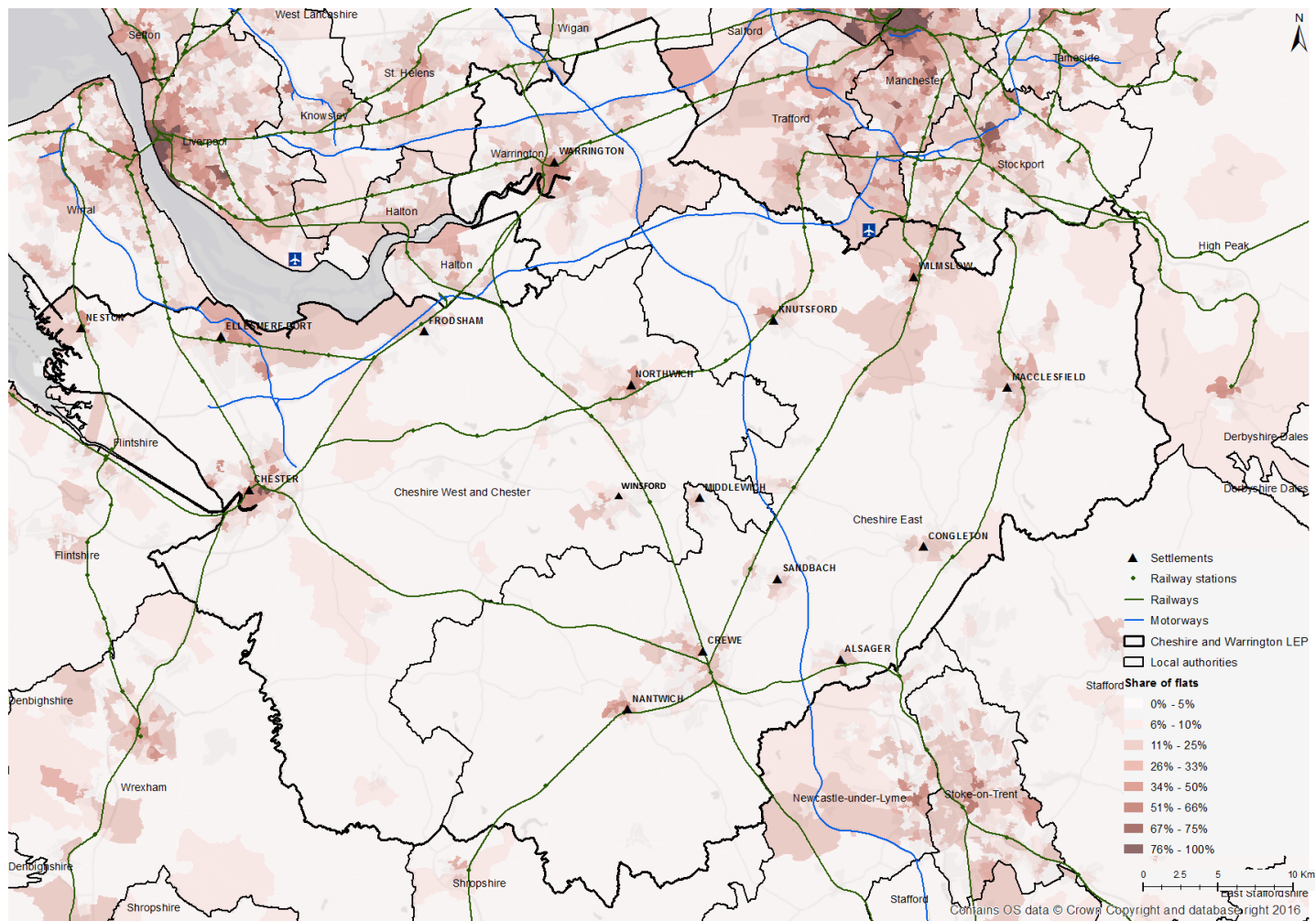
Share of detached houses

Share of detached houses (2011)



Share of flats

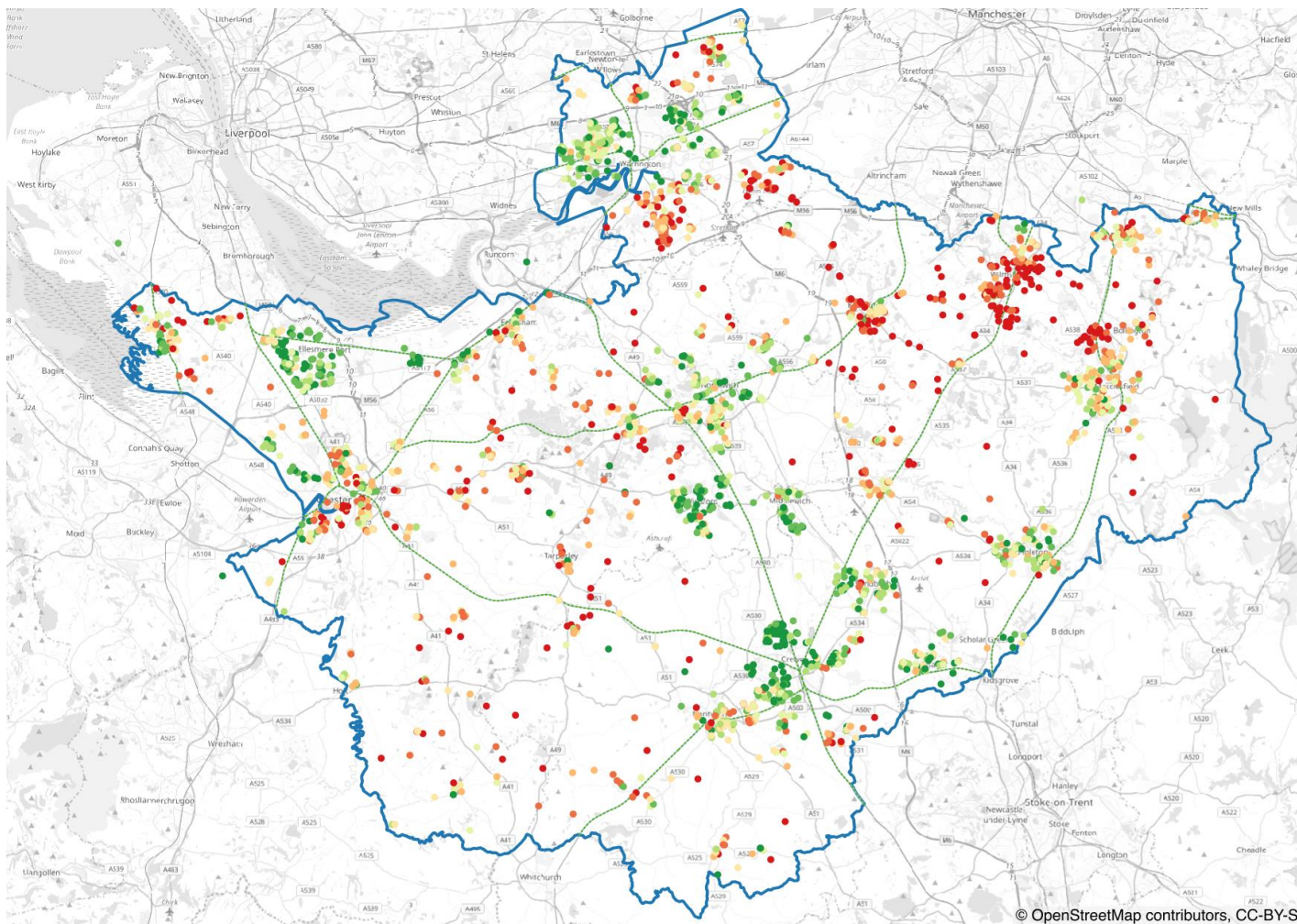
Share of flats (2011)



This output is from the SEP evidence base and uses the most up-to-date data at the time.

Detached house prices

House prices: detached (2016)



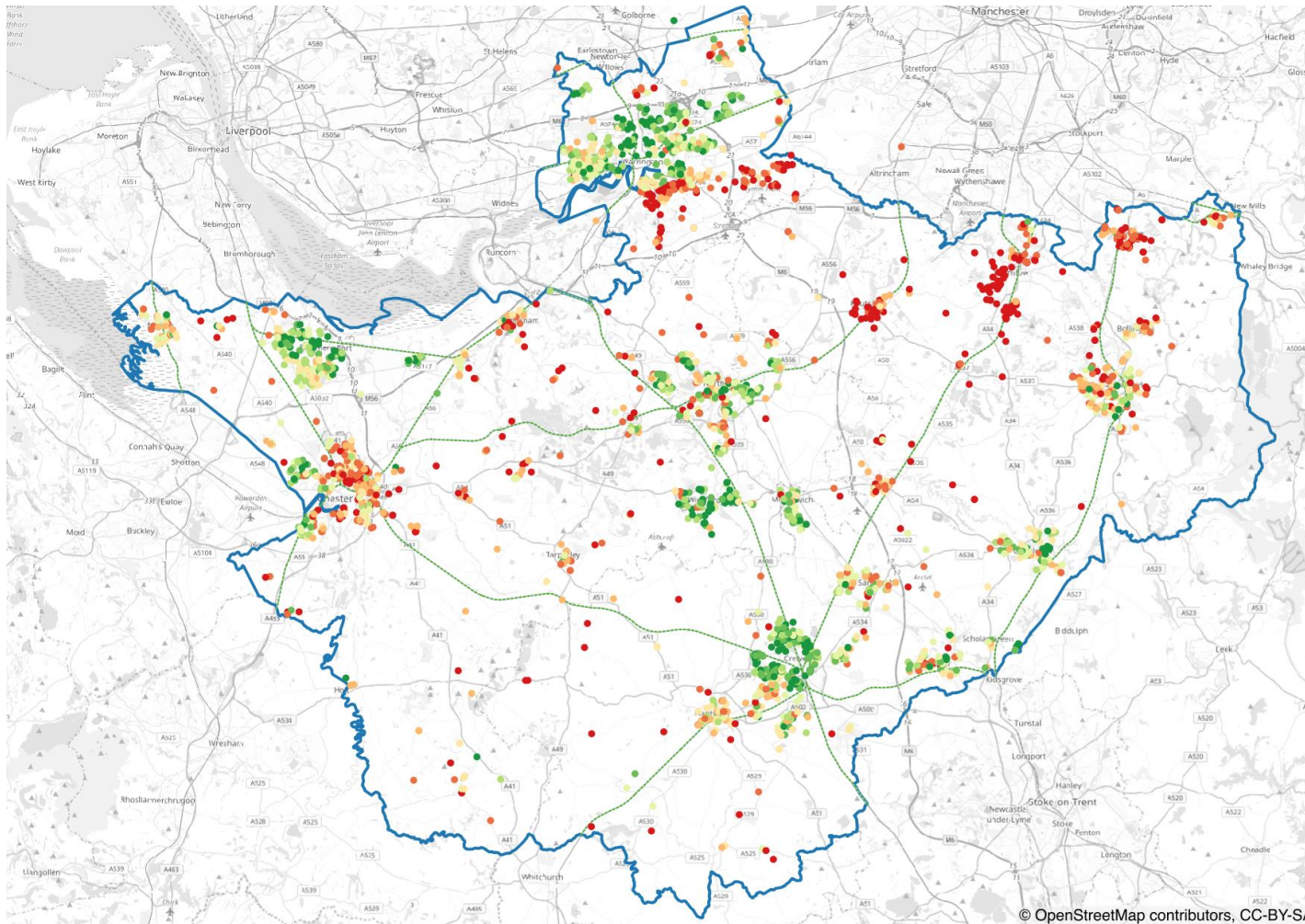
House prices:
detached, quantile
(8 classes)

- 71000 - 185201
- 185201 - 222000
- 222000 - 257000
- 257000 - 295000
- 295000 - 344812
- 344812 - 419998
- 419998 - 550000
- 550000 - 4200000

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Semi-detached house prices

House prices: semi-detached (2016)



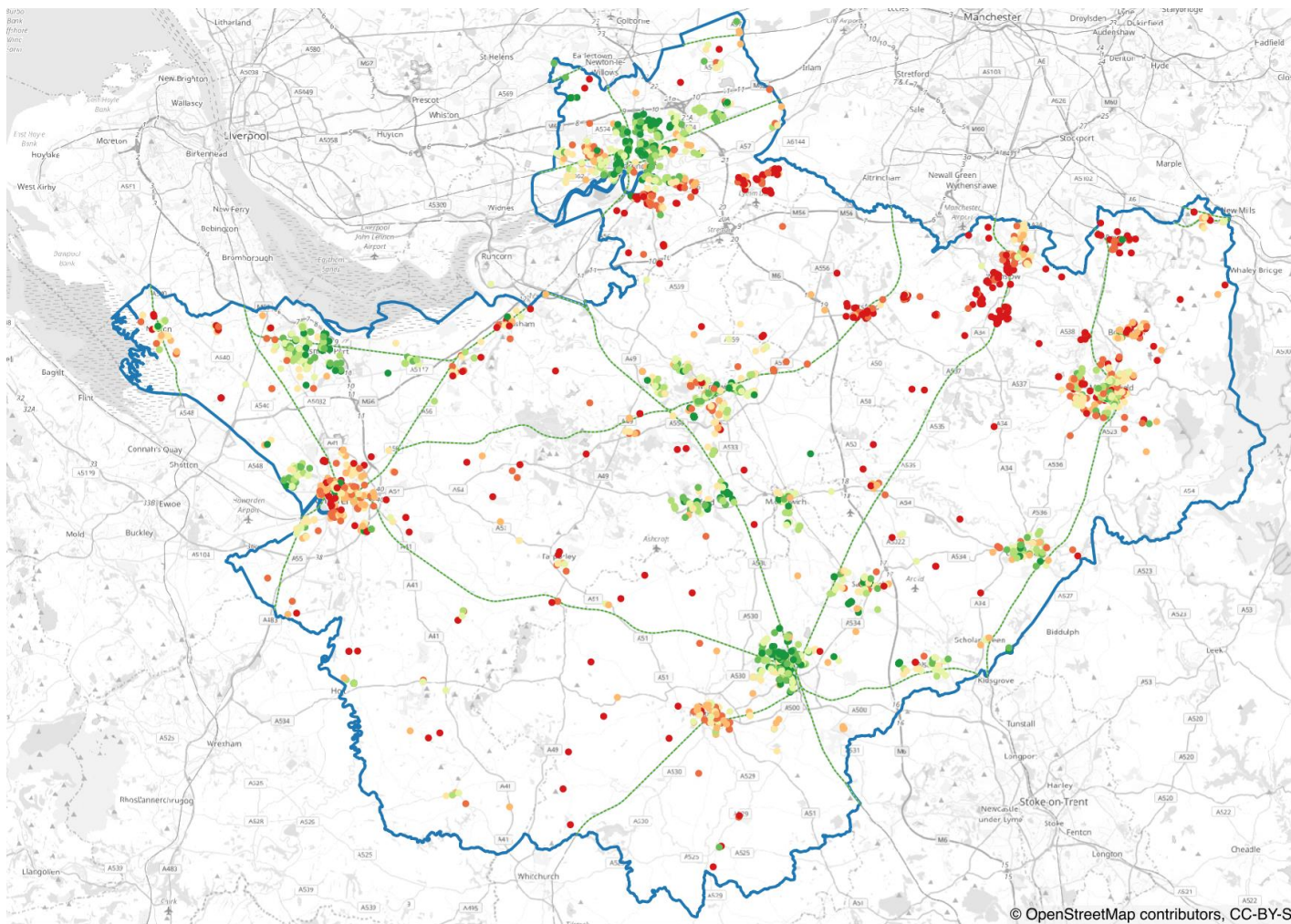
House prices:
semi-detached,
quantile (8 classes)

- 17325 - 116000
- 116000 - 132500
- 132500 - 149950
- 149950 - 165000
- 165000 - 187500
- 187500 - 222375
- 222375 - 275875
- 275875 - 1725000

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Terraced house prices

House prices: terraces (2016)



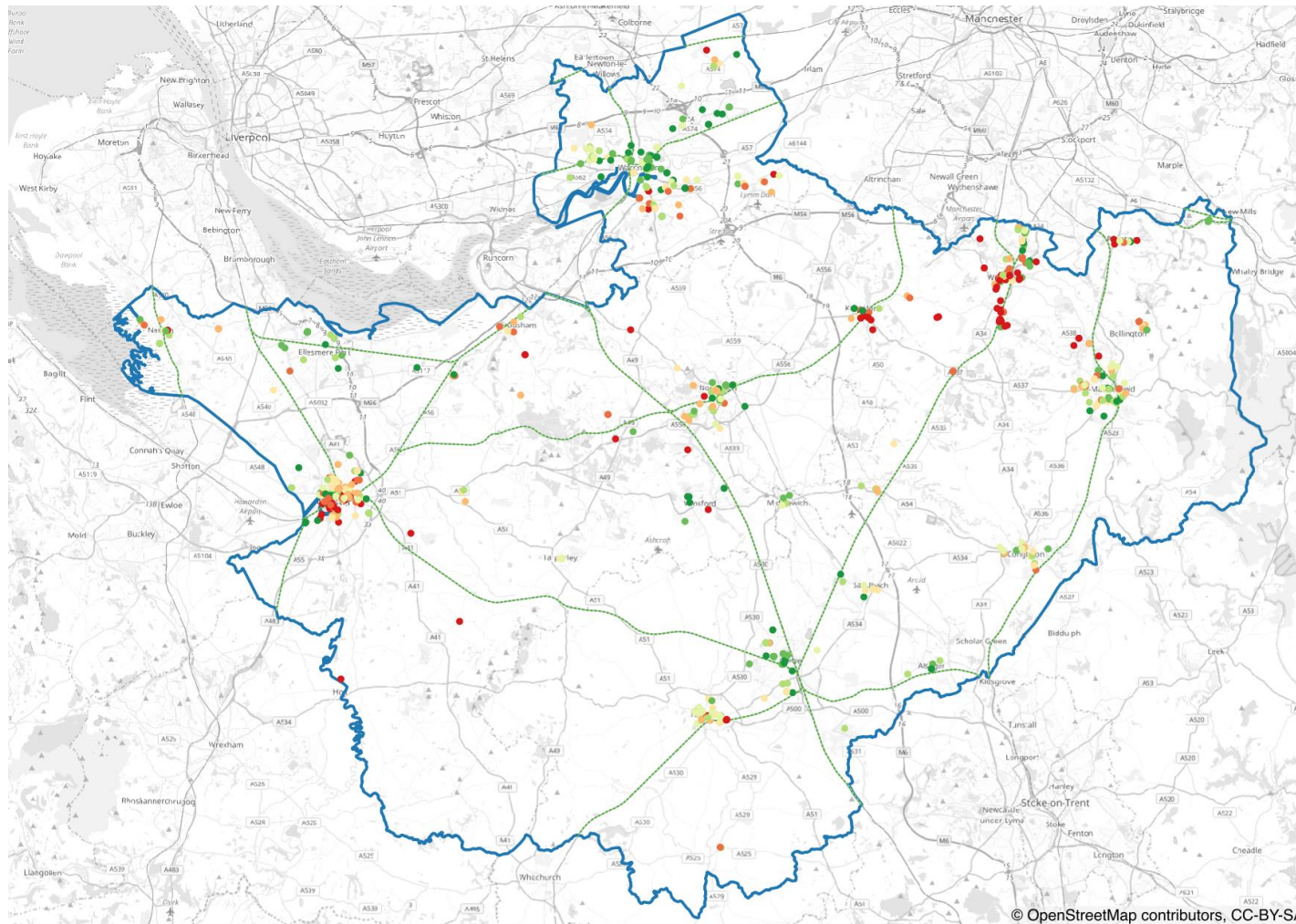
House prices:
terraced,
quantile (8 classes)

- 9060 - 81219
- 81219 - 97475
- 97475 - 114188
- 114188 - 130250
- 130250 - 155000
- 155000 - 182250
- 182250 - 238250
- 238250 - 285000

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Flats/maisonnettes house prices

House prices: flats/maisonnettes (2016)



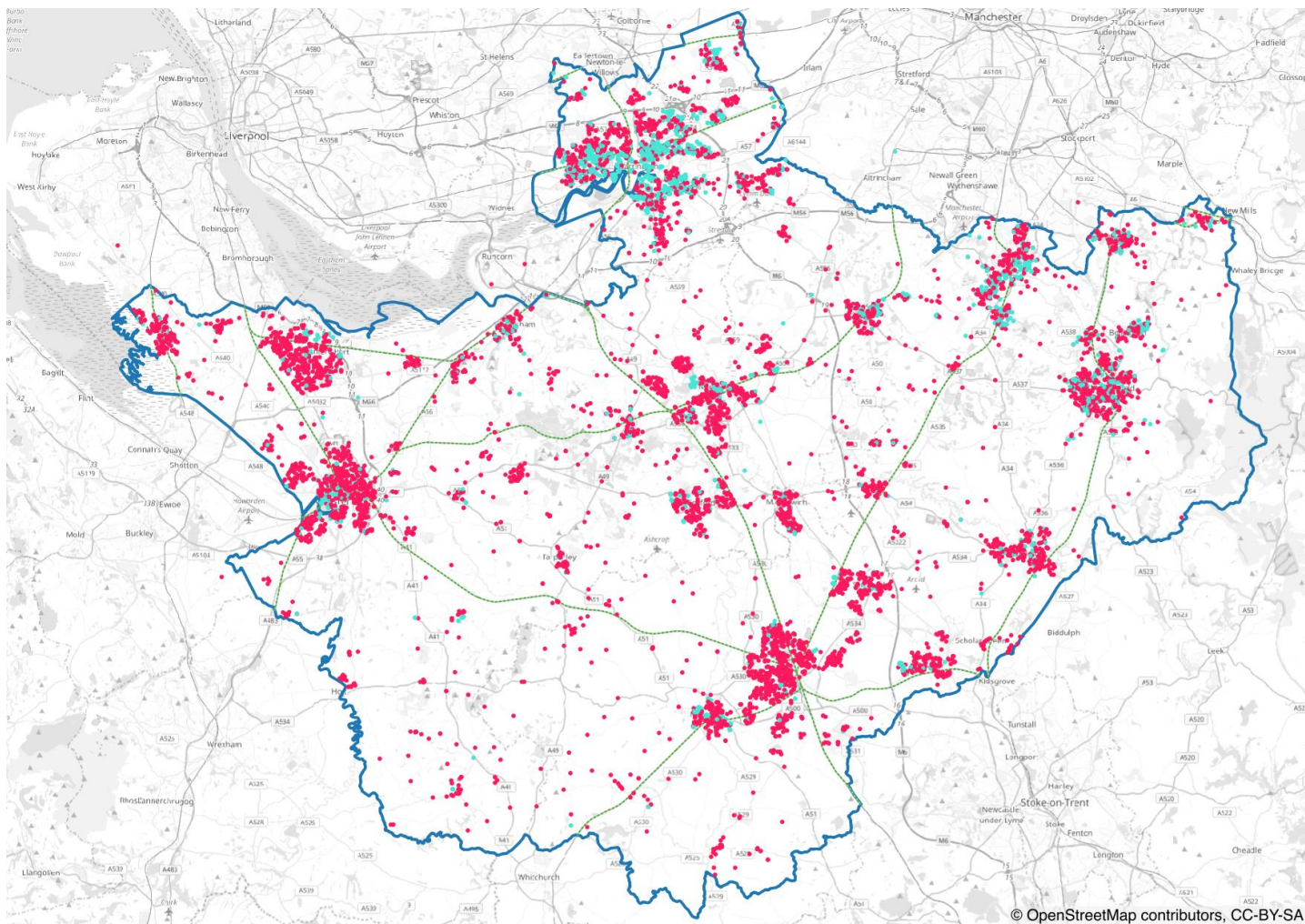
House prices:
flats/maisonnettes,
quantile (8 classes)

- 16500 - 72967
- 72967 - 85875
- 85875 - 103000
- 103000 - 118250
- 118250 - 134875
- 134875 - 160000
- 160000 - 194981
- 194981 - 745000

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Tenure

Tenure (2016)



LR 2016 – freehold and leasehold map

- leasehold
- freehold

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Metro — Dynamics

LONDON

3 Waterhouse Square
138 Holborn
EC1N 2SW

(+44) 0203 865 3082

MANCHESTER

Elliot House
151 Deansgate
M3 3WD

(+44) 0161 393 4364
