Community Resilience Index and 'less resilient areas' in Wales

Technical report

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Executive summary

The Wales Community Assets Index (WCAI) has been developed to compare the extent to which areas are experiencing challenges associated with poor community and civic infrastructure, relative isolation and low levels of participation. The WCAI is created by combining a series of indicators at MSOA level conceptualised under three domains:

- Civic Assets: Measures of the presence of key community, civic, educational and cultural assets in and in close proximity to the area.

- Connectedness: Measures of connectivity to key services, digital infrastructure, isolation and strength of the local jobs market.

- Active and engaged community: Measures concerning the levels of third sector civic and community activity and barriers to participation and engagement.

Geographic profile of Community Resilience

Gurnos, Trefechan & Pontsticill in Merthyr Tydfil is identified as having the lowest community resilience. 18 of the 20 MSOAs with the lowest levels of resilience on the WCAI are found in South Wales. Many of the areas with the lowest resilience are located in the Valleys, coastal communities and on the periphery of urban areas and are generally found in areas which rank as highly deprived on the Wales Index of Multiple Deprivation.

11 of the 20 areas with the highest resilience (lowest scores on the WCAI) are located in Cardiff (predominantly in central areas of the city and more affluent suburbs), with the highest assets in Peterston-super-Ely & Wenvoe which encompasses some of the rural areas to the West of Cardiff. The majority of the areas with low WCAI scores also have low levels of deprivation.

Location of 'less resilient' areas

'Less resilient' communities are identified as areas impacted by the dual disadvantage of:

1. High levels of deprivation
2. Social infrastructure challenges: Areas lacking in community and civic assets and experiencing relative isolation and low levels of participation.

The Wales Index of Multiple Deprivation (WIMD) 2019 has been used to identify areas with high levels of deprivation. A newly developed Wales Community Assets Index (WCAI) has been used to identify areas with social infrastructure challenges.

Less-resilient areas are conceptualised as MSOAs in Wales, which have high levels of need on both the WCAI and the Wales Index of Multiple Deprivation (WIMD) 2019, with those areas ranked in the top 25% in Wales (ranked 1-102) identified as 'less-resilient areas'.[1]

There are 102 'less resilient' areas across Wales - these are referred to as LRAs throughout this report. The Local Authorities in the Valleys contain the highest proportion of LRAs, all of the MSOAs in Blaenau Gwent, more than 70% in Merthyr Tydfil (71.4%) and more than one-third in Rhondda Cynon Taf (35.5%) identified as 'less resilient'. These three Local Authorities between them contain 24.5% of all LRAs in Wales. A further 18.6% are located in outlying housing estates in the two large cities (Cardiff and Swansea). By contrast, there are relatively low concentrations of LRAs in rural and coastal areas of North and West Wales. Only 12% of LRAs are found in rural areas, in contrast to Wales as a whole, where 31.6% of the population live in areas classified as *Rural.*

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[1] See Appendix E: Methodology for Producing a Community Resilience Index for Wales. *Step 13 Identifying at less-resilient areas* for more details.

The majority of people in LRAs are living in areas categorised as 'Hard-pressed living' according to the Output Area Classification (OAC). These are areas that are mostly on the fringe of the UK's urban areas and are characterised by high levels of people in terraced accommodation, high unemployment, low ethnic diversity and high levels of people employed in manufacturing. 59% of people living in LRAs live in areas classified as 'Hard-pressed living', compared with 33% in other deprived areas and 33% across Wales.

Key facts and figures

Population

There are **818,494** people living in LRAs, of whom **49.1%** are male and **50.9%** are female. LRAs have a relatively youthful population with just under one-in-five people in LRAs (19.9%) aged under 16 – above the average in other deprived areas (17.7%) and Wales as a whole (17.8%).

LRAs have experienced a smaller population increase than their benchmarked areas, with the population remaining fairly stable between 2001 and 2003 before rising steadily, albeit at a slower rate than the comparator areas.

LRAs are less ethnically diverse than other deprived areas of Wales, with a lower proportion of people identifying as White non-British (2.2%) or non-White (4.5%) than the average across other deprived areas (4.6% and 15.3% respectively), while the ethnic profile is similar to the average across Wales as a whole (2.4% and 4.4%).

People in LRAs are less likely to have Welsh language skills than the national average. This is likely to reflect the location of these areas, with high concentrations in the largely English-speaking Valleys.

LRAs are characterised as having higher levels of one-person households, cohabiting households and lone-parent family households compared with the national average.

Housing

People in LRAs are more likely to live in social rented housing with 26.1% of people in LRAs living in social rented housing, slightly above the proportion in other deprived areas (20.4%) and considerably above the proportion across Wales as a whole (16.5%).

The average property price in LRAs is lower for all property types both compared with the national average and lower than across other similarly deprived areas for all bar detached houses.

Economy

There are substantially fewer local jobs available in LRAs compared with other deprived areas, with 47 jobs per 100 working age adults in LRAs. This is just over half the average across other deprived areas (90 per 100 working age adults) and considerably below the average across Wales as a whole (69 per 100).

Available jobs in LRAs are less likely to be highly skilled (27%) than across other deprived areas (30.5%) and Wales as a whole (35.8%).

This is reflected in lower overall household incomes, the average annual household income in LRAs is more than £3,800 below the national average once housing costs are considered.

Employment and worklessness

Unemployment has been fluctuating between 2004 and 2022, with sharp rises during the financial crises of the late 2000s and the recent Covid-19 pandemic. As of June 2022, unemployment stands at 4.8% in LRAs, 5.6% in other deprived areas and 3.3% in Wales as a whole.

People in LRAs are more likely to experience wider worklessness (people involuntarily excluded from the labour market due to poor health or caring responsibilities) than other deprived areas and Wales as a whole. People in LRAs are considerably more likely to be in the Universal Credit *no work requirements* group (payable to those who are out of work due to long term illness or caring obligations) (7.1%) than across other deprived areas (5.9%) and Wales as a whole (4.6%).

Health

People living in LRAs can expect to live shorter and less healthy lives than the average across Wales, with a life expectancy of 76 years and healthy life expectancy of 64 years, compared with 78 and 68 years respectively across Wales.

The overall mortality rate is marginally higher in LRAs (1,188 per 100,000 people) than across other deprived areas (1,141 per 100,000 people) and Wales as a whole (1,039 per 100,000 people).

More than one-in-four (25.9%) of people in LRAs have a long-term illness, higher than across other deprived areas (22%) and Wales as a whole (22.7%).

This is reflected in the relatively high proportion of working age adults receiving benefits due to poor health and disability. LRAs have a considerably higher PIP claimant rate than across the benchmark areas, with 14.8% of working age adults in LRAs receiving PIP, compared with 11.4% in other deprived areas and 10.7% across Wales as a whole. Of these, approximately one-third are receiving these benefits due to mental health related conditions.

Crime

LRAs have a higher overall crime rate (129.6 per 1,000) than Wales as a whole (100 per 1,000), a pattern repeated across all major crime types. However, LRAs have lower levels of key crimes than other deprived areas on average. This is likely to be linked to their location in more peripheral areas (away from town centres and nightlife areas where various types of crime are more common).

Education and skills

More than one-in-three adults in LRAs hold no qualifications (34.2%), above the average in other deprived areas (27.7%) and Wales as a whole (25.9%). By contrast, just 16% of adults in LRAs hold a degree or higher qualifications, this is notably below the average in other deprived areas (21.7%) and Wales (24.5%).

This is mirrored in the educational outcomes for children - attainment levels amongst both primary school and secondary school children are lower in LRAs than the average across Wales. LRAs have lower attainment levels amongst secondary school children than both other deprived areas and Wales. This has led to a lower proportion of young adults entering Higher Education, with just 23.2% of Key Stage 4 leavers in LRAs entering Higher Education, compared with 23.8% in other deprived areas and 29.9% across Wales as a whole.

Access and services

Households in LRAs are less likely to own a car than the average across Wales - 31.7% of households in LRAs have no car or van, compared to 22.9% across Wales.

Community need and social infrastructure

LRAs have notably fewer third sector organisations - 325 per 100,000 population, and charity trustees – 838 per 100,000 (compared with the national average (459 and 1,366 respectively). It is also notable that LRAs perform below the national average and average for other deprived areas in terms of attracting funding from the National Lottery, foundations and grant funders and have been less successful in developing community owned businesses.

Introduction

This report explores the socio-economic characteristics and challenges in 'less resilient' communities across Wales. 'Less resilient' communities are identified as areas impacted by the dual disadvantage of:

1. High levels of deprivation
2. Social infrastructure challenges: Areas lacking in community and civic assets and experiencing relative isolation and low levels of participation.

The Wales Index of Multiple Deprivation (WIMD) 2019 has been used to identify areas with high levels of deprivation. A newly developed Wales Community Assets Index (WCAI) has been used to identify areas with social infrastructure challenges.

Areas ranked in the top 25% in Wales (ranked 1-102) identified as 'less-resilient' areas.
See Appendix E: Methodology for Producing a Community Assets Index for Wales - Step 13 Identifying at less-resilient areas for more details of how the combined WIMD and WCAI score has been created.

This report looks at the socio-economic needs of these 'less resilient' areas. The following themes are explored:
1. Introduction to the Community Resilience Index
2. Location of 'less resilient' areas
3. Population
4. Economy
5. Deprivation
6. Health
7. Crime
8. Education and Skills
9. Access and Transport
10. Community need and social infrastructure

The majority of information in the report is presented for 'less resilient' areas - the aggregate average score for all 102 LRAs. The figures for LRAs are benchmarked against the national average and the average across 'other deprived areas'. 'Other deprived areas' are areas that are ranked in the most deprived 20% on the 2019 Wales Indices of Deprivation, which were not identified as LRAs.

Each of the datasets included in the report are aggregated from standard statistical geographies (Output Areas, Lower-layer Super Output Areas, Middle Layer Super Output Areas and Wards) to individual LRAs, 'other deprived areas' and national geographies. The Output Area to MSOA look-up table[2] is used to apportion and aggregate data to these geographies.

Appendix B details each of the underlying indicators explored in this report.

We will explore the geographical distribution of the WCAI and the relationship between community resilience and deprivation in the next section, before going on to look in more detail at the socio-economic challenges experienced in the areas identified as 'less resilient'.

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[2] https://geoportal.statistics.gov.uk/datasets/ons::output-area-to-lsoa-to-msoa-to-local-authority-district-december-2017-lookup-with-area-classifications-in-great-britain/explore

Wales Community Assets Index

The Wales Community Assets Index (WCAI) aims to identify areas experiencing challenges associated with poor community and civic infrastructure, relative isolation and low levels of participation by combining a series of indicators, conceptualised under three domains:

● Civic Assets: Measures the presence of key community, civic, educational and cultural assets in and in close proximity to the area. These include youth clubs, libraries, public parks, community centres, swimming pools, village halls, community owned assets – facilities that provide things to do and spaces to meet often, at no or little cost, which are important to how positive a community feels about its area.

● Connectedness: Measures the connectivity, both in physical terms – how easy it is to access key services such as health services, digital connectivity, social connectivity with a measure of loneliness, access to public and private transport and strength of the local jobs market.

● Active and engaged community: Measures the levels of active participation in community and civic life, levels of engagement, volunteering, perceptions of social relationships and the strength of the third sector locally.

The WCAI has been constructed using the same methodology, domain structure and geographic unit of analysis as adopted in the 2021 update of the Community Needs Index for England (ECNI 2021)[3]; and uses the same component indicators where possible. The table below outlines the key socio-economic indicators which have been included in the WCAI (a detailed description of these indicators can be found in Appendix D).

Indicator	Source	Date
Civic Assets		
CA1: Density of community space assets	AddressBase	July 2021
CA2: Density of educational assets	AddressBase	July 2021
CA3a: Density of sport and leisure assets (address base)	AddressBase	July 2021
CA4: Density of cultural assets	AddressBase	July 2021
CA5a: Green assets (density)	AddressBase	July 2021
CA5b: Green assets (Area of public green space)	Ordnance Survey	April 2020
CA6: Retail assets	AddressBase	July 2021
CA7a: Community-owned assets	Renaisi/ Plunkett Foundation/Locality	2021
Connectedness		
CN1a: Travel time to key services by public transport/walk	Welsh Government	2019
CN1b: Average distance to nearest Park, Public Garden, or Playing Field (m)	Ordnance Survey	April 2020
CN2a: Jobs density in the Travel to Work Area	Business Register and Employment Survey (BRES)	2019
CN2b: Jobs density in the local area	Business Register and Employment Survey (BRES)	2019
CN3: Households with no car	Census 2011	2011
CN4a: Broadband download speeds	OfCom	2020
CN4b: Broadband upload speeds	OfCom	2020
CN5: Loneliness (People living alone)	Census 2011	2011
CN5b: Loneliness (Loneliness Index – GP Prescriptions for Loneliness)	Office for National Statistics' Data Science Campus /NHS /Red Cross	2019
CN4c: Loneliness (Self-reported levels of loneliness)	National Survey for Wales	2016/17 and 2019/20
Active and Engaged Community		
AE1: Voter turnout at local elections	Electoral Commission	2017

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[3] see https://localtrust.org.uk/policy/left-behind-neighbourhoods/

Indicator	Source	Date
AE2a: Civic participation (Self-reported measures of community and civic participation)	National Survey for Wales/Output Area Classification 2011: ONS	2014/15, 2016/17, 2017/18, 2018/19 and 2019/20
AE2b: Strength of local social relationships	National Survey for Wales/Output Area Classification 2011: ONS	2012/13, 2013/14, 2016/17, 2018/19
AE3: Leisure and cultural participation	National Survey for Wales/Output Area Classification 2011: ONS	2014/15, 2017/18, 2018/19 and 2019/20
AE4: Third sector organisations	Charities Commission, Co-operatives UK, Companies House, from Financial Conduct Authority	2021
AE5: National Lottery Community Fund	National Lottery (through 360 Giving)	2004-2021
AE6: Grant funding per head from major grant funders	360 Giving Grant Nav data	Up to 2021
AE7a: SME lending by banks	UK Finance	June 2020
AE7b: Small businesses: Local Business Units with 0-4 employees	Inter Departmental Business Register (IDBR)	2020
AE7c: Generative Businesses	Understanding Wales Places	2021
AE8 Trustees of charities	Understanding Wales Places	2021

The following steps have been taken to produce the WCRI.

1) Converting each of the indicators to MSOA level.

2) Applying shrinkage[4] to improve the robustness of the indicators.

3) Ensuring that all indicators are "pointing in the same direction".

4) Producing composite indicators: Combining some of the indicators in the table above, where they measure aspects of the same thing.

5) Standardisation: Moving indicators onto the same scale so that they can be combined into domains.

6) Weighting indicators: A statistical technique called Maximum Likelihood Factor Analysis[5] is used to determine the weights of the indicators within each domain/subdomain.

7) Combining indicators to form subdomains and domains.

8) Standardising the domains using exponential transformation[6] to control cancellation effects.

9) Combining the standardised domains to produce the Wales Community Assets Index (WCAI).

10) Combining with the Wales Index of Multiple Deprivation to identify 'less resilient' areas.

These steps are described in detail in Appendix E.

Geographic profile of Community Resilience

This section explores which areas have the highest levels of social infrastructure challenges and the relationship between community resilience and deprivation.

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[4] See Appendix H for details of this approach

[5] See Appendix F for details of this approach

[6] See Appendix G for details of this approach

The table below shows the 20 MSOAs in Wales ranked with the highest WCAI scores. The data is presented alongside the Wales Index of Multiple Deprivation Rank of Average Rank (the Rank of average LSOA ranks across all MSOAs in Wales – where 1 = most deprived MSOA and 410 = least deprived MSOA).

MSOA	Local Authority	WCAI Rank	WCAI Score	WIMD Rank of Average Rank
Gurnos, Trefechan & Pontsticill	Merthyr Tydfil	1	190.81	10
Treherbert	Rhondda Cynon Taf	2	190.51	29
Abersychan	Torfaen	3	180.39	93
Cefn Mawr	Wrexham	4	171.22	134
St Mellons West	Cardiff	5	163.83	4
Duffryn & Maesglas	Newport	6	153.69	51
Penrhiw-ceibr	Rhondda Cynon Taf	7	152.79	23
Bettws	Newport	8	150.45	18
Rassau & Beaufort	Blaenau Gwent	9	149.19	125
Cornelly	Bridgend	10	147.68	118
Llanedeyrn	Cardiff	11	145.45	82
Abertillery North & Cwmtillery	Blaenau Gwent	12	145.19	60
Monmouth & Wyesham	Monmouthshire	13	144.36	273
Rhoose & Airport	The Vale of Glamorgan	14	143.84	349
Caerau West	Cardiff	15	143.67	22
Risca East	Caerphilly	16	143.10	181
Buckley South	Flintshire	17	142.28	268
Sirhowy	Blaenau Gwent	18	141.49	71
Penderry	Swansea	19	140.67	6
Old Colwyn & Llanddulas	Conwy	20	140.24	205
Source: OCSI 2022				

There is a reasonable geographical spread, with 14 of the 22 Local Authorities containing at least one MSOA ranked among the top 20 on the WCAI. However, 18 of the 20 MSOAs are located in South Wales. Gurnos, Trefechan & Pontsticill in Merthyr Tydfil is identified as having the highest overall needs (lowest resilience). Many of the areas with the lowest resilience are located in the Valleys, coastal communities and on the periphery of urban areas. The majority of the top 20 also rank relatively highly on the WIMD – with 11 of the top 20 ranking among the most deprived 20% of MSOAs in Wales. By contrast, only one MSOA among the top 20 - Rhoose & Airport - ranks among the least deprived 20% of MSOAs.

The table below shows the 20 MSOAs with the lowest WCAI rank (where 1 is lowest resilience and 410 is higher resilience). The data is also presented alongside the Wales Index of Multiple Deprivation Rank of Average Rank.

MSOA	Local Authority	WCAI Rank	WIMD Rank of Average Rank
Peterston-super-Ely & Wenvoe	The Vale of Glamorgan	410	375
Ridgeway & Glasllwch	Newport	409	361
Ogmore-by-Sea & Llandow	The Vale of Glamorgan	408	378
Pontcanna	Cardiff	407	291
Creigiau, Pentyrch & St Fagans	Cardiff	406	401
Marshfield	Newport	405	358
Canton	Cardiff	404	127
Heath	Cardiff	403	398

Town North, University & Rhos-ddu	Wrexham	402	321
Cathays North	Cardiff	401	246
Pen-y-lan South	Cardiff	400	271
Victoria Park	Cardiff	399	316
Splott	Cardiff	398	13
Roath	Cardiff	397	191
Pen-y-fai, Laleston & Merthyr Mawr	Bridgend	396	385
Rhuddlan & Bodelwyddan	Denbighshire	395	279
Cardiff Bay	Cardiff	394	372
Gresford, Marford & Rossett	Wrexham	393	377
Llanfair Pwllgwyngyll & Menai Bridge	Isle of Anglesey	392	370
Llandaff & Danescourt	Cardiff	391	375
Source: OCSI 2022			

11 of the 20 areas with the highest resilience (lowest scores on the WCAI) are located in Cardiff (predominantly in central areas of the city and more affluent suburbs) with the highest resilience in Peterston-super-Ely & Wenvoe which encompasses some of the rural areas to the West of Cardiff. The majority of the areas with low WCAI scores also have low levels of deprivation, with 11 of the 20 ranked among the least deprived 20% on the WIMD and only one area ranked among the top 20. The notable exception is Splott in Cardiff – this area is located relatively close to the city centre and scores particularly highly in terms of density of Civic Assets.

Relationship between community resilience and deprivation

The chart below compares average levels of community resilience measured against overall levels of deprivation. The chart shows the level of community resilience (based on the WCAI score) for MSOAs grouped into 10 per cent bands, or 'deciles', based on their Wales Index of Multiple Deprivation 2019 rank.

Community Resilience score (WCAI 2021) by decile of deprivation (WIMD 2019)
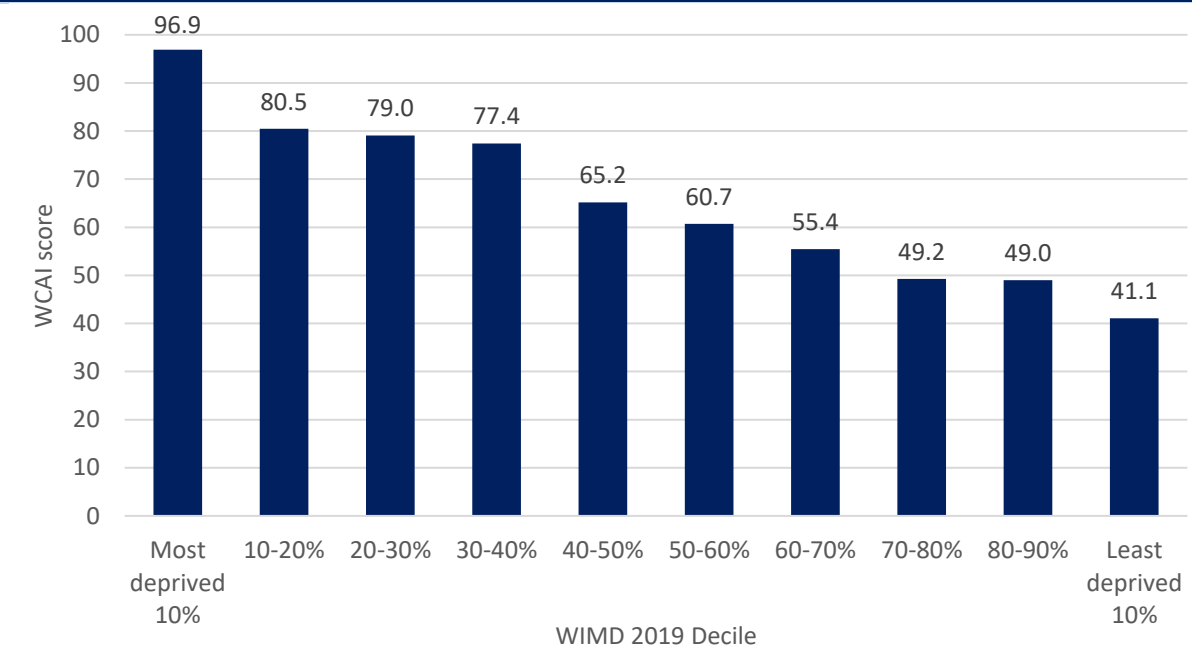
Source: OCSI/Wales Government

The chart shows that there is a strong relationship between deprivation and community resilience, with the 10% of MSOAs with the highest levels of deprivation having the highest average WCAI score (96.9). This relationship is consistent across the decile groups i.e. the higher the level of deprivation, the lower the level of overall community resilience.

Overall, there is a slight but significant correlation of .451 (Pearson) between the WCAI and WIMD 2019 Score. However, there are a large number of areas where this relationship does not hold as strong.

Relationship between WIMD 2019 rank and WCAI rank for MSOAs in Wales
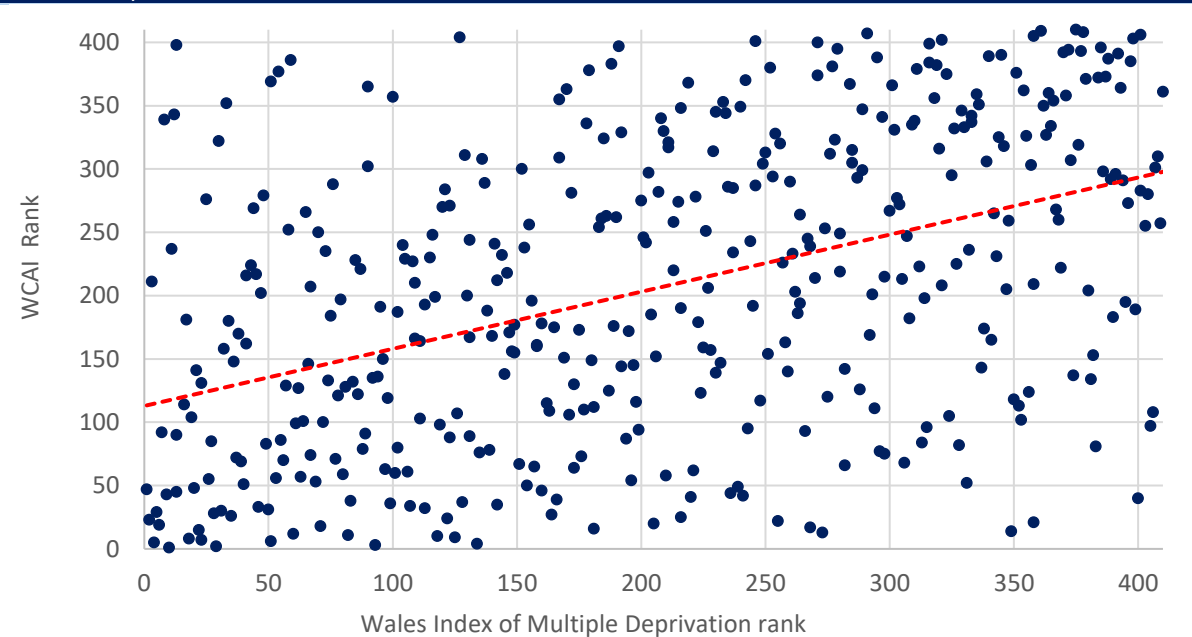
Source: OCSI/Wales Government

The chart above scatters the WIMD Score and WCAI for each individual MSOA in Wales.

The chart shows that while there is a positive relationship between community resilience and levels of deprivation, there are a large number of areas classified as having low levels of community resilience and low levels of deprivation and vice versa.

There are 7 MSOAs (1.7%) ranked among the most deprived 20% on the WIMD that are ranked among the least deprived 20% in terms of community resilience:

- Cardiff - Splott
- Cardiff - Plasnewydd
- Cardiff - Grangetown South
- Newport - Stow Hill
- Cardiff - Grangetown North
- Cardiff - Adamsdown
- Cardiff - South Riverside

By contrast, there are 5 MSOAs (1.2%) ranked among the least deprived 20% on the WIMD that are among the most deprived 20% in terms of community resilience:

- Rhondda Cynon Taf - Church Village West
- Cardiff - Pontprennau
- The Vale of Glamorgan - Llantwit Major
- The Vale of Glamorgan - Rhoose & Airport
- Carmarthenshire - Swiss Valley & Llangennech

Location of 'less resilient' areas

Any Middle layer Super Output Area (MSOA) ranking among the top 25% in Wales on the WCAI which also contained at least one Lower layer Super Output Area (LSOA) ranked among the most deprived 10% on the WIMD 2019 has been identified as a 'less resilient' area.

The table below lists each of the 102 'less resilient' areas (LRAs) in Wales – with summary data from the WCAI including WCAI rank and the drivers of need.

LRA Name	LAD Name	LRA Rank	WCAI Rank	Driver of Need
Gurnos, Trefechan & Pontsticill	Merthyr Tydfil	1	1	Active/Engaged
St Mellons West	Cardiff	2	5	Active/Engaged
Townhill	Swansea	3	23	Active/Engaged
Treherbert	Rhondda Cynon Taf	4	2	Connectedness
Penderry	Swansea	5	19	Active/Engaged
Ely East	Cardiff	6	47	Active/Engaged
Bettws	Newport	7	8	Active/Engaged
Ringland	Newport	8	29	Active/Engaged
Penrhiwceibr	Rhondda Cynon Taf	9	7	Active/Engaged
Caerau West	Cardiff	10	15	Civic Assets
Duffryn & Maesglas	Newport	11	6	Civic Assets
Trowbridge	Cardiff	12	43	Active/Engaged
Abersychan	Torfaen	13	3	Civic Assets
Llanelli South	Carmarthenshire	14	45	Connectedness
West Pontnewydd & Thornhill	Torfaen	15	28	Active/Engaged
Abertillery North & Cwmtillery	Blaenau Gwent	16	12	Connectedness
Caia Park	Wrexham	17	92	Active/Engaged
Cefn Mawr	Wrexham	18	4	Connectedness
Abertillery South & Llanhilleth	Blaenau Gwent	19	26	Connectedness
Sandfields	Neath Port Talbot	20	30	Civic Assets

Rhymney, Pontlottyn & Abertysswg	Caerphilly	21	48	Connectedness
Llanedeyrn	Cardiff	22	11	Civic Assets
Pillgwenlly & Docks	Newport	23	211	Connectedness
Sirhowy	Blaenau Gwent	24	18	Connectedness
Rassau & Beaufort	Blaenau Gwent	25	9	Civic Assets
Caerau	Bridgend	26	90	Active/Engaged
Cornelly	Bridgend	27	10	Civic Assets
Gellideg & Town	Merthyr Tydfil	28	55	Connectedness
Holyhead	Isle of Anglesey	29	33	Civic Assets
Aberaman	Rhondda Cynon Taf	30	31	Active/Engaged
Glyncorrwg & Blaengwynfi	Neath Port Talbot	31	114	Connectedness
Blaina & Nantyglo	Blaenau Gwent	32	51	Connectedness
Tylorstown	Rhondda Cynon Taf	33	104	Connectedness
Briton Ferry	Neath Port Talbot	34	85	Active/Engaged
New Tredegar & Darren Valley	Caerphilly	35	72	Active/Engaged
Ystrad & Llwynypia	Rhondda Cynon Taf	36	69	Active/Engaged
Flint North East	Flintshire	37	56	Civic Assets
Bynea & Llwynhendy	Carmarthenshire	38	24	Civic Assets
Rhyl North	Denbighshire	39	141	Connectedness
Kinmel Bay & Towyn	Conwy	40	38	Civic Assets
Caerau East	Cardiff	41	237	Active/Engaged
Trevethin & Penygarn	Torfaen	42	131	Connectedness
Risca East	Caerphilly	43	16	Active/Engaged
Rhyl South West	Denbighshire	44	181	Active/Engaged
Mountain Ash	Rhondda Cynon Taf	45	57	Connectedness
Rhosllanerchrugog & Johnstown South	Wrexham	46	36	Connectedness
Merthyr Vale, Troedyrhiw & Bedlinog	Merthyr Tydfil	47	53	Connectedness
South Riverside	Cardiff	48	339	Connectedness
Tredegar & Georgetown	Blaenau Gwent	49	34	Connectedness
Holywell & Bagillt	Flintshire	50	32	Connectedness
Pembroke Dock	Pembrokeshire	51	70	Civic Assets
Gibbonsdown	Vale of Glamorgan	52	83	Active/Engaged
Monmouth & Wyesham	Monmouthshire	53	13	Connectedness
Old Colwyn & Llanddulas	Conwy	54	20	Civic Assets
Clydach & Mawr	Swansea	55	27	Civic Assets
Nantymoel, Ogmore Vale & Blackmill	Bridgend	56	59	Active/Engaged
Bargoed	Caerphilly	57	86	Active/Engaged
Abergavenny North	Monmouthshire	58	37	Connectedness
Llanrumney North	Cardiff	59	74	Active/Engaged
Adamsdown	Cardiff	60	343	Connectedness
Llanbradach & Penyrheol	Caerphilly	61	35	Civic Assets
Buckley South	Flintshire	62	17	Active/Engaged
Ferndale & Maerdy	Rhondda Cynon Taf	63	158	Connectedness
Milford Haven West	Pembrokeshire	64	71	Civic Assets
Aberafan	Neath Port Talbot	65	148	Civic Assets
Rhoose & Airport	Vale of Glamorgan	66	14	Civic Assets
Abergele	Conwy	67	25	Civic Assets
Hirwaun & Rhigos	Rhondda Cynon Taf	68	99	Connectedness
Dowlais	Merthyr Tydfil	69	60	Active/Engaged
Neath South	Neath Port Talbot	70	63	Active/Engaged
Fairwater & Greenmeadow	Torfaen	71	22	Civic Assets
Aberbargoed & Gilfach	Caerphilly	72	180	Active/Engaged
Pengam & Cefn Fforest	Caerphilly	73	101	Active/Engaged
Ebbw Vale North & Glyncoed	Blaenau Gwent	74	61	Connectedness

Ravenhill	Swansea	75	170	Active/Engaged
Treharris & Trelewis	Merthyr Tydfil	76	39	Active/Engaged
Splott	Cardiff	77	398	Connectedness
Liswerry & Uskmouth	Newport	78	162	Active/Engaged
Brynmawr	Blaenau Gwent	79	79	Connectedness
Hermitage & Whitegate	Wrexham	80	100	Connectedness
Denbigh West	Denbighshire	81	129	Connectedness
Landore	Swansea	82	276	Active/Engaged
Cardigan & Aberporth	Ceredigion	83	46	Connectedness
Blaenau Ffestiniog & Trawsfynydd	Gwynedd	84	50	Connectedness
Tonypandy West & Clydach Vale	Rhondda Cynon Taf	85	127	Connectedness
Ebbw Vale South & Cwm	Blaenau Gwent	86	91	Connectedness
Milford Haven East	Pembrokeshire	87	80	Civic Assets
Llantwit Major	Vale of Glamorgan	88	21	Civic Assets
Cwmbran	Torfaen	89	216	Connectedness
Caldicot South	Monmouthshire	90	41	Civic Assets
Llanrumney South	Cardiff	91	121	Active/Engaged
Aber Valley	Caerphilly	92	146	Active/Engaged
Porth West	Rhondda Cynon Taf	93	202	Connectedness
Maesteg East	Bridgend	94	133	Civic Assets
Neath Town	Neath Port Talbot	95	224	Connectedness
Newtown South	Powys	96	217	Active/Engaged
Ammanford & Betws	Carmarthenshire	97	67	Civic Assets
Ystradgynlais & Tawe Uchaf	Powys	98	65	Connectedness
Ely West	Cardiff	99	76	Civic Assets
Tremorfa & Pengam	Cardiff	100	322	Civic Assets
Morriston South	Swansea	101	128	Civic Assets
Beddau & Tynant	Rhondda Cynon Taf	102	42	Active/Engaged

The chart below shows the number and percentage of LRAs in each Local Authority in Wales.

Local Authority (LA)	Number of LRAs	% of all MSOAs in each LA identified as LRAs	% of all LRAs in Wales
Blaenau Gwent	9	100.0%	8.8%
Bridgend	4	21.1%	3.9%
Caerphilly	8	33.3%	7.8%
Cardiff	13	27.1%	12.7%
Carmarthenshire	3	12.0%	2.9%
Ceredigion	1	11.1%	1.0%
Conwy	3	20.0%	2.9%
Denbighshire	3	20.0%	2.9%
Flintshire	3	15.0%	2.9%
Gwynedd	1	5.9%	1.0%
Isle of Anglesey	1	11.1%	1.0%
Merthyr Tydfil	5	71.4%	4.9%
Monmouthshire	3	27.3%	2.9%
Neath Port Talbot	6	31.6%	5.9%
Newport	5	25.0%	4.9%
Pembrokeshire	3	18.8%	2.9%
Powys	2	10.5%	2.0%
Rhondda Cynon Taf	11	35.5%	10.8%
Swansea	6	19.4%	5.9%
The Vale of Glamorgan	3	20.0%	2.9%
Torfaen	5	38.5%	4.9%
Wrexham	4	22.2%	3.9%

The Local Authorities in the Valleys contain the highest proportion of LRAs, all of the MSOAs in Blaenau Gwent, more than 70% in Merthyr Tydfil (71.4%) and more than one-third in Rhondda Cynon Taf (35.5%) identified as 'less resilient'. These three Local Authorities between them contain 24.5% of all LRAs in Wales. By contrast, there are relatively low concentrations of LRAs in rural and coastal areas of Wales - with one in Isle of Anglesey, Ceredigion and Gwynedd. This is surprising as these Local Authorities contain pockets with relatively high levels of deprivation, particularly around many of the coastal communities in North and West Wales.

LRAs in South Wales

LRAs in North Wales

Other LRAs
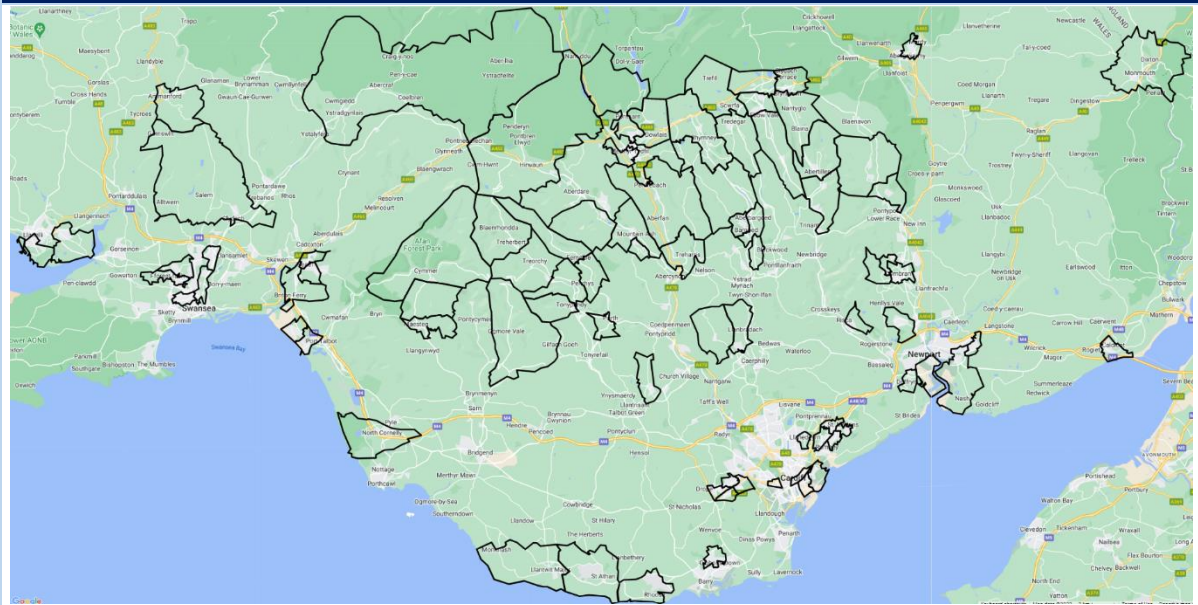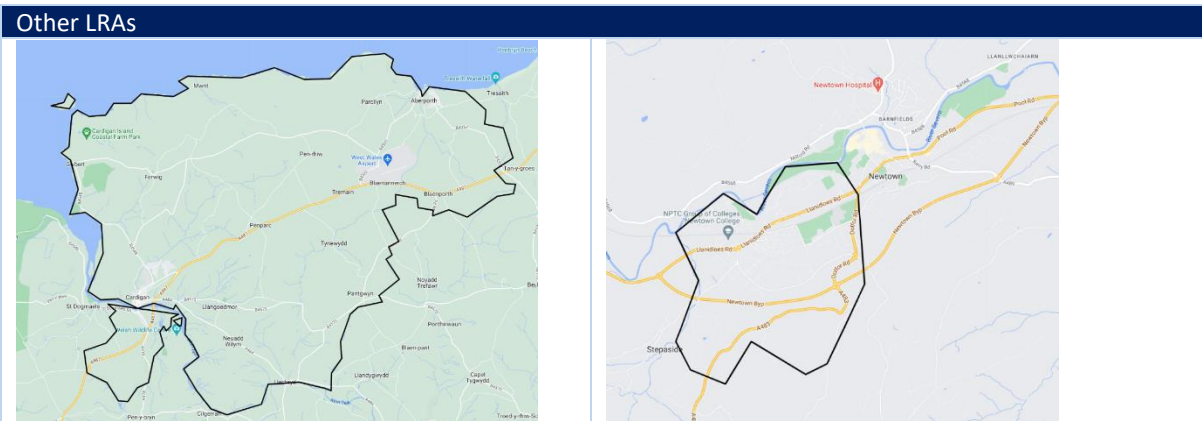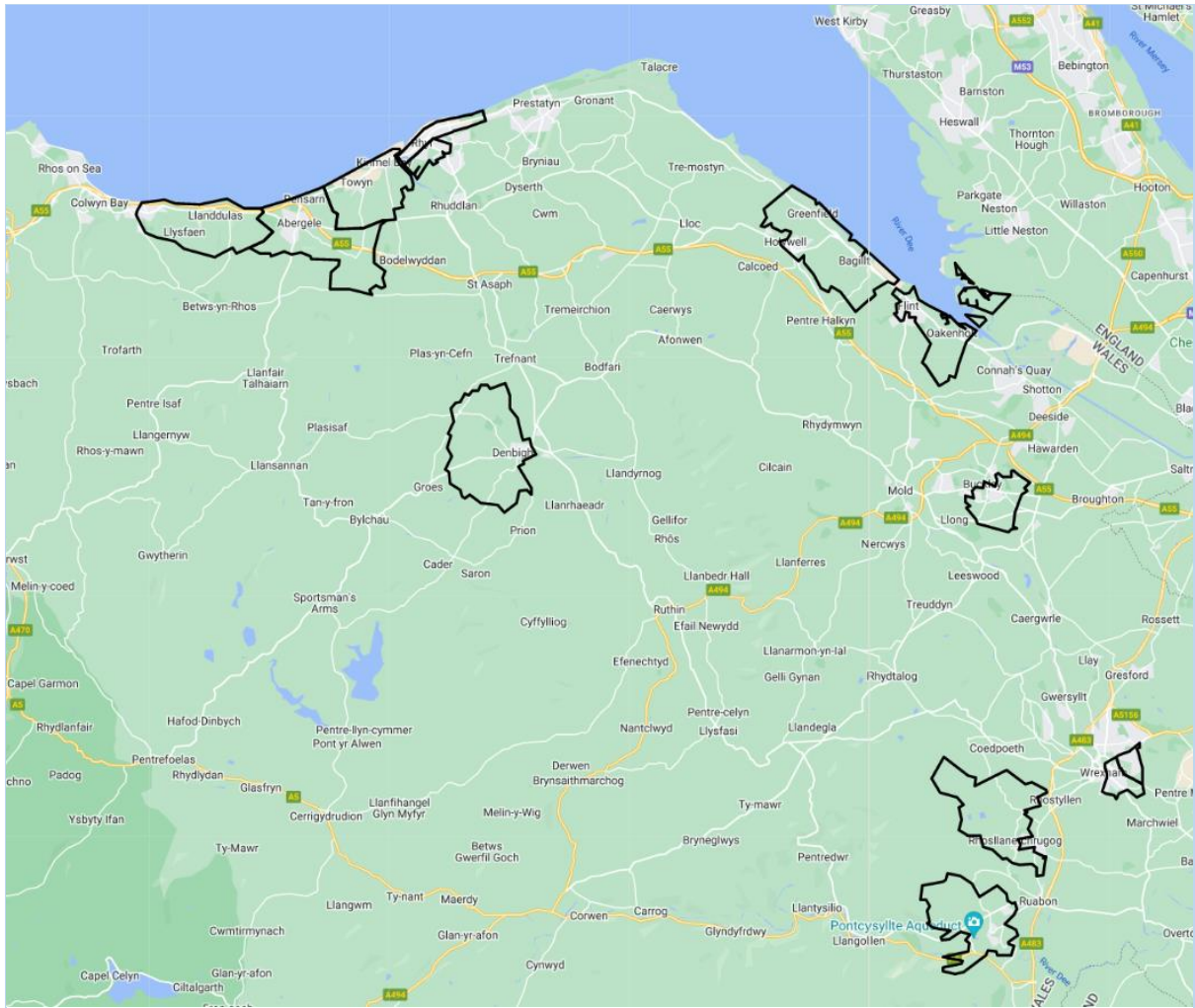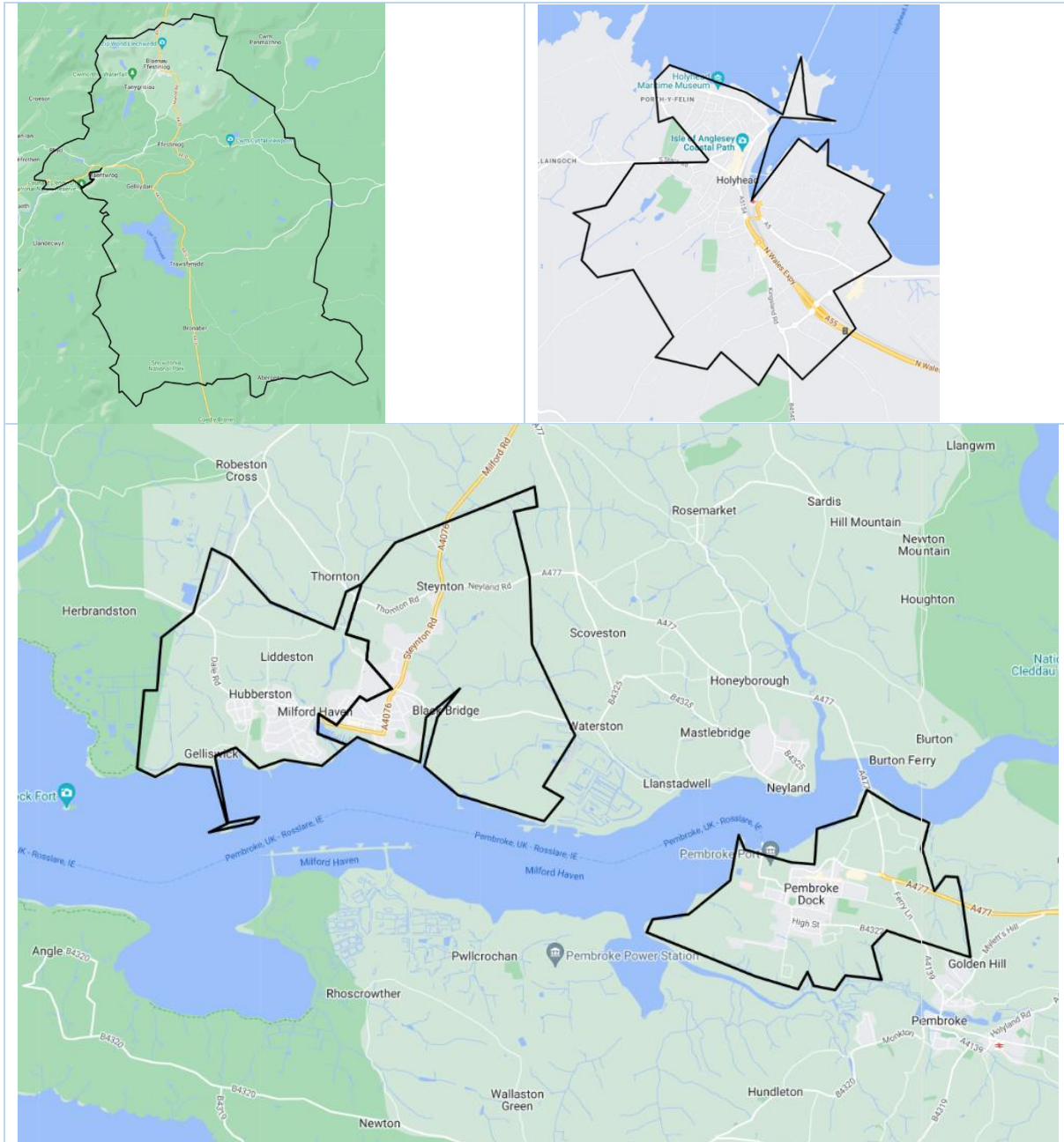
LRAs in South Wales are located in the Valleys and peripheral neighbourhoods of the main urban areas of Cardiff, Newport and Swansea, as well as some pockets in the towns of Llanelli, Bridgend, Barry and Port Talbot.

The LRAs in North Wales are found around the North Coast (Abergele, Rhyl, Towyn), the mouth of the River Dee (Flint and Holywell) and around Wrexham.

There are also a series of LRAs located along the Wales coast (Milford Haven, Pembroke Dock, Cardigan, Holyhead) and two in isolated areas of the interior (around Newtown and Blaenau Ffestiniog).

Appendix A lists each of the individual LRAs alongside key WCAI statistics to help identify drivers of need in these areas.

The chart below shows the proportion of people in LRAs living in rural and urban areas. Rural and urban areas are defined here using the ONS Rural Urban classification[7], areas are defined as 'urban' if they were allocated to a 2011 built-up area with a population of 10,000 people or more, while the remaining areas were defined as rural.

LRAs in rural and urban areas

Category	LRAs	Wales
Rural town and fringe	10.1	13.5
Rural town and fringe in a sparse setting	1.1	2.1
Rural village and dispersed	0.0	6.4
Rural village and dispersed in a sparse setting	0.8	9.5
Urban city and town	86.1	66.6
Urban city and town in a sparse setting	1.9	1.8

Source: ONS 2011 Rural and Urban Classification
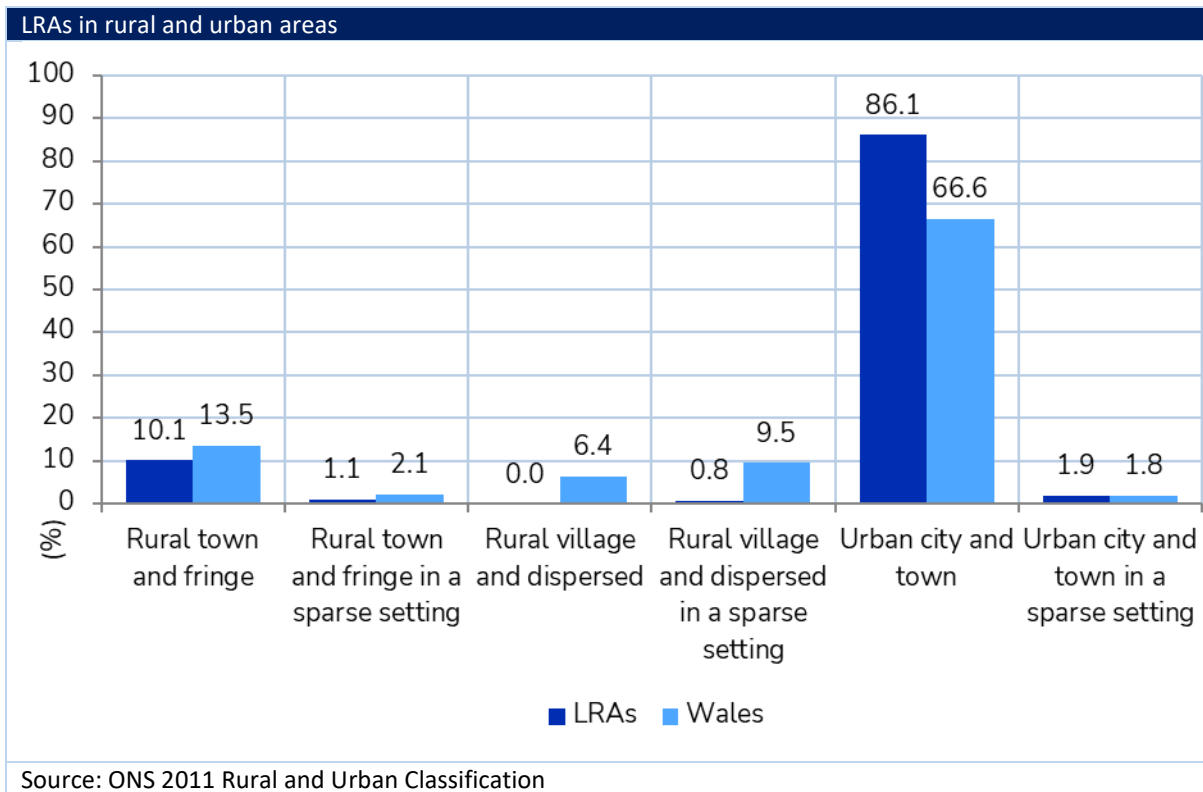
The chart shows that the vast majority of LRAs are in urban areas, with 720,000 people (88% of all people in LRAs) living In *Urban: city and town*, compared with a national average of 68%). Less than 1% of people live in LRAs classified as *Rural villages* - in contrast to Wales as a whole, where 15% of the population live in areas classified as *Rural villages*.

The chart below looks at the characteristics of neighbourhoods across LRAs as defined using the Output Area Classification (OAC)[8]. OAC classifies every area in the country based on a set of socio-demographic characteristics, providing a profile of areas to identify similarities between neighbourhoods.

Area classification

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[7]

https://www.ons.gov.uk/methodology/geography/geographicalproducts/ruralurbanclassifications/2011ruralurbanclassification
[8] Output Area Classification (2011) | CDRC Data https://data.cdrc.ac.uk/dataset/output-area-classification-2011

Source: ONS 2011 Rural and Urban Classification
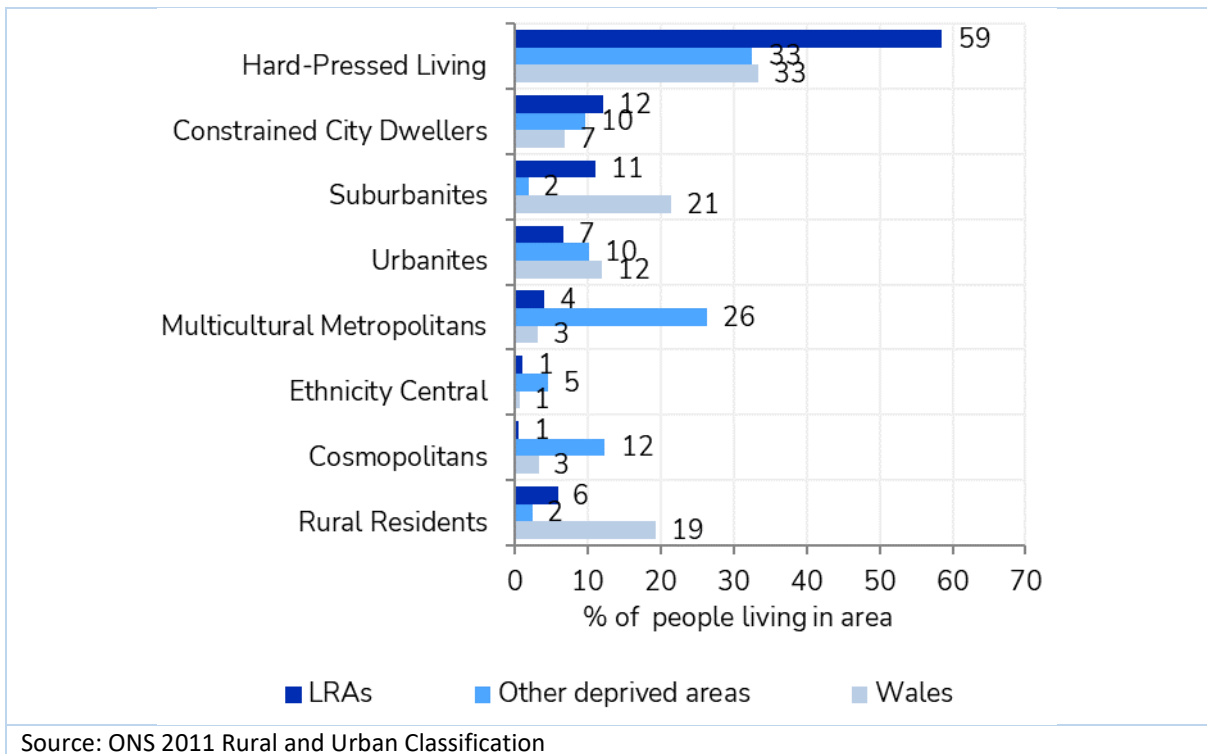
The highest proportion of people in LRAs are living in areas categorised as 'Hard-pressed living' according to the OAC classification. These are areas that are mostly on the fringe of the UK's urban areas and are characterised by high levels of people in terraced accommodation, high unemployment, low ethnic diversity and high levels of people employed in manufacturing. 59% of people living in LRAs live in areas classified as 'Hard-pressed living', compared with 33% in other deprived areas and 33% across Wales.

Population

This section explores the population characteristics of LRAs and how they differ from other areas across Wales.

There are **818,494** people living in LRAs, of whom **49.1%** are male and **50.9%** are female.

LRAs have a relatively youthful population compared to Wales as a whole…

The chart below shows the age breakdown of the population.

Just under one-in-five people in LRAs (19.9%) are aged under 16 – above the average in other deprived areas (17.7%) and Wales as a whole (17.8%). By contrast, LRAs have a lower proportion of people of working age (61.6%) than other deprived areas (68.5%) and a lower proportion of people aged 65+ (18.4%) than across Wales as a whole (21.1%).

Population by broad age band

Source: ONS 2020
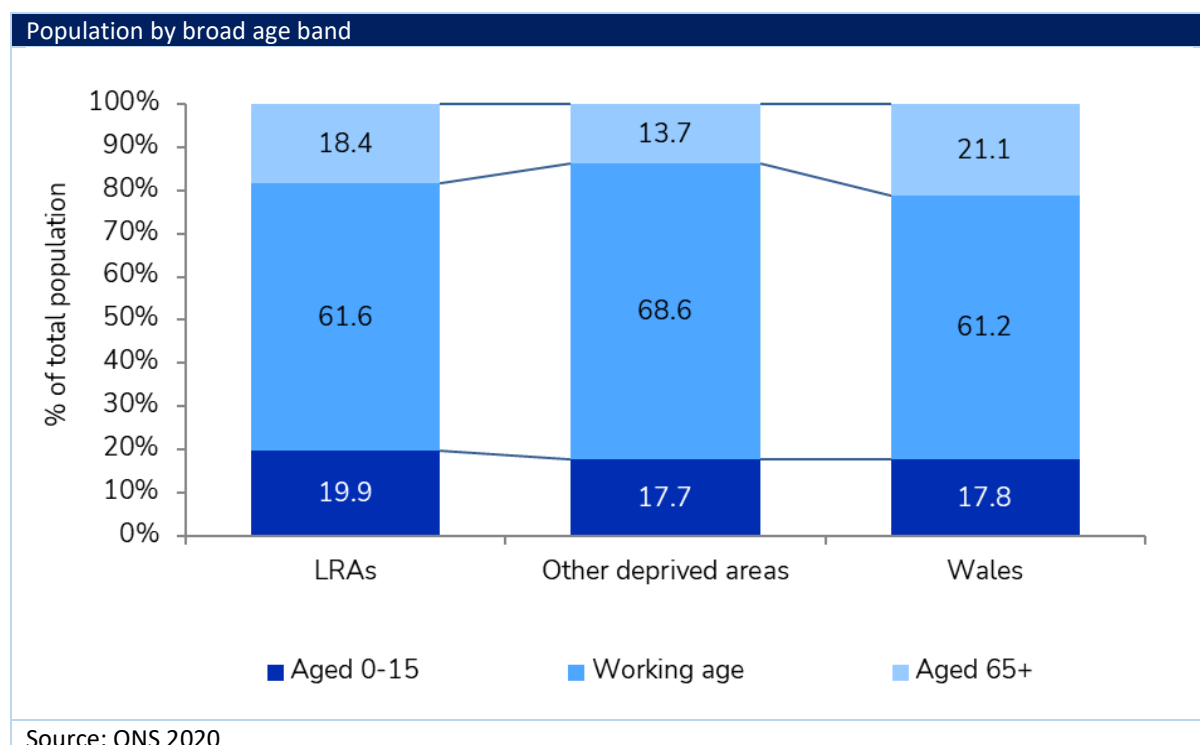
…with the population growing at a slower rate than across similarly deprived areas

The chart below shows the change in population across LRAs and their comparators between 2001 and 2020.

LRAs have experienced a smaller population increase than their benchmarked areas, with the population remaining fairly stable between 2001 and 2003 before rising steadily, albeit at a slower rate than the comparator areas. The population in LRAs increased by 6.6% between 2001 and 2020, compared with more than 17.1% in other deprived areas and 8.9% across Wales over the same period.

Change in population between 2001 and 2020

Change over time from 2001

LRAs — Other deprived areas — — Wales

Source: ONS 2020
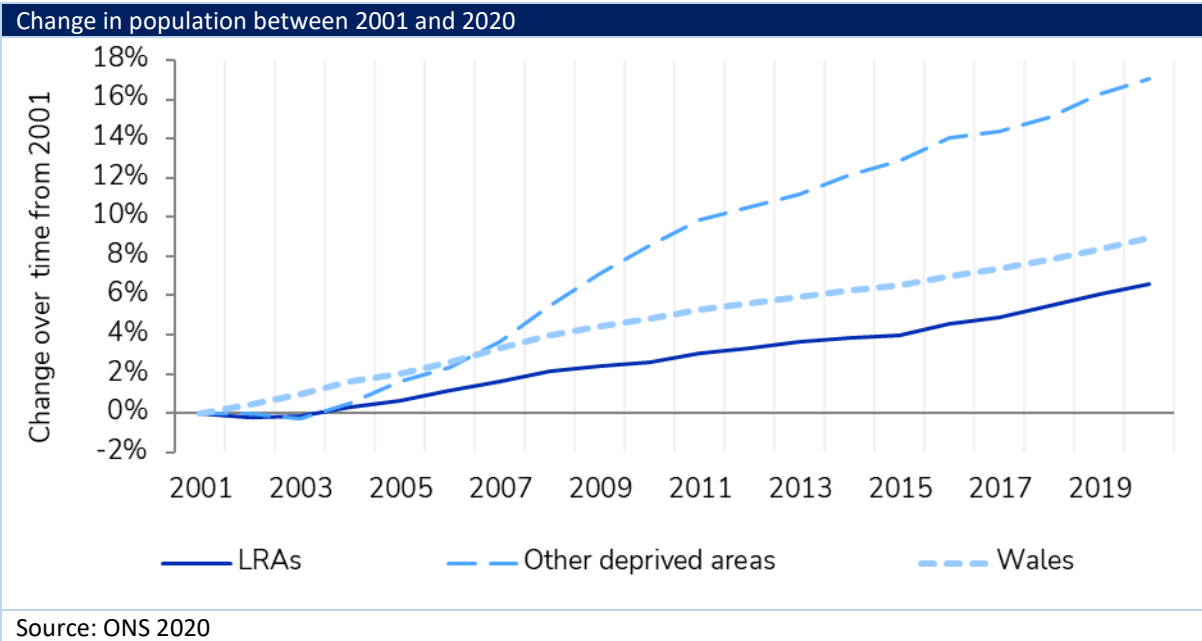
People living in LRAs are less likely to be from ethnic minority groups than across other deprived areas…

The chart below shows the number of people in White Non-British and Non-White Ethnic groups across LRAs and Wales as a whole.
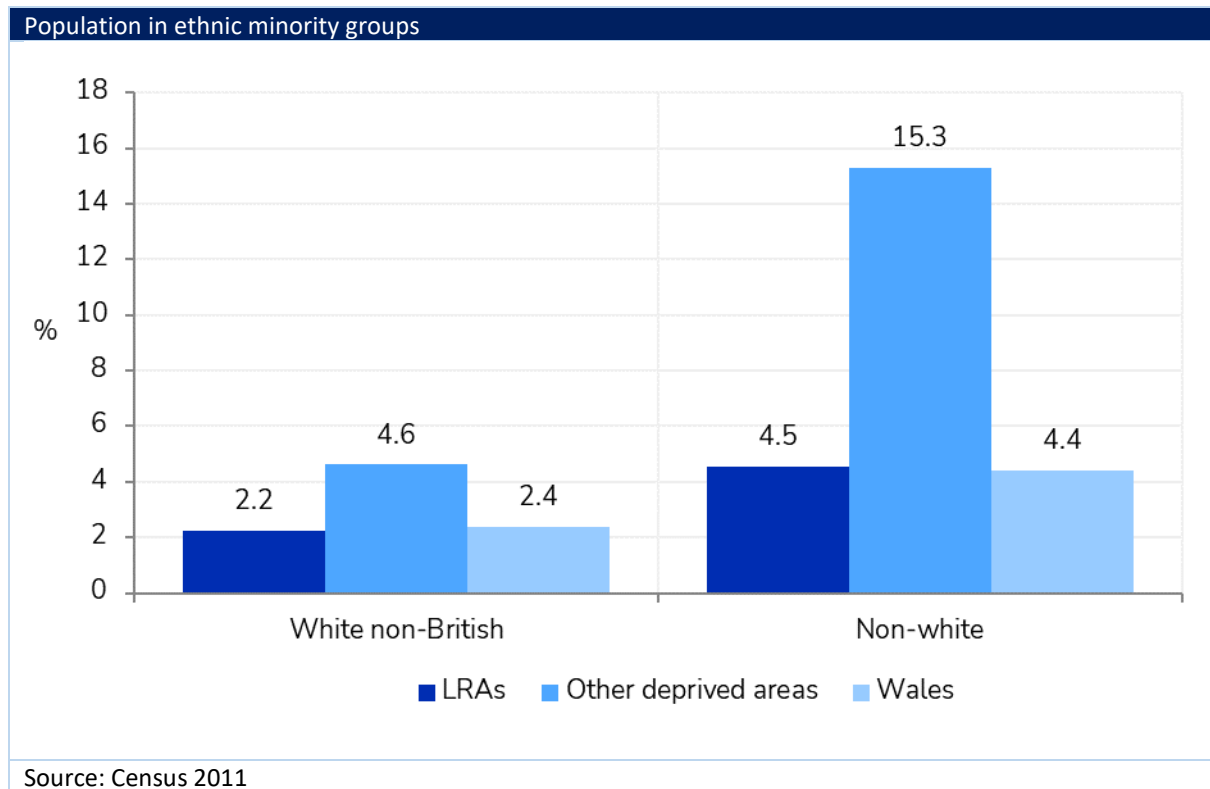
Population in ethnic minority groups

White non-British			Non-white		
2.2	4.6	2.4	4.5	15.3	4.4

%

■ LRAs   ■ Other deprived areas   ■ Wales

Source: Census 2011

LRAs are less ethnically diverse than other deprived areas of Wales, with a lower proportion of people identifying as White non-British (2.2%) or non-White (4.5%) than the average across other deprived areas (4.6% and 15.3% respectively), while the ethnic profile is similar to the average across Wales as a whole (2.4% and 4.4%). However, a significant number of people living in LRAs are from BAME communities (approximately 36,000 people).

The chart below provides more detailed breakdowns of the population by ethnic minority group in LRAs and Wales.

The chart shows that the ethnic profile in LRAs broadly mirrors the Wales average, with a higher proportion of people in other white ethnic groups than across each of the non-white ethnic minority group categories.

Population in ethnic minority groups (detailed breakdowns)

Ethnic group	LRAs	Wales
WHITE (NON-BRITISH)		
White Irish	0.4	0.5
White Gypsy	0.1	0.1
Other White	1.8	1.8
MIXED		
Mixed White and Black Caribbean	0.5	0.4
Mixed White and Black African	0.2	0.1
Mixed White and Asian	0.3	0.3
Other Mixed	0.2	0.2
ASIAN		
Indian	0.4	0.6
Pakistani	0.4	0.4
Bangladeshi	0.5	0.3
Chinese	0.3	0.4
Other Asian	0.5	0.5
BLACK		
Black Caribbean	0.2	0.1
Black African	0.5	0.4
Other Black	0.1	0.1
OTHER		
Arab	0.3	0.3
Other ethnic group	0.2	0.2

Source: Census 2011

People living in LRAs are more likely to be born in Wales but less likely to speak or understand Welsh

A similar pattern is evident when looking at variations in country of birth.

People living in LRAs are more likely to be born in Wales (80.1%), than the average across other deprived areas (71.2%) and Wales as a whole (72.7%). The chart below shows the proportion of people born outside of Wales. People in LRAs and other deprived areas alike are considerably less likely to be born in England (14% and 13.8% respectively than the Wales average). However, the proportion of people born outside the UK in LRAs is only slightly below the Wales average (5.1% in LRAs, compared with a national average of 5.5%) but considerably below the average in other deprived areas (14.1%).

Country of birth (outside of Wales)

25
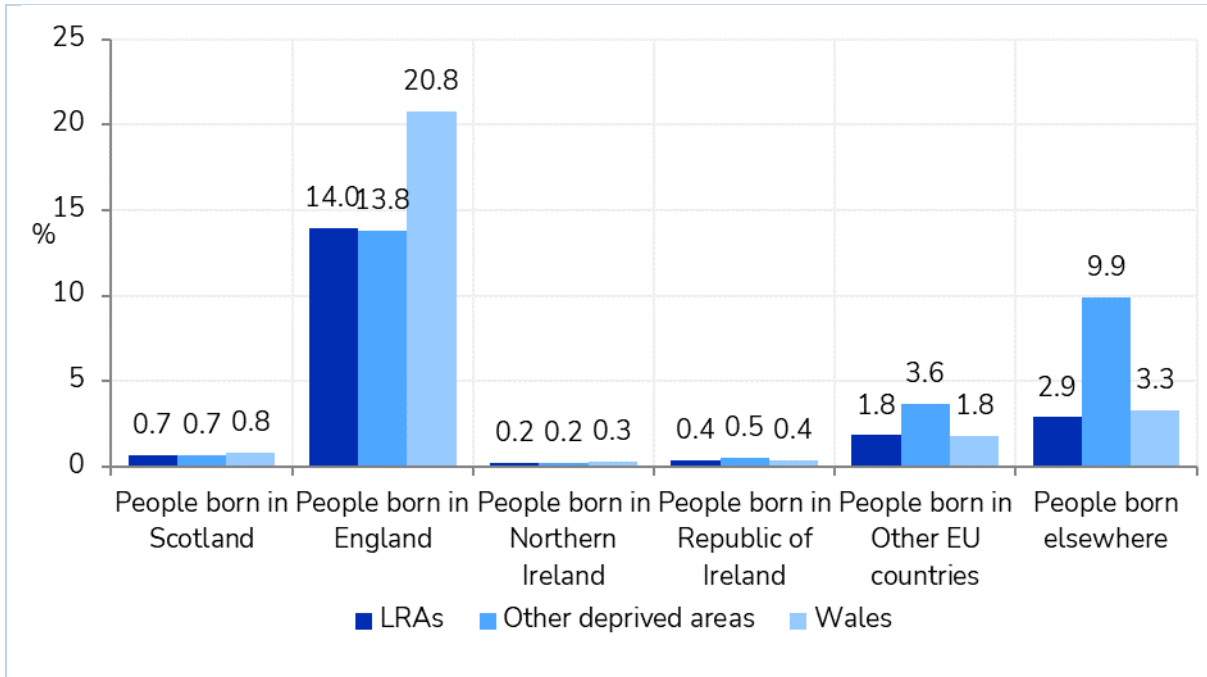
Source: Census 2011

The chart below compares the ability to speak the Welsh language in LRAs and comparator areas.

Ability to speak Welsh
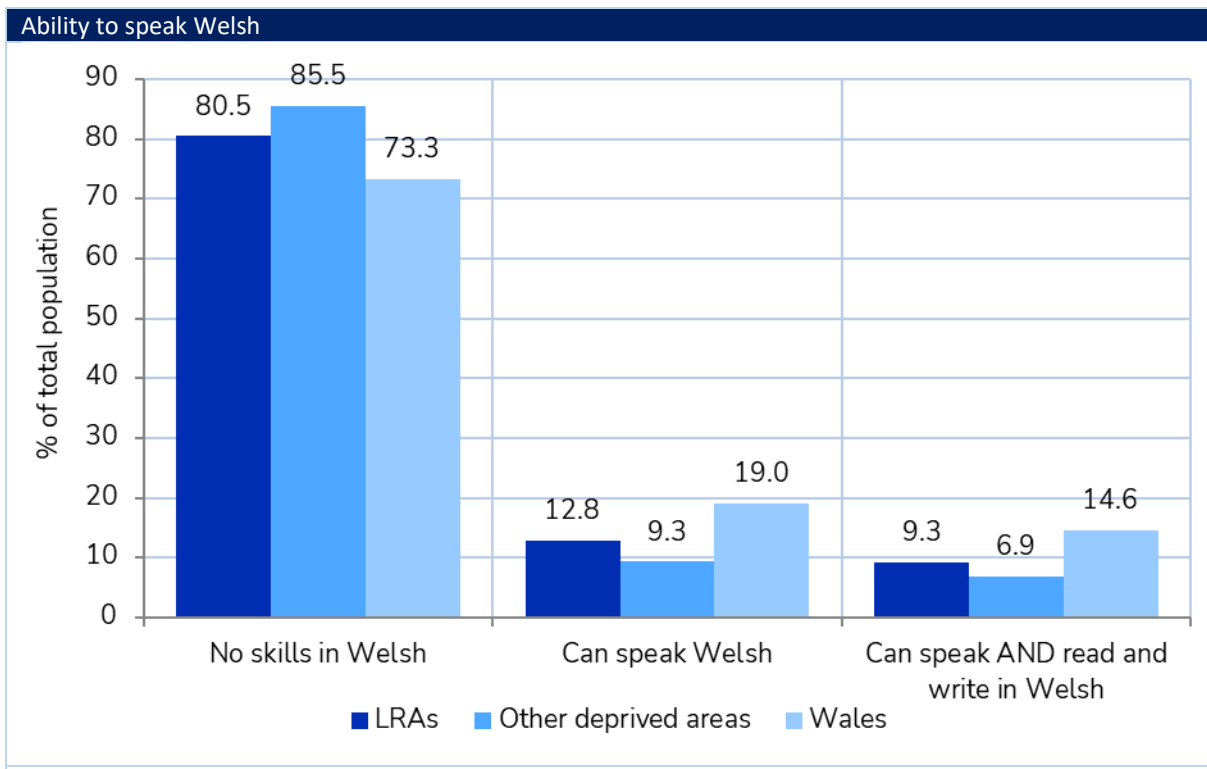
Source: Census 2011

People in LRAs are less likely to have Welsh language skills than the national average. This is likely to reflect the location of these areas, with high concentrations in the largely English-speaking Valleys and lower concentrations in West and North Wales. However, people living in LRAs are marginally more likely to be proficient in Welsh than across other deprived areas.

The chart below shows the composition of household types in LRAs, compared with the national average.

Household composition
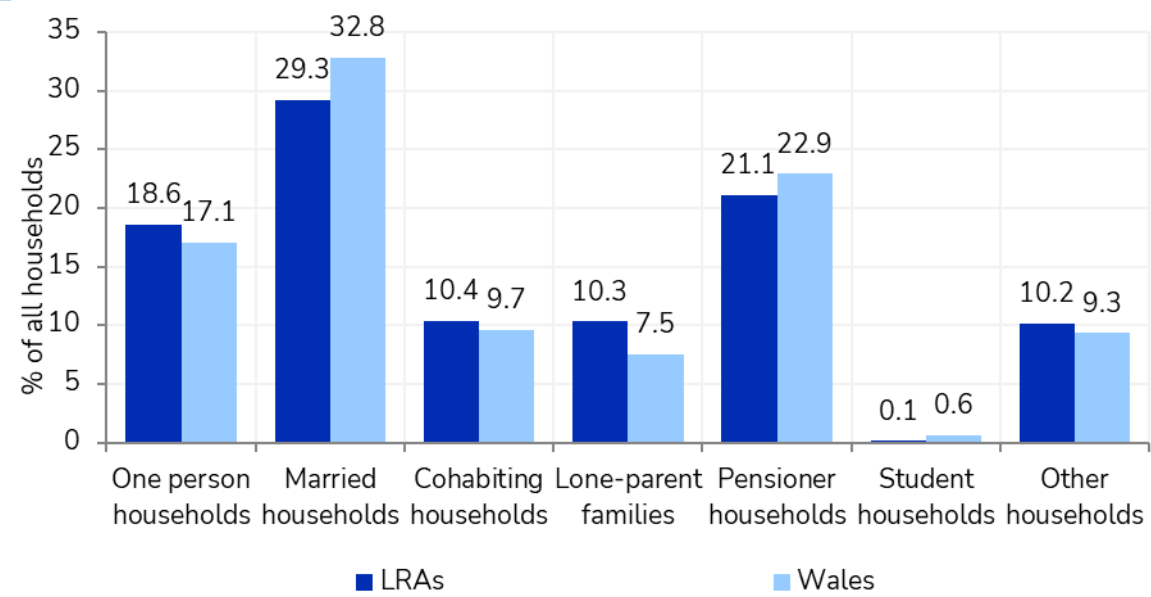
Source: Census 2011

LRAs are characterised as having higher levels of one-person households, cohabiting households and lone-parent family households compared with the national average.

Housing

This section explores key housing trends in LRAs compared to other areas across Wales.

People in LRAs are more likely to live in social rented housing…

The chart below shows the tenure breakdown across LRAs, other deprived areas and Wales as a whole.

Housing tenure

Source: Census 2011
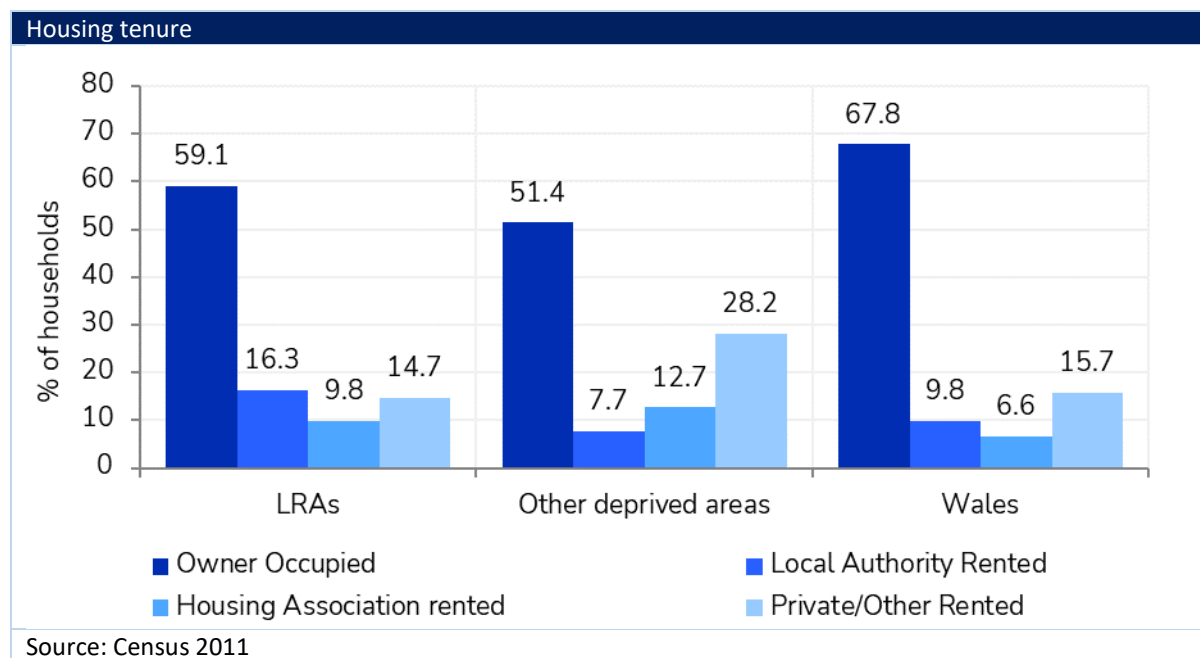
The chart shows that 59% of people in LRAs own their own home, compared with just under 68% across Wales as a whole.

By contrast, 26.1% of people in LRAs are living in social rented housing, slightly above the proportion in other deprived areas (20.4%) and considerably above the proportion across Wales as a whole (16.5%). This reflects the concentration of LRAs in outlying social housing estates.

…with a relatively large proportion of dwellings built in the post-war period

The chart below shows the age of accommodation across LRAs and comparators.

The chart shows that a higher proportion of people in LRAs reside in post-war housing, with more than 30% of dwellings in these areas built between 1945 and 1972, compared with 15% in other deprived areas and 25% across Wales as a whole. This reflects the geographic distribution of LRAs, with a high concentration of LRAs in outlying social housing estates built in response to the destruction of inner-city Victorian housing during and in the aftermath of the Second World War.

By contrast, there are a relatively small proportion of houses built this Millennium in LRAs. 9.9% of all dwelling stock was built after the year 2000, compared with 14.4% across other deprived areas and 12.9% across Wales as a whole. This is likely to be linked to the slow population growth in these areas.

Accommodation by age of dwelling

% of households

- Built before 1900: LRAs 22.8, Other deprived areas 38.6, Wales 22.5
- Built between 1900 and 1918: LRAs 9.2, Other deprived areas 12.1, Wales 7.8
- Built between 1919 and 1939: LRAs 10.3, Other deprived areas 6.5, Wales 9.8
- Built between 1945 and 1972: LRAs 29.7, Other deprived areas 14.7, Wales 25.4
- Built between 1973 and 1999: LRAs 17.2, Other deprived areas 12.7, Wales 20.4
- Built after 2000: LRAs 9.9, Other deprived areas 14.4, Wales 12.9

Legend: ■ LRAs ■ Other deprived areas ■ Wales

Source: Valuation Office Agency 2021

The chart below shows the differences in average property prices across LRAs and comparator areas.

Property price by type of dwelling

LRAs
- Detached £265,925
- Flat £101,026
- Semi-detached £155,458
- Terraced £113,788
- All 152,134

Other deprived areas
- Detached £253,241
- Flat £128,193
- Semi-detached £179,615
- Terraced £154,056
- All 162,490

Wales
- Detached £317,158
- Flat £139,683
- Semi-detached £192,937
- Terraced £149,767
- All 212,360

Average price

Legend: ■ Detached ■ Flat ■ Semi-detached ■ Terrraced ■ All
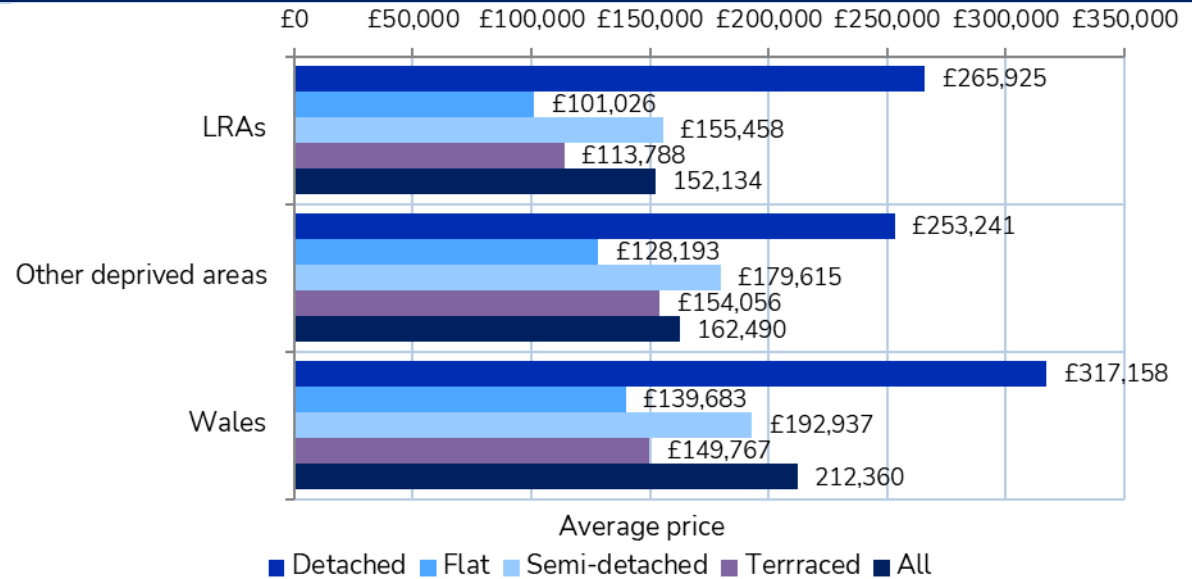
Source: Land Registry 2021

The average property price in LRAs is lower for all property types both compared with the national average and lower than across other similarly deprived areas for all bar detached houses.

29

Economy

This section explores economic drivers within LRAs compared to other areas across Wales.

There are substantially fewer local jobs available in LRAs compared with other deprived areas…

The chart below compares the *jobs density* (number of jobs as a ratio of the working age population) in LRAs and their comparators.

Jobs density

Jobs density - Jobs as a % of working age population

- LRAs: 47.0
- Other deprived areas: 89.9
- Wales: 68.7

Source: Business Register and Employment Survey 2020
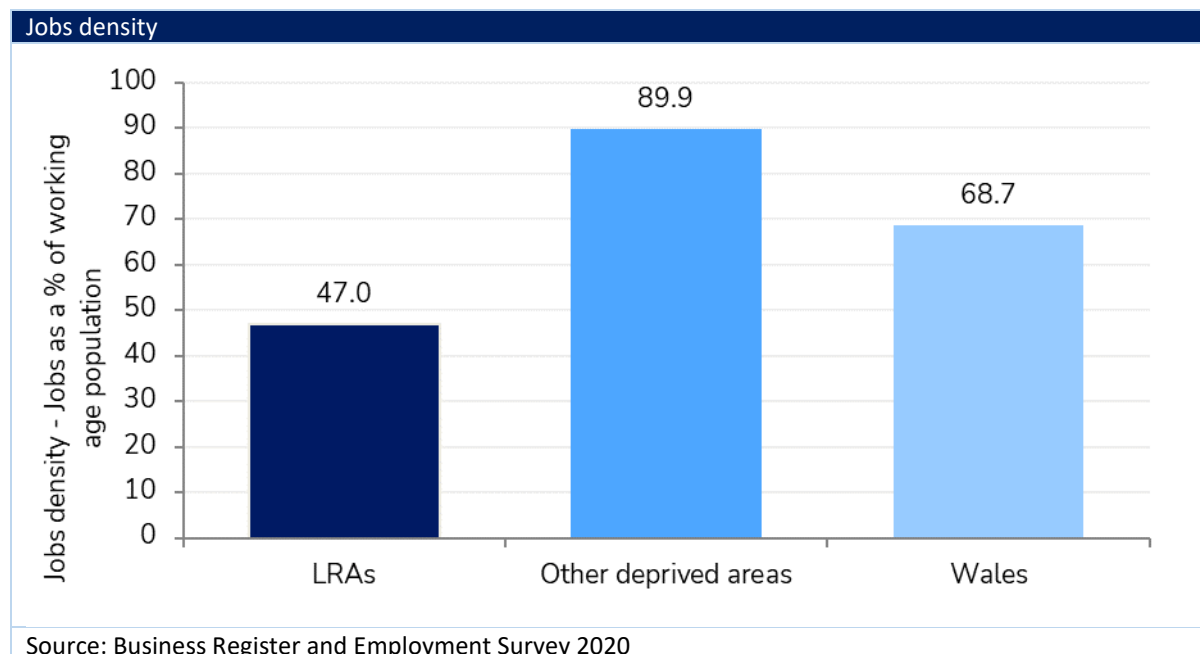
There are 47 jobs per 100 working age adults in LRAs. This is just over half the average across other deprived areas (90 per 100 working age adults) and considerably below the average across Wales as a whole (69 per 100). This means that if working age adults were actively seeking work, less than half would be able to find work locally. This reflects the peripheral nature of LRAs compared with national comparators, further away from major centres of employment.

With available jobs less likely to be highly skilled…

The chart below compares the proportion of jobs that are full-time and part-time across LRAs and comparator areas.

A higher proportion of jobs in LRAs offer part-time employment (33.3%) than across Wales as a whole (31.8%), though lower than in other deprived areas (37.3%).

The proportion of jobs that are full-time/part-time

	Full-time	Part-time
LRAs	62.0	33.3
Other deprived areas	62.6	37.3
Wales	62.8	31.8

y-axis: % of all jobs
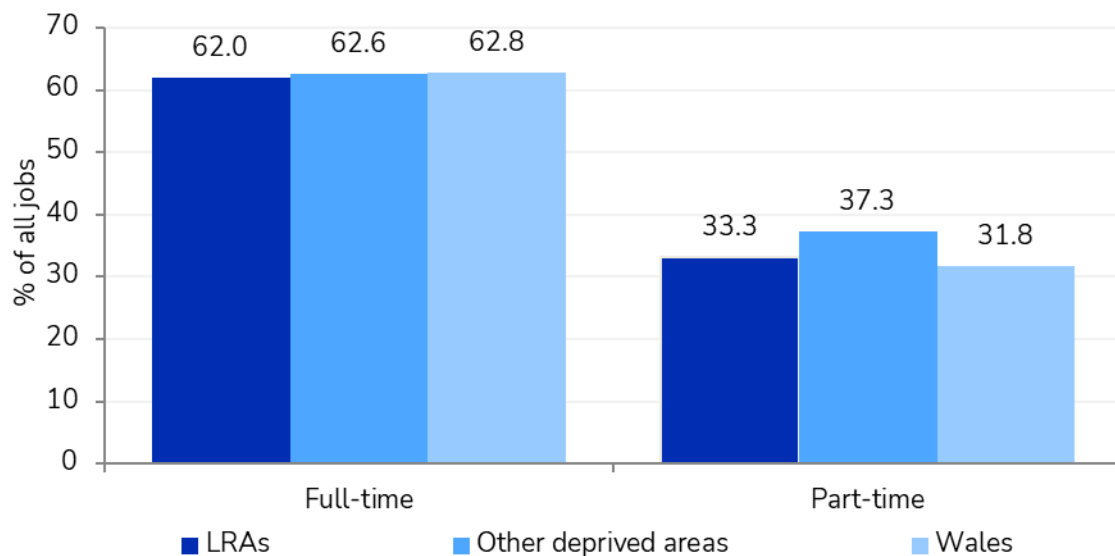
Source: Business Register and Employment Survey 2020

The chart below shows the proportion of people living in LRAs and comparators in highly skilled (professional, managerial and associate professional) and low skilled (elementary) occupations.

The chart shows that a lower proportion of people living in LRAs are employed in high skilled occupations (27%) than other deprived areas (30.5%). This is likely to be linked to the lower skill profile of these areas as well as the availability of jobs (*see the education section below*).

Occupation profile ('high skill' and 'low skill' occupations by place of residence)

	People working in managerial, professional or associate professional occupations	People working in elementary occupations
LRAs	27.0	15.5
Other deprived areas	30.5	16.4
Wales	35.8	11.9

y-axis: % of people in employment
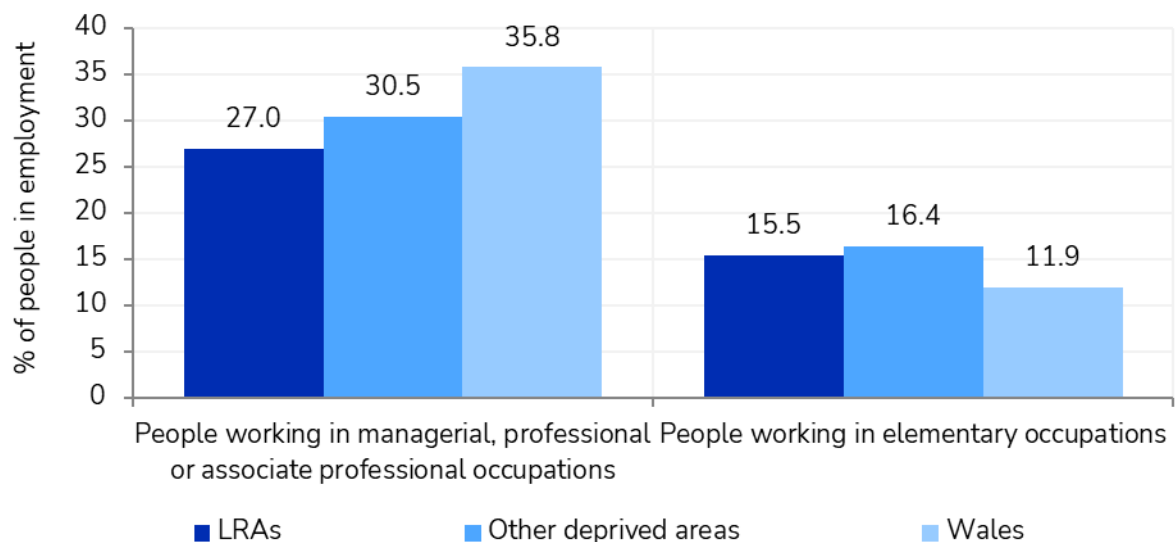
Source: Census 2011

Which is reflected in lower overall household incomes…

The chart below compares average annual household income levels (before and after housing costs) in LRAs and their comparators.

Household income

Source: Census 2011
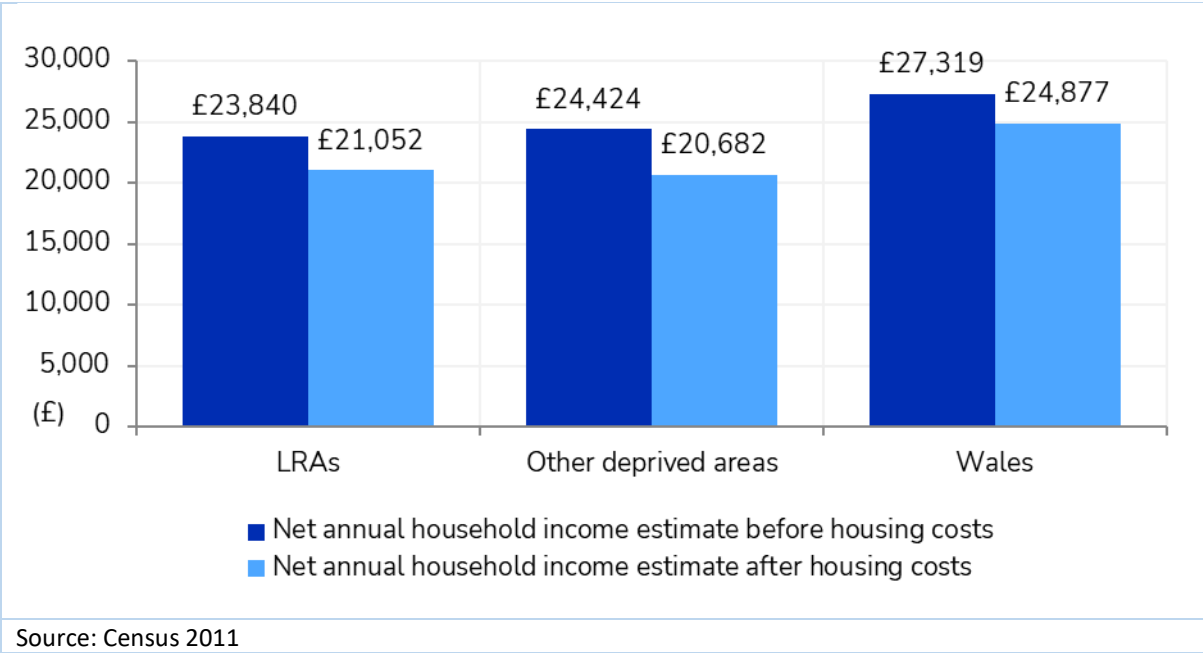
The chart shows that the average annual household income in LRAs is more than £3,800 below the national average once housing costs are taken into account. Average earnings are also slightly lower than across other deprived areas (before housing costs are considered).

Employment and worklessness

This section explores the changes in unemployment and wider worklessness in LRAs and comparator areas.

Unemployment has been fluctuating between 2004 and 2022, with sharp rises during the financial crises of the late 2000s and the recent Covid-19 pandemic

The chart below tracks the unemployment benefit claimant rate across LRAs and comparators between 2004 and 2022. The data captures the number and proportion of working-age people receiving benefits payable to those who are unemployed – Jobseeker's Allowance and Universal Credit for those who are out of work and actively seeking work.

Unemployment benefit claimants – change in claimant rate 2004 to 2022

Source: Department for Work and Pensions (DWP)
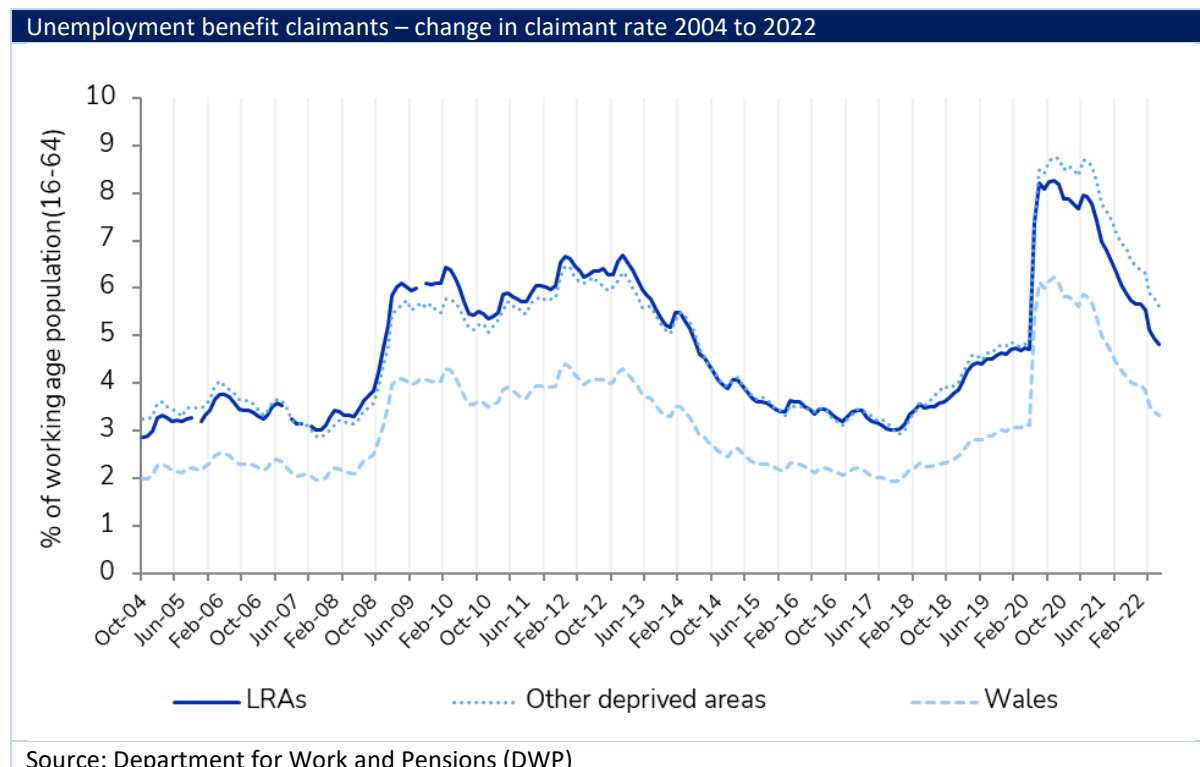
It is evident from the chart that there have been multiple fluctuations in unemployment across LRAs and comparator areas alike over the period. Between 2004 and 2008 the unemployment rate remained relatively stable before rising sharply from 2008 to 2010 during the global financial crisis. During this period, unemployment rose more rapidly in LRAs than in other deprived areas – in February 2007 the unemployment claimant rate in LRAs was similar to that of the other deprived areas (with both averaging 3.6%); however, by April 2009 the situation had changed, with unemployment rates in LRAs notably above the average in non-LRAs (6.3%, compared with 5.7% in other deprived areas).

From 2012 the unemployment rate began to fall across LRAs and other deprived areas alike, before rising slowly from 2016. A second more sharp spike in unemployment has occurred following the Covid-19 lockdown in March, with unemployment rising sharply across all areas - by 2.7 percentage points in LRAs, 2.5 in other deprived areas and 2.3 in Wales between March and April 2020.

Following the initial spike, LRAs have seen sharper rises than the national average, but smaller rises than across other deprived areas and consequently, the unemployment rate in LRAs has fallen below that of other deprived areas. More recently, unemployment rates have fallen across all parts of Wales following the historic highs in 2021. As of June 2022 they stand at 4.8% in LRAs, 5.6% in other deprived areas and 3.3% in Wales as a whole.

People in LRAs are more likely to experience wider worklessness than other deprived areas and Wales as a whole

Many people who are out of work are not receiving unemployment benefits. Some of these people, whilst not being regarded as 'unemployed' under the traditional definition, may be regarded as 'workless' in the sense that they would be in paid employment if a suitable opportunity were available. Two major groups of workless people not covered by the unemployment benefits are those involuntarily excluded from the labour market due to poor health or caring responsibilities. The majority of this group is now in receipt of Universal Credit. In order to get a better understanding of the size and needs of this group it is useful to look at the characteristics of Universal Credit claimants. This can be determined by looking at the conditions attached to the Universal claim which relate to the needs and circumstances of the claimant. Conditionality refers to the activities an eligible adult will have to do in order to get full entitlement to Universal Credit. Each eligible adult will fall into one of six conditionality regimes based on their capability and circumstances:

Conditionality Regime	Description
Searching for work	Not working, or with very low earnings. Claimant is required to take action to secure work - or more / better paid work. The Work Coach supports them to plan their work search and preparation activity.
Working - with requirements	In work but could earn more, or not working but has a partner with low earnings
No work requirements	Not expected to work at present. Health or caring responsibility prevents claimant from working or preparing for work.
Working - no requirements	Individual or household earnings over the level at which conditionality applies. Required to inform DWP of changes of circumstances, particularly if at risk of decreasing earnings or losing job.
Planning for work	Expected to work in the future. Lone parent / lead carer of child aged 1. Claimant required to attend periodic interviews to plan for their return to work.
Preparing for work	Expected to start preparing for future even with limited capability for work at the present time or a child aged 2, the claimant is expected to take reasonable steps to prepare for work including Work Focused Interview.

The chart below compares the breakdown of Universal Credit recipients in LRAs, other deprived areas and Wales as a whole by main conditionality group (excluding those in the *Working - no requirements* conditionality category, who are not considered part of the wider workless group).

Universal Credit claimants by conditionality regime

	Searching for work	Working – with requirements	No work requirements	Planning for work	Preparing for work
LRAs	5.3	3.1	7.1	0.4	1.2
Other deprived areas	6.1	3.4	5.9	0.4	1.0
Wales	3.7	2.2	4.6	0.3	0.8

% of total population
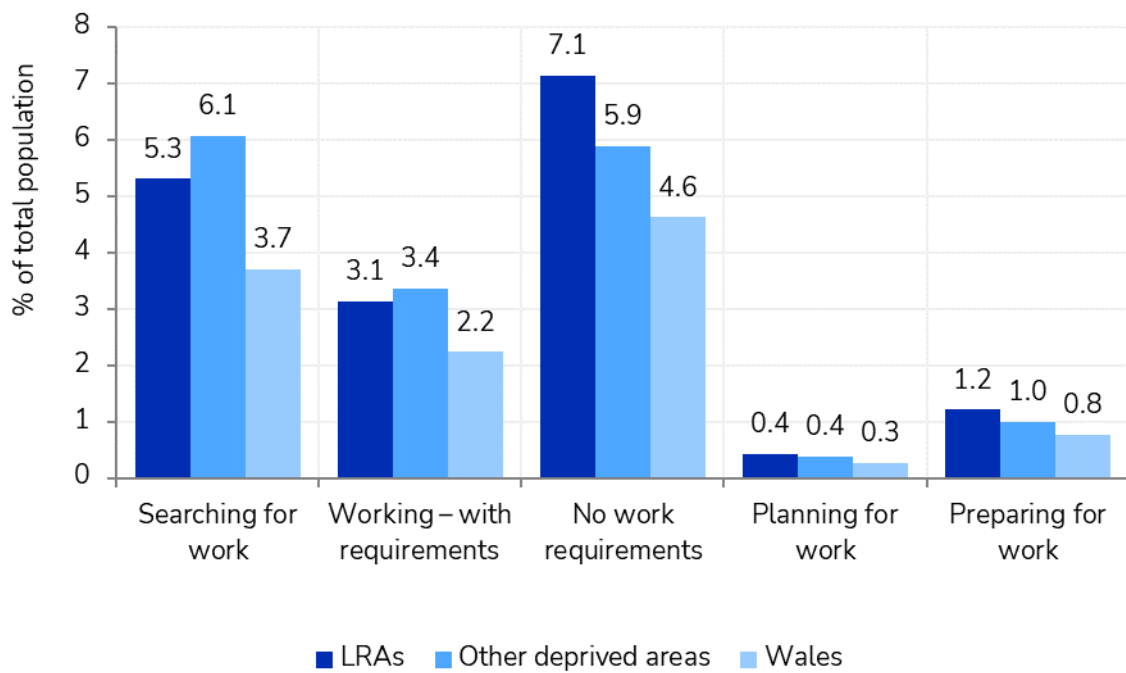
Source: Department for Work and Pensions (DWP) Feb 2022

The chart shows that those with no work requirements make up the largest component of Universal Credit claimants in LRAs, Deprived non-LRAs and Wales alike. This group is not counted in the unemployment figures above and relate to people who are economically inactive either through sickness or caring responsibilities. People in LRAs are considerably more likely to be in the *no work requirements* group (7.1%) than across other deprived areas (5.9%) and Wales as a whole (4.6%) indicating long term health and disability challenges in these areas (explored in greater depth in the health section below).

Health

This section explores key health outcomes for LRAs compared to other areas across Wales.

LRAs experience a lower life expectancy and healthy life expectancy and a higher prevalence of limiting long-term illness than across Wales as a whole.

The chart below compares life expectancy and healthy life expectancy (*the average number of years that an individual might expect to live in "good" health in their lifetime*) across LRAs and comparator areas.
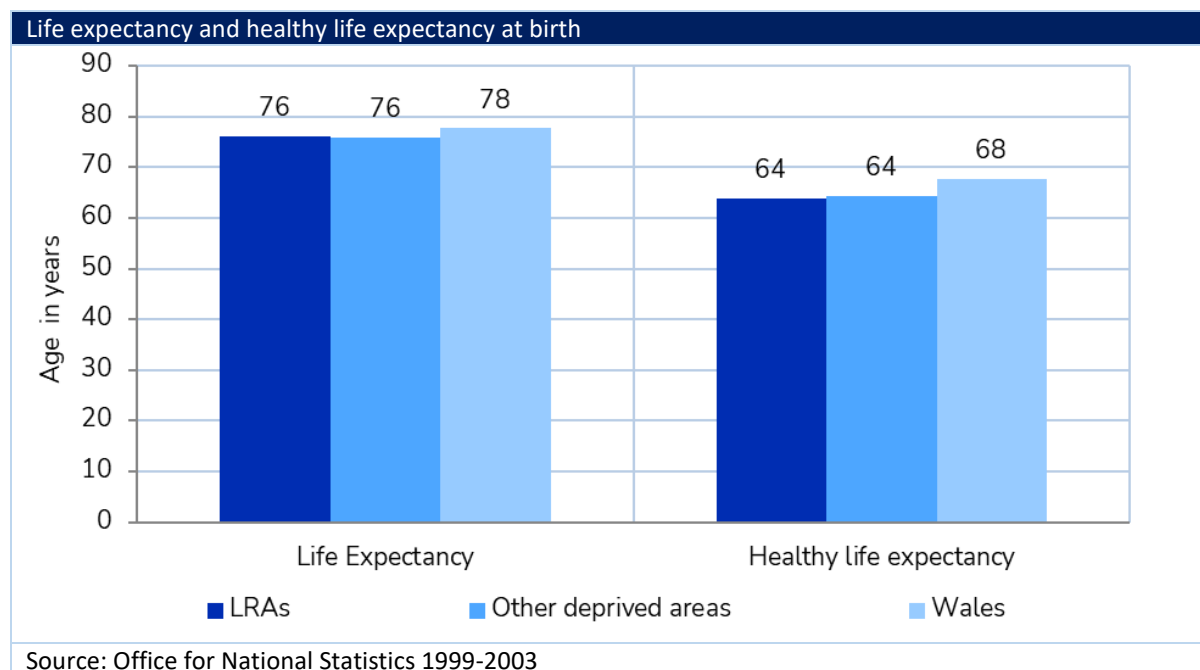
Life expectancy and healthy life expectancy at birth

Source: Office for National Statistics 1999-2003

People living in LRAs can expect to live shorter and less healthy lives than the average across Wales, with a life expectancy of 76 years and healthy life expectancy of 64 years, compared with 78 and 68 years respectively across Wales. However, figures for LRAs are broadly in line with the average for other deprived areas.

The chart below shows the proportion of people in different age groups with a limiting long-term illness.

More than one-in-four (25.9%) people in LRAs have a long-term illness, higher than across other deprived areas (22%) and Wales as a whole (22.7%). This disparity is seen across all age groups.
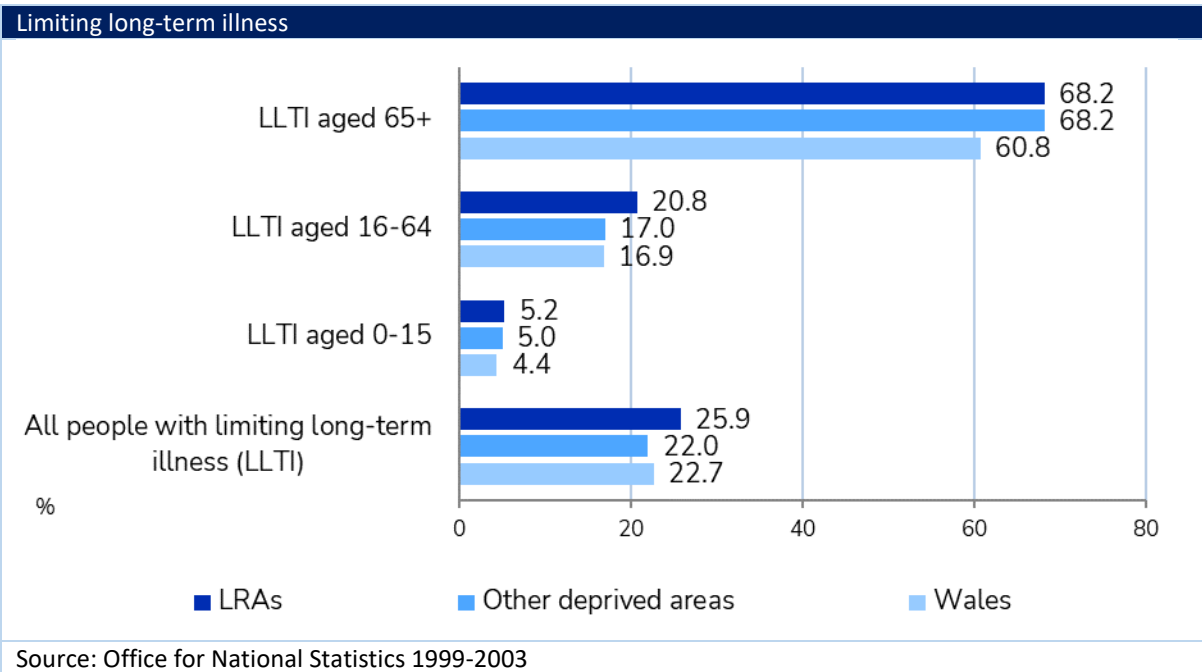
Limiting long-term illness

	%
LLTI aged 65+	LRAs: 68.2, Other deprived areas: 68.2, Wales: 60.8
LLTI aged 16-64	LRAs: 20.8, Other deprived areas: 17.0, Wales: 16.9
LLTI aged 0-15	LRAs: 5.2, Other deprived areas: 5.0, Wales: 4.4
All people with limiting long-term illness (LLTI)	LRAs: 25.9, Other deprived areas: 22.0, Wales: 22.7

Legend: ■ LRAs ■ Other deprived areas ■ Wales

Source: Office for National Statistics 1999-2003

This is reflected in the relatively high proportion of working age adults receiving benefits due to poor health and disability

The chart below shows the proportion of people receiving Personal Independence Payments (PIP) (including those receiving payments for mental health related conditions). PIP is payable to people with long-term illness or disability that require social care support to manage their conditions – regardless of their employment or financial circumstances.
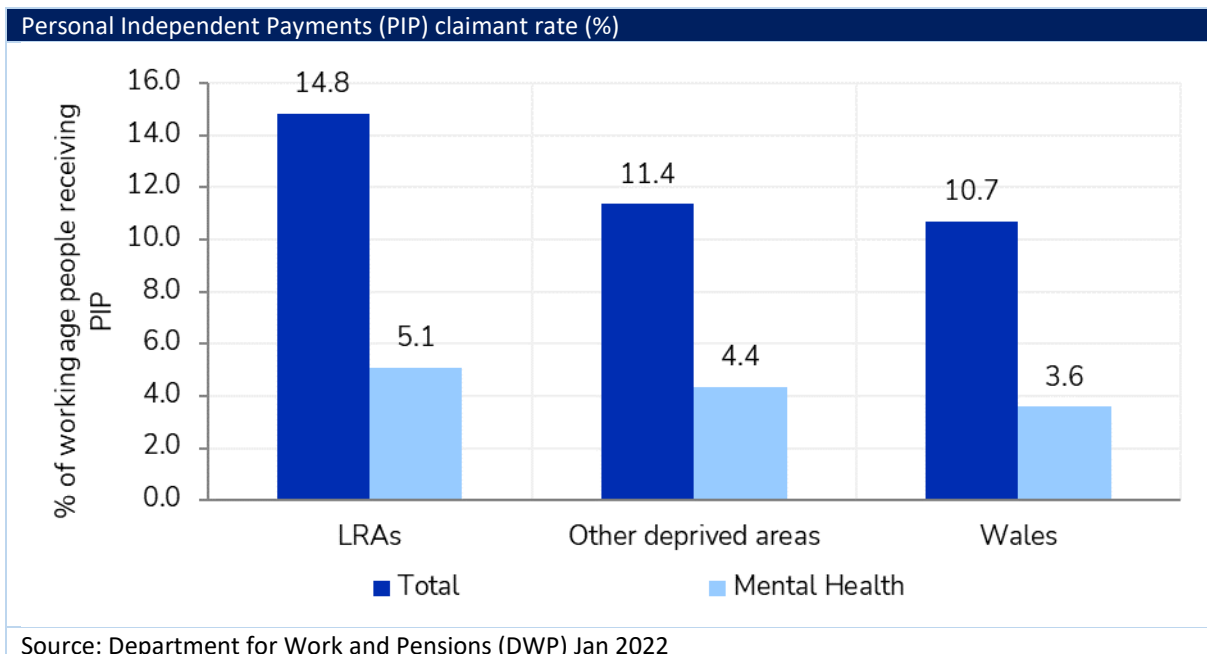
Personal Independent Payments (PIP) claimant rate (%)

% of working age people receiving PIP

	Total	Mental Health
LRAs	14.8	5.1
Other deprived areas	11.4	4.4
Wales	10.7	3.6

Legend: ■ Total ■ Mental Health

Source: Department for Work and Pensions (DWP) Jan 2022

LRAs have a considerably higher PIP claimant rate than across the benchmark areas, with 14.8% of working age adults in LRAs receiving PIP, compared with 11.4% in other deprived areas and 10.7% across Wales as a whole. Of these, approximately one-third are receiving these benefits due to mental health related conditions.

The chart below shows the proportion of people aged 65+ receiving Attendance Allowance. Attendance Allowance is payable to people over the age of 65 who are so severely disabled, physically or mentally, that they need a great deal of help with personal care or supervision.

Attendance Allowance claimant rate (%)

Source: Department for Work and Pensions (DWP) Aug 2021
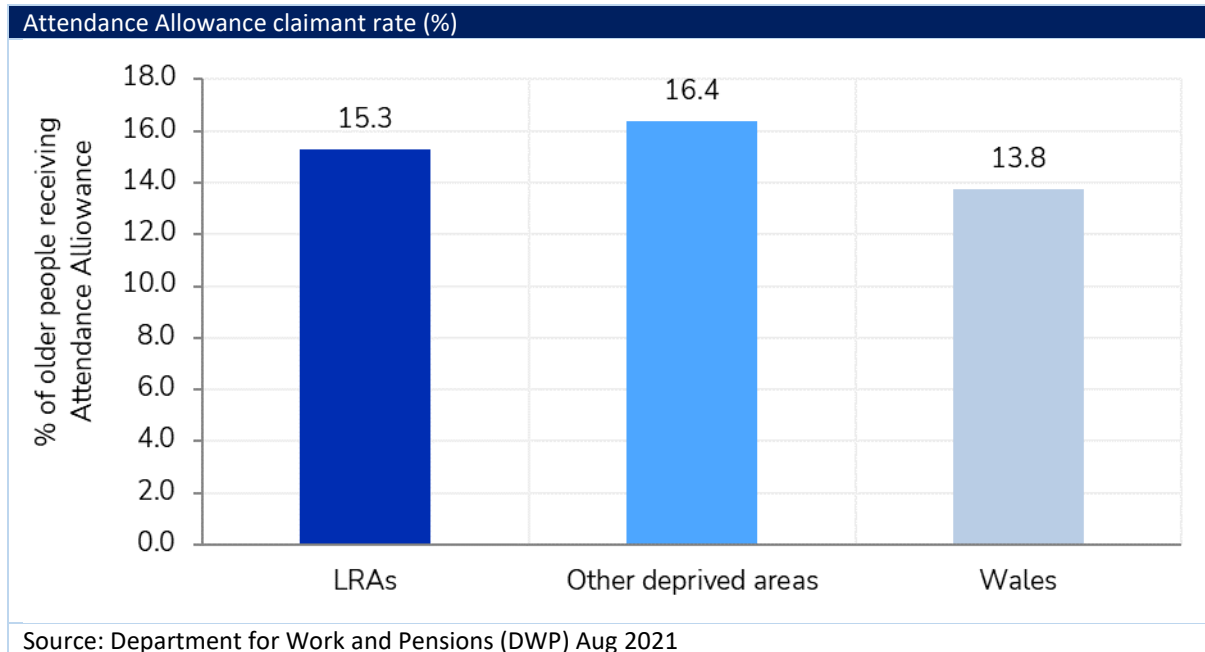
LRAs have a higher Attendance Allowance claimant rate than across Wales as a whole, with 15.3% of older people in LRAs receiving PIP, compared with 16.4% in other deprived areas and 13.8% across Wales.

A higher proportion of people living in LRAs are informal carers – this is likely to be linked to the relatively high levels of sickness and disability in these areas and a lack of access to formal care

The chart below shows the number and proportion of people providing unpaid care. A person is identified as a provider of unpaid care if they give any help or support to another person because of long-term physical or mental health or disability, or problems related to old age.

People in LRAs are more likely to be providing unpaid care (12.1%) than those in other deprived areas (10.2%) though equalling the average across Wales as a whole (12.1%). Of these, approximately one-in-four provide unpaid care for more than 50 hours a week. The proportion of these full-time carers is higher in LRAs (4% of the population) than across other deprived areas (3.1%) and Wales as a whole (3.4%). The majority of unpaid carers are adults; however, 1.4% of children in LRAs provide unpaid care (broadly in line with the average across Wales as a whole).

People providing unpaid care

[Bar chart showing three groups of data, %, y-axis from 0 to 14]

People providing unpaid care: LRAs 12.1, Other deprived areas 10.2, Wales 12.1

Children (aged 0-15) providing unpaid care: LRAs 1.4, Other deprived areas 1.4, Wales 1.4

People providing unpaid care, 50+ hours per week: LRAs 4.0, Other deprived areas 3.1, Wales 3.4

Legend: LRAs | Other deprived areas | Wales
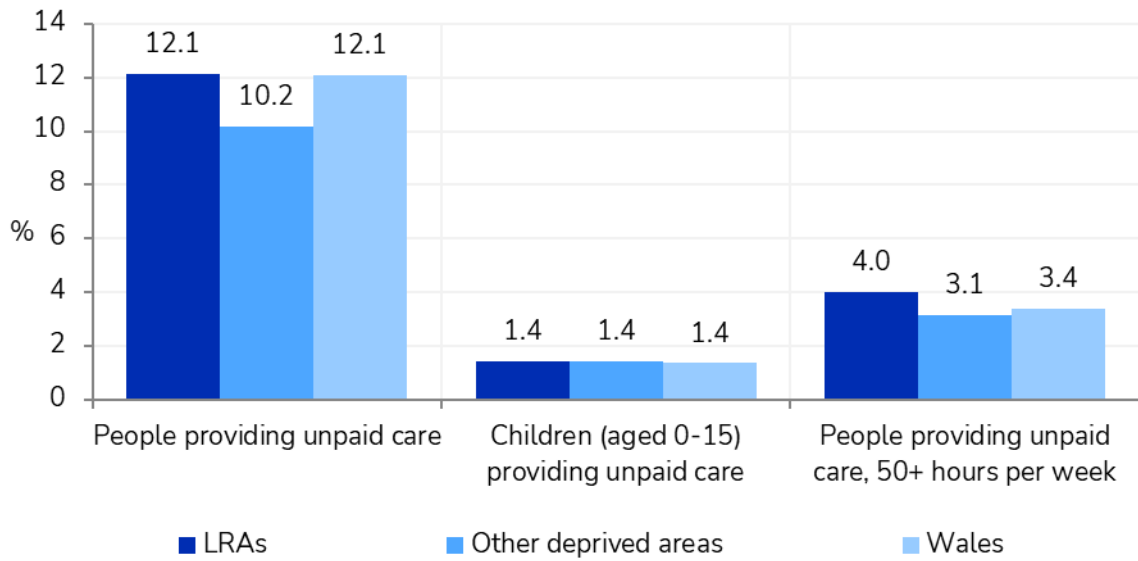
Source: Census 2011

Mortality rates are also higher than across other deprived areas

The chart below shows the mortality rate for all causes for LRAs and comparator areas. The figures in the chart are age standardised - taking into account the age profile of the area.

Mortality rate from key causes (age standardised rate per 100,000)

[Bar chart, rate per 100,000, y-axis from 0 to 1400]

LRAs 1188, Other deprived areas 1141.1, Wales 1039
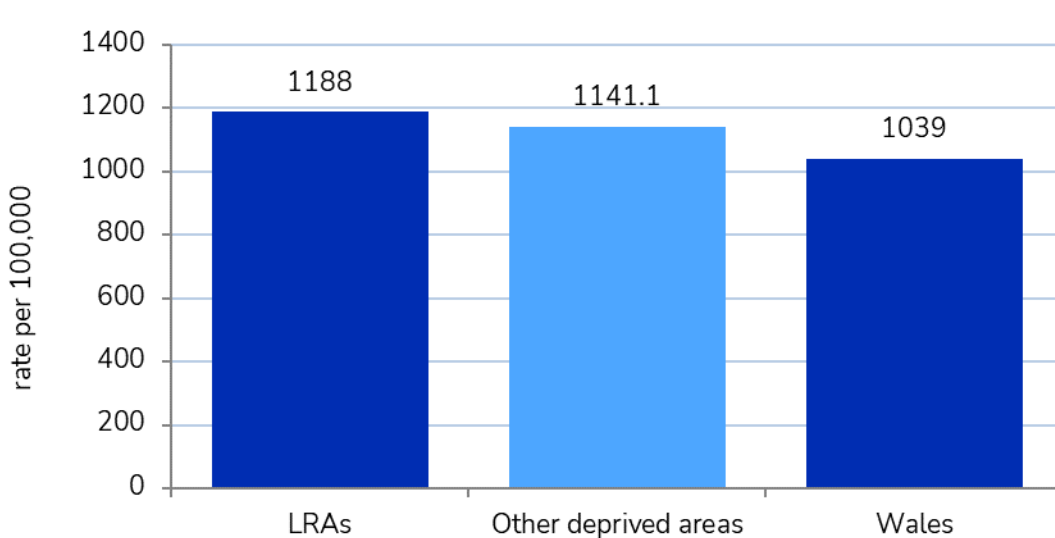
Source: Welsh Index of Multiple Deprivation 2014

The overall mortality rate is marginally higher in LRAs (1,188 per 100,000 people) than across other deprived areas (1,141 per 100,000 people) and Wales as a whole (1,039 per 100,000 people). This is also reflected in higher levels of mortality for all key conditions in LRAs than would be expected given the age profile of the area.

The chart below shows the incidence of cancer (per 100,000 population) from all causes.

Again, LRAs have a marginally higher incidence rate (649) than the average across other deprived areas (646.4), and considerably above the average across Wales as a whole (613).

Cancer Incidence (age standardised rate per 100,000)
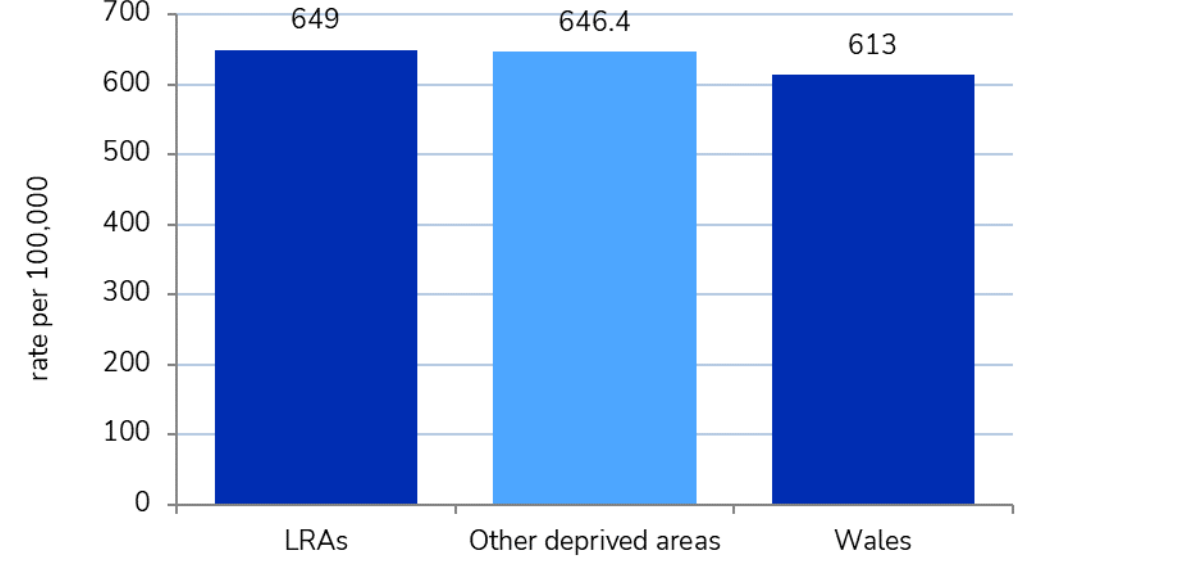
Source: Welsh Index of Multiple Deprivation 2019

Crime

This section explores crime statistics in LRAs compared to other areas across Wales.

LRAs experience higher crime than the national average for all major crime types – though lower than the average across other deprived areas

Notifiable offences reported to the police – selected crimes

Source: www.police.uk (2020/21)
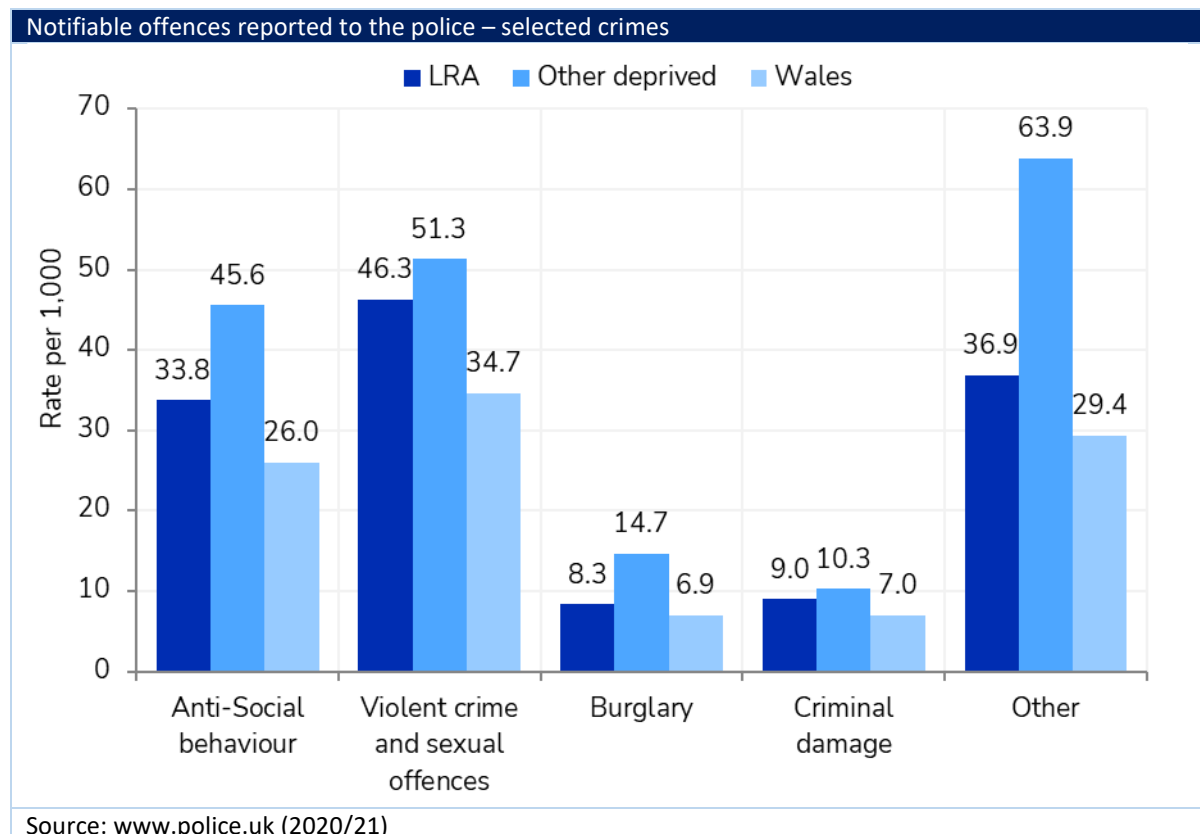
LRAs have a higher overall crime rate (129.6 per 1,000)[9] than Wales as a whole (100 per 1,000), a pattern repeated across all major crime types. However, LRAs have lower levels of key crimes than other deprived areas on average. This is likely to be linked to their location in more peripheral areas (away from town centres and nightlife areas where various types of crime are more common).

Levels of violent crime offences are higher in LRAs than the Wales average and they are rising, which matches the national story

The charts below track monthly change in crime levels for violent crime and burglary across LRAs and comparators.

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[9] Note figures in the chart do not add up to the overall crime rate, as the burglary rate is reported as a rate per 1,000 households rather than a rate per 1,000 population.

Change in violent crime offences
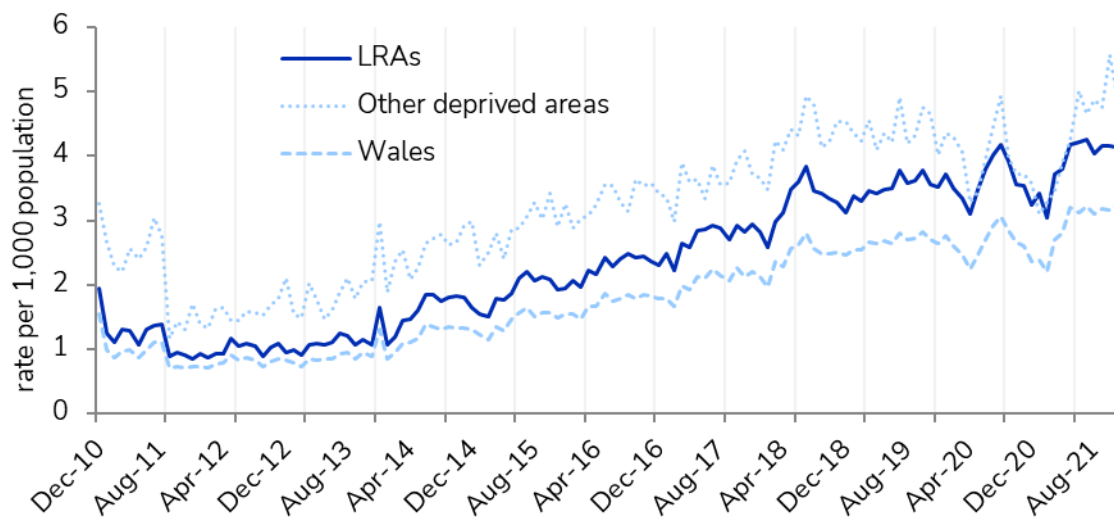
Change in burglary offences
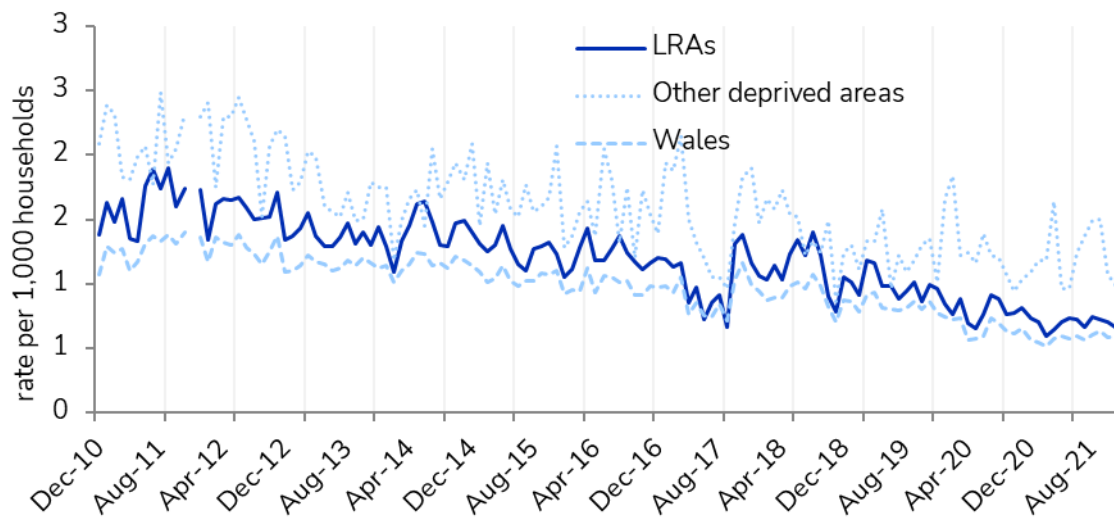
Source: www.police.uk (2020/21)

The charts highlight that different crime types are showing different trajectories. Levels of burglary are falling across each area, and there is some evidence that the gap is narrowing between LRAs and Wales as a whole. By contrast, levels of violent crime are rising and the gap is widening between LRAs and the national average.

Education and skills

This section explores qualification and skills levels in LRAs compared to other areas across Wales.

People in LRAs are more likely to have no qualifications and less likely to have degree level qualifications than across other deprived areas and Wales as a whole

The chart below compares the proportion of people with no qualifications and degree level qualifications in LRAs and their comparator areas.
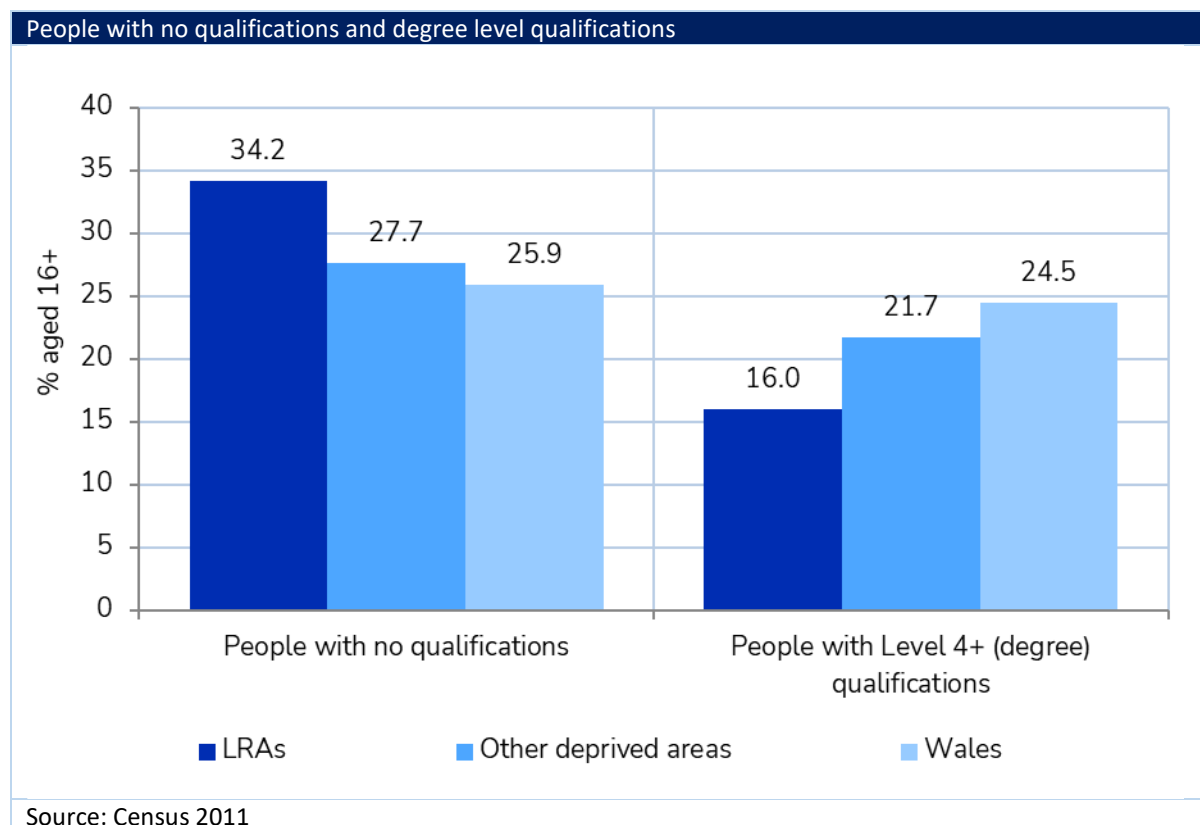
People with no qualifications and degree level qualifications

Source: Census 2011

More than one-in-three adults in LRAs hold no qualifications (34.2%), above the average in other deprived areas (27.7%) and Wales as a whole (25.9%). By contrast, just 16% of adults in LRAs hold degree or higher qualifications, this is notably below the average in other deprived areas (21.7%) and Wales (24.5%).

This is mirrored in the educational outcomes for children - attainment levels amongst both primary school and secondary school children are lower in LRAs than the average across Wales with a larger attainment gap in older children….

The chart below shows the average point score at Key Stage 2 (aged 11) and Key Stage 4 (GCSE) across LRAs and comparator areas (higher scores equal higher attainment levels).

LRAs perform less well on the Key Stage 4 (GCSE) measure than other deprived areas or Wales. LRAs also have lower attainment levels at Key Stage 2 than across Wales.

Pupil attainment at Key Stage 2 and Key Stage 4 (GCSE), 2015/16-2017/18 combined

KS2 Average Point Score per pupil is made up from English/We;sh, Mathematics and Science point scores where score of 33=level 5, 27=level 4 (the expected level), 21=level 3, 15=level 2. KS4 measures the average point score of Year 11 pupils based on the grades achieved in the core subjects of GCSE English or Welsh, GCSE Mathematics and GCSE Science

■ Key Stage 2   ■ Key Stage 4
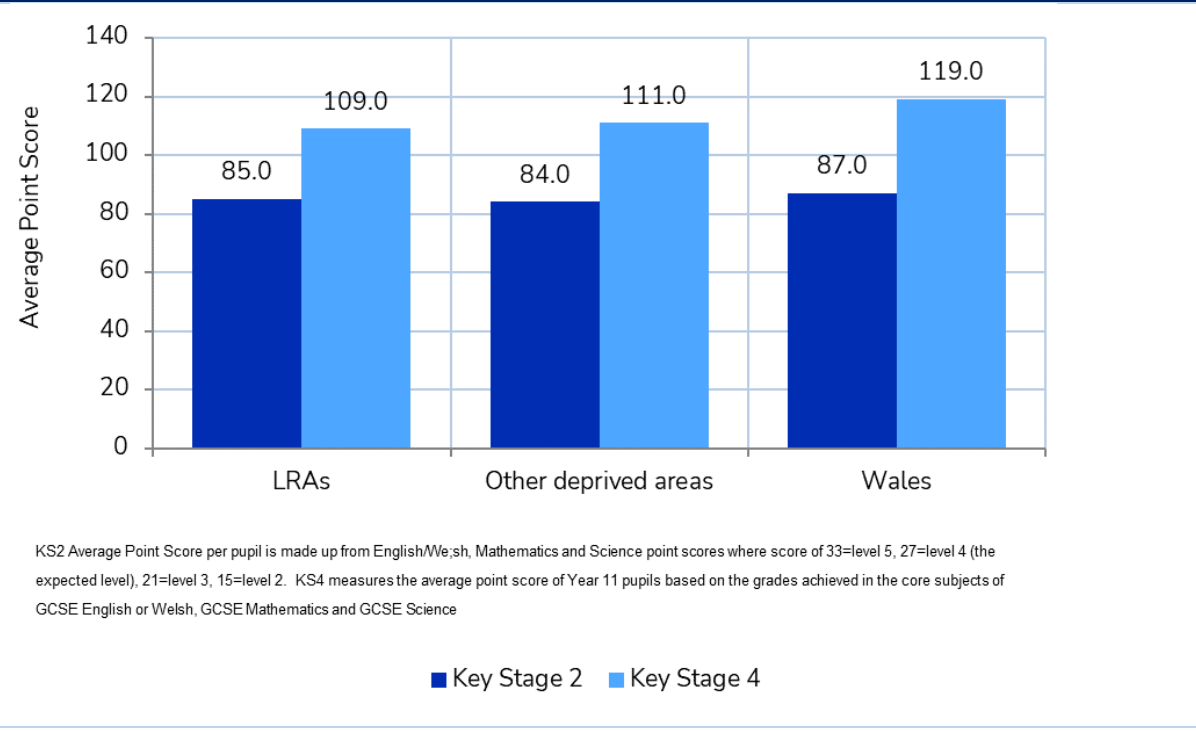
Source: Welsh Index of Multiple Deprivation 2019

…Leading to a lower proportion of young adults entering Higher Education

The chart below shows the proportion of Key Stage 4 leavers entering Higher Education (KS4 pupils who, at some point in the subsequent three years after leaving Year 11, entered Higher Education).

Percentage of Key Stage 4 leavers entering Higher Education, 2011/12 - 2014/15 combined
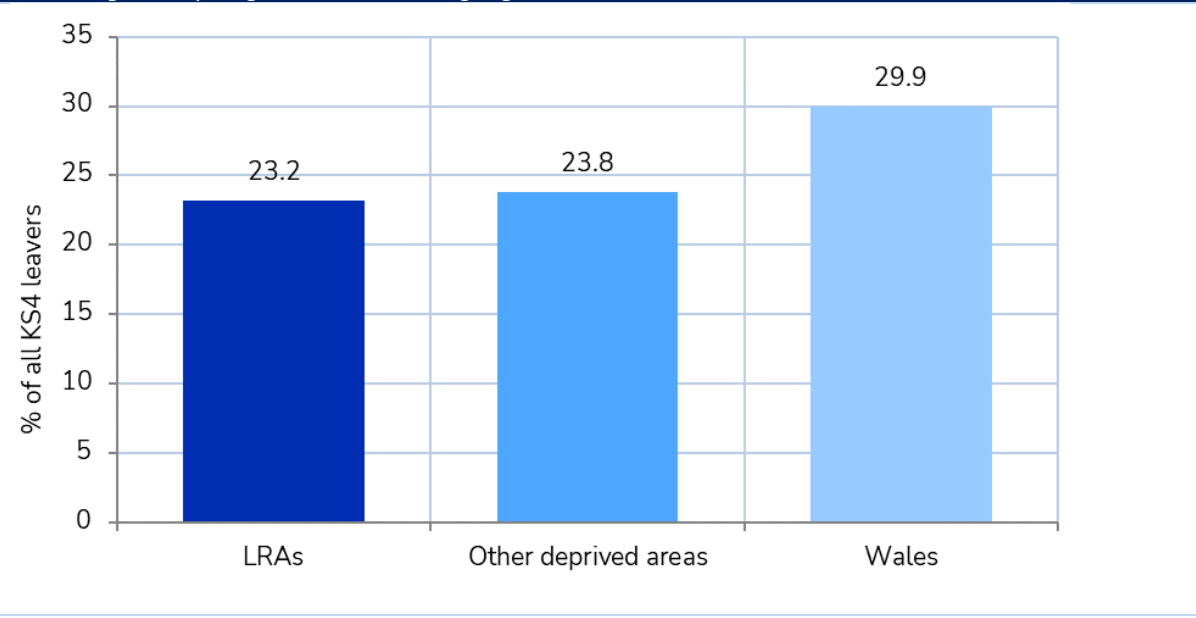
Source: Welsh Index of Multiple Deprivation 2019

Just 23.2% of Key Stage 4 leavers entered Higher Education in LRAs, compared with 23.8% in other deprived areas and 29.9% across Wales as a whole.

Access and services

This section explores access to services in LRAs compared to other areas across Wales.

Households in LRAs are less likely to own a car than the average across Wales...

The chart below shows the proportion of households in LRAs with no car and the number of cars owned.

Car ownership

Cars	LRAs	Other deprived areas	Wales
Four+ cars	1.3	1.1	2.2
Three cars	4.2	3.3	6.1
Two cars	19.5	16.2	25.8
One car	43.4	42.4	43.0
No cars	31.7	37.1	22.9

% of households

■ LRAs   ■ Other deprived areas   ■ Wales

Source: Census 2011
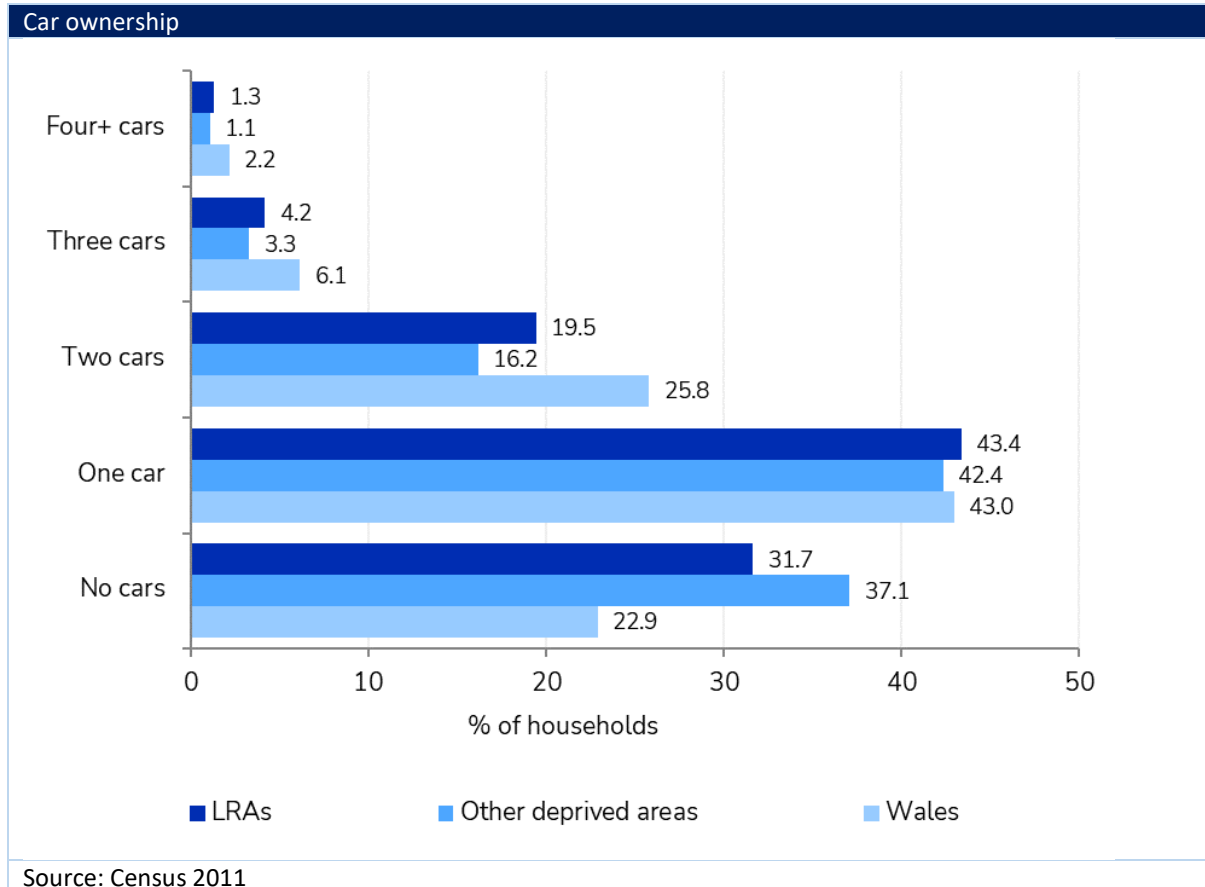
It shows that 31.7% of households in LRAs have no car or van, compared to 22.9% across Wales. The proportion of people with no car is lower than across other deprived areas. However, LRAs are typically more likely to be located in outlying areas than across other deprived areas, so they have longer travel times to access key services and employment opportunities.

Community need and social infrastructure

This section brings together social infrastructure data to provide an understanding of the strength of community in LRAs in comparison to other deprived areas and Wales. Community strength is explored in terms of the availability of civic and cultural assets such as public halls, schools and leisure centres; the strength of the third sector via the work of charitable organisations and grant giving in local areas; and an overview of participation in the community with an exploration of voter turnout rates.

The Wales Community Assets Index (WCAI) was developed to identify areas experiencing poor community and civic infrastructure, relative isolation and low levels of participation in community life. The index was created by combining a series of 19 indicators, conceptualised under three domains:

- Civic Assets: Measures the presence of key community, civic, educational and cultural assets in and in close proximity to the area. These include youth clubs, libraries, public parks, community centres, swimming pools, village halls, community owned assets – facilities that provide things to do and spaces to meet often, at no or little cost, which are important to how positive a community feels about its area.

- Connectedness: Measures the connectivity, both in physical terms and how easy it is to access key services such as health services, digital connectivity, social connectivity with a measure of loneliness, access to public and private transport and strength of the local jobs market.

- Active and engaged community: Measures the levels of active participation in community and civic life, levels of engagement, volunteering, perceptions of social relationships and the strength of the third sector locally.

The table below shows the indicators included in these domains.

Indicator	Source	Date
Civic Assets		
CA1: Density of community space assets	AddressBase	July 2021
CA2: Density of educational assets	AddressBase	July 2021
CA3a: Density of sport and leisure assets (address base)	AddressBase	July 2021
CA4: Density of cultural assets	AddressBase	July 2021
CA5a: Green assets (density)	AddressBase	July 2021
CA5b: Green assets (Area of public green space)	Ordnance Survey	April 2020
CA6: Retail assets	AddressBase	July 2021
CA7a: Community-owned assets	Renaisi/Plunkett Foundation/Locality	2021
Connectedness		
CN1a: Travel time to key services by public transport/walk	Welsh Government	2019
CN1b: Average distance to nearest Park, Public Garden, or Playing Field (m)	Ordnance Survey	April 2020
CN2a: Jobs density in the Travel to Work Area	Business Register and Employment Survey (BRES)	2019
CN2b: Jobs density in the local area	Business Register and Employment Survey (BRES)	2019
CN3: Households with no car	Census 2011	2011
CN4a: Broadband download speeds	OfCom	2020
CN4b: Broadband upload speeds	OfCom	2020
CN5: Loneliness (People living alone)	Census 2011	2011
CN5b: Loneliness (Loneliness Index – GP Prescriptions for Loneliness)	Office for National Statistics' Data Science Campus /NHS /Red Cross	2019
CN4c: Loneliness (Self-reported levels of loneliness)	National Survey for Wales	2016/17 and 2019/20
Active and Engaged Community		
AE1: Voter turnout at local elections	Electoral Commission	2017

Indicator	Source	Date
AE2a: Civic participation (Self-reported measures of community and civic participation)	National Survey for Wales/Output Area Classification 2011: ONS	2014/15, 2016/17, 2017/18, 2018/19, 2019/20
AE2b: Strength of local social relationships	National Survey for Wales/Output Area Classification 2011: ONS	2012/13, 2013/14, 2016/17, 2018/19
AE3: Leisure and cultural participation	National Survey for Wales/Output Area Classification 2011: ONS	2014/15, 2017/18, 2018/19, 2019/20
AE4: Third sector organisations	Charities Commission, Co-operatives UK, Companies House, from Financial Conduct Authority	2021
AE5: National Lottery Community Fund	National Lottery (through 360 Giving)	2004-2021
AE6: Grant funding per head from major grant funders	360 Giving Grant Nav data	Up to 2021
AE7a: SME lending by banks	UK Finance	June 2020
AE7b: Small businesses: Local Business Units with 0-4 employees	Inter Departmental Business Register (IDBR)	2020
AE7c: Generative Businesses	Understanding Wales Places	2021
AE8 Trustees of charities	Understanding Wales Places	2021

LRAs perform relatively poorly on the *Active and Engaged Community* measure

The chart below shows the WCRI average domain ranks on the Civic Assets, Connectedness and Active and Engaged Community domains across LRAs and comparators. A rank of 1 is assigned to the MSOA in Wales with the lowest resilience, while a rank of 410 is assigned to the MSOA with the highest resilience.

Unsurprisingly, LRAs score more poorly on each of the three new domains. The average rank for LRAs is particularly poor on the *Active and engaged community* domain (117) relative to other deprived areas (213) and Wales as a whole (205). Other deprived areas perform above average on the *Civic Assets* domain (279) compared to the Wales average of (201) – suggesting that the higher performance of ODA over the Welsh average, reflects their proximity to urban centres.

Average WCRI domain ranks

Source: OCSI 2022
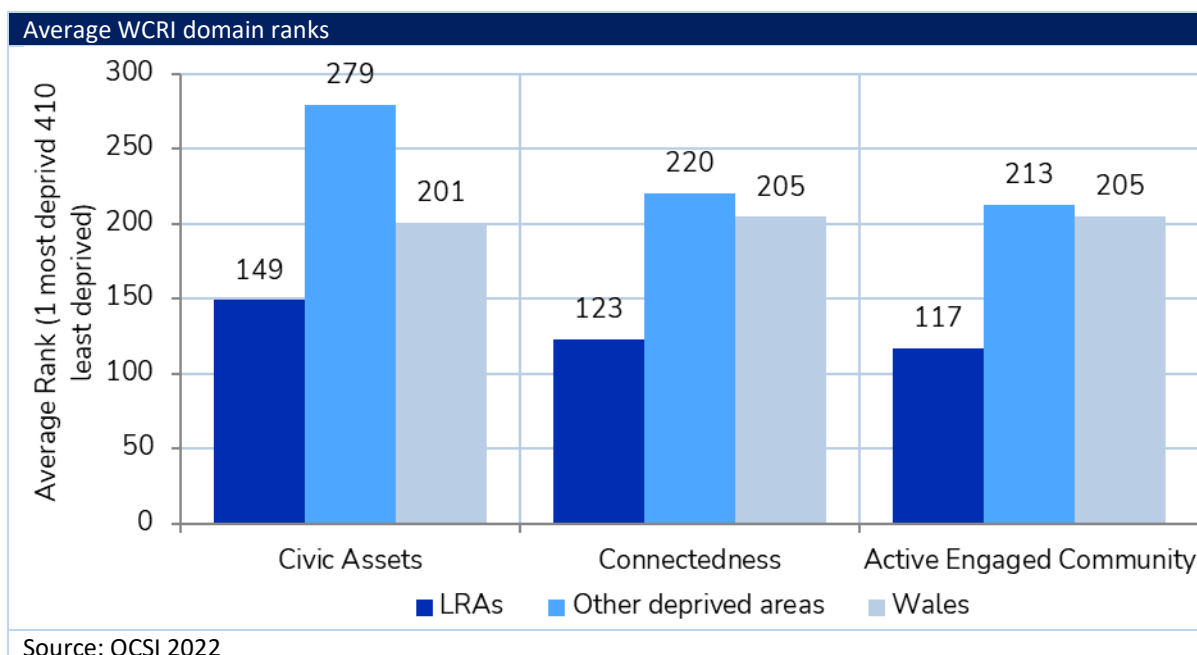
This is reflected in a lack of third sector activity in LRAs resulting in lower levels of funding to support socio-economic needs compared with other deprived areas

The table below looks in more detail at key indicators of community need.

Key measures of social infrastructure and community need

	LRAs	Other deprived areas	Wales
Community owned assets (rate per 100,000 population)	36.4	50.1	35.0
Voter turnout at local elections (%)	37.5	35.6	42.3
Third sector organisations (rate per 100,000)	325	556	459
National Lottery Community Funding per head	149	287	180
Grant funding per head from major grant funders	18.6	37.8	24.0
Generative Businesses per 100,000 population	19.5	61.4	28.9
Trustees of charities (per 100,000 population)	838	1,314	1,366

LRAs perform less well than the average across other deprived areas and Wales indicators, despite slightly higher rates of community owned assets than the Wales average and marginally higher voter turnout rates than in other deprived areas. In particular there are notable gaps in LRAs in terms of the levels of funding received. This is likely to be related to a lack of third sector activity in these areas; with notably fewer third sector organisations (325 per 100,000 population), and charity trustees (838 per 100,000) compared with the national average (459 and 1,366 respectively).

It is also notable that other deprived areas perform above the national average in terms of attracting funding from the National Lottery, foundations and grant funders and have been more successful in developing community owned businesses.

The lack of third sector infrastructure and capacity is likely to be a key barrier to addressing socio-economic challenges in LRAs.

Appendix A: The less-resilient areas

Any Middle layer Super Output Area (MSOA) ranking among the top 25% in Wales on the Community Assets Index which also contained at least one Lower layer Super Output Area (LSOA) ranked among the most deprived 10% on the WIMD 2019 has been identified as a 'less resilient' area.

The table below lists each of the LRAs in Wales – with summary data from the WCAI including WCAI rank and domain ranks. In addition, we have identified the driver of community need in each LRA i.e. the dimension of Community Resilience which each area is performing particularly badly on.

LRA Name	LAD Name	LRA Rank	WCAI Rank	Civic Assets	Connected-ness	Active Engaged	Driver of Need
Gurnos, Trefechan & Pontsticill	Merthyr Tydfil	1	1	167	12	2	Active/Engaged
St Mellons West	Cardiff	2	5	30	175	5	Active/Engaged
Townhill	Swansea	3	23	316	106	1	Active/Engaged
Treherbert	Rhondda Cynon Taf	4	2	34	15	20	Connectedness
Penderry	Swansea	5	19	180	45	13	Active/Engaged
Ely East	Cardiff	6	47	121	167	15	Active/Engaged
Bettws	Newport	7	8	82	158	3	Active/Engaged
Ringland	Newport	8	29	87	161	10	Active/Engaged
Penrhiwceibr	Rhondda Cynon Taf	9	7	129	30	16	Active/Engaged
Caerau West	Cardiff	10	15	14	103	66	Civic Assets
Duffryn & Maesglas	Newport	11	6	16	151	24	Civic Assets
Trowbridge	Cardiff	12	43	156	190	8	Active/Engaged
Abersychan	Torfaen	13	3	7	54	38	Civic Assets
Llanelli South	Carmarthenshire	14	45	115	11	218	Connectedness
West Pontnewydd & Thornhill	Torfaen	15	28	117	149	7	Active/Engaged
Abertillery North & Cwmtillery	Blaenau Gwent	16	12	89	7	118	Connectedness
Caia Park	Wrexham	17	92	295	82	56	Active/Engaged
Cefn Mawr	Wrexham	18	4	24	14	76	Connectedness
Abertillery South & Llanhilleth	Blaenau Gwent	19	26	122	5	162	Connectedness
Sandfields	Neath Port Talbot	20	30	18	308	27	Civic Assets
Rhymney, Pontlottyn & Abertysswg	Caerphilly	21	48	362	27	33	Connectedness
Llanedeyrn	Cardiff	22	11	3	230	70	Civic Assets
Pillgwenlly & Docks	Newport	23	211	349	74	203	Connectedness
Sirhowy	Blaenau Gwent	24	18	120	21	44	Connectedness
Rassau & Beaufort	Blaenau Gwent	25	9	33	68	36	Civic Assets
Caerau	Bridgend	26	90	184	118	60	Active/Engaged
Cornelly	Bridgend	27	10	17	195	23	Civic Assets
Gellideg & Town	Merthyr Tydfil	28	55	240	4	286	Connectedness

Holyhead	Isle of Anglesey	29	33	11	89	165	Civic Assets
Aberaman	Rhondda Cynon Taf	30	31	189	72	11	Active/Engaged
Glyncorrwg & Blaengwynfi	Neath Port Talbot	31	114	397	16	245	Connectedness
Blaina & Nantyglo	Blaenau Gwent	32	51	127	37	98	Connectedness
Tylorstown	Rhondda Cynon Taf	33	104	248	34	181	Connectedness
Briton Ferry	Neath Port Talbot	34	85	214	179	30	Active/Engaged
New Tredegar & Darren Valley	Caerphilly	35	72	403	58	37	Active/Engaged
Ystrad & Llwynypia	Rhondda Cynon Taf	36	69	331	87	28	Active/Engaged
Flint North East	Flintshire	37	56	44	194	61	Civic Assets
Bynea & Llwynhendy	Carmarthenshire	38	24	6	271	64	Civic Assets
Rhyl North	Denbighshire	39	141	152	63	269	Connectedness
Kinmel Bay & Towyn	Conwy	40	38	21	153	74	Civic Assets
Caerau East	Cardiff	41	237	190	221	154	Active/Engaged
Trevethin & Penygarn	Torfaen	42	131	144	84	200	Connectedness
Risca East	Caerphilly	43	16	46	268	6	Active/Engaged
Rhyl South West	Denbighshire	44	181	308	152	84	Active/Engaged
Mountain Ash	Rhondda Cynon Taf	45	57	196	20	126	Connectedness
Rhosllanerchrugog & Johnstown South	Wrexham	46	36	101	42	52	Connectedness
Merthyr Vale, Troedyrhiw & Bedlinog	Merthyr Tydfil	47	53	402	10	92	Connectedness
South Riverside	Cardiff	48	339	389	137	327	Connectedness
Tredegar & Georgetown	Blaenau Gwent	49	34	169	22	49	Connectedness
Holywell & Bagillt	Flintshire	50	32	40	29	151	Connectedness
Pembroke Dock	Pembrokeshire	51	70	39	123	185	Civic Assets
Gibbonsdown	Vale of Glamorgan	52	83	107	306	35	Active/Engaged
Monmouth & Wyesham	Monmouthshire	53	13	28	8	332	Connectedness
Old Colwyn & Llanddulas	Conwy	54	20	1	202	141	Civic Assets
Clydach & Mawr	Swansea	55	27	12	73	161	Civic Assets
Nantymoel, Ogmore Vale & Blackmill	Bridgend	56	59	391	78	17	Active/Engaged
Bargoed	Caerphilly	57	86	110	114	99	Active/Engaged
Abergavenny North	Monmouthshire	58	37	171	6	152	Connectedness
Llanrumney North	Cardiff	59	74	50	357	50	Active/Engaged
Adamsdown	Cardiff	60	343	324	220	268	Connectedness
Llanbradach & Penyrheol	Caerphilly	61	35	10	299	58	Civic Assets
Buckley South	Flintshire	62	17	31	182	18	Active/Engaged
Ferndale & Maerdy	Rhondda Cynon Taf	63	158	408	55	140	Connectedness
Milford Haven West	Pembrokeshire	64	71	67	122	112	Civic Assets
Aberafan	Neath Port Talbot	65	148	77	247	148	Civic Assets
Rhoose & Airport	Vale of Glamorgan	66	14	4	97	158	Civic Assets
Abergele	Conwy	67	25	2	108	270	Civic Assets

Hirwaun & Rhigos	Rhondda Cynon Taf	68	99	347	32	129	Connectedness
Dowlais	Merthyr Tydfil	69	60	91	164	42	Active/Engaged
Neath South	Neath Port Talbot	70	63	202	285	9	Active/Engaged
Fairwater & Greenmeadow	Torfaen	71	22	13	346	26	Civic Assets
Aberbargoed & Gilfach	Caerphilly	72	180	323	138	88	Active/Engaged
Pengam & Cefn Fforest	Caerphilly	73	101	313	200	22	Active/Engaged
Ebbw Vale North & Glyncoed	Blaenau Gwent	74	61	141	47	96	Connectedness
Ravenhill	Swansea	75	170	209	192	89	Active/Engaged
Treharris & Trelewis	Merthyr Tydfil	76	39	69	95	47	Active/Engaged
Splott	Cardiff	77	398	356	318	333	Connectedness
Liswerry & Uskmouth	Newport	78	162	148	259	87	Active/Engaged
Brynmawr	Blaenau Gwent	79	79	124	48	172	Connectedness
Hermitage & Whitegate	Wrexham	80	100	301	41	119	Connectedness
Denbigh West	Denbighshire	81	129	275	24	319	Connectedness
Landore	Swansea	82	276	315	184	159	Active/Engaged
Cardigan & Aberporth	Ceredigion	83	46	188	1	398	Connectedness
Blaenau Ffestiniog & Trawsfynydd	Gwynedd	84	50	178	3	352	Connectedness
Tonypandy West & Clydach Vale	Rhondda Cynon Taf	85	127	204	93	111	Connectedness
Ebbw Vale South & Cwm	Blaenau Gwent	86	91	368	25	132	Connectedness
Milford Haven East	Pembrokeshire	87	80	80	107	131	Civic Assets
Llantwit Major	Vale of Glamorgan	88	21	5	109	167	Civic Assets
Cwmbran	Torfaen	89	216	268	120	174	Connectedness
Caldicot South	Monmouthshire	90	41	20	127	114	Civic Assets
Llanrumney South	Cardiff	91	121	158	253	48	Active/Engaged
Aber Valley	Caerphilly	92	146	399	134	51	Active/Engaged
Porth West	Rhondda Cynon Taf	93	202	265	85	217	Connectedness
Maesteg East	Bridgend	94	133	66	157	237	Civic Assets
Neath Town	Neath Port Talbot	95	224	219	105	261	Connectedness
Newtown South	Powys	96	217	237	236	100	Active/Engaged
Ammanford & Betws	Carmarthenshire	97	67	41	65	301	Civic Assets
Ystradgynlais & Tawe Uchaf	Powys	98	65	71	39	276	Connectedness
Ely West	Cardiff	99	76	55	233	78	Civic Assets
Tremorfa & Pengam	Cardiff	100	322	208	266	249	Civic Assets
Morriston South	Swansea	101	128	79	292	95	Civic Assets
Beddau & Tynynant	Rhondda Cynon Taf	102	42	43	338	19	Active/Engaged

Appendix B list of indicators in the report

Theme	Data	Data source/ time period	Date published
Population	Total population and by age	Mid-Year Estimates (ONS) 2020	Annually (published September 2021)
	Population by ethnicity	Census 2011	10 yearly (published August 2013)
	Population by country of birth	Census 2011	10 yearly (published August 2013)
	Ability to speak Welsh	Census 2011	10 yearly (published August 2013)
	Population by household composition	Census 2011	10 yearly (published August 2013)
Housing	Dwelling type breakdowns	Census 2011	10 yearly (published August 2013)
	Housing tenure breakdowns	Census 2011	10 yearly (published August 2013)
	Average house prices by housing type	Land registry Dec-20 to Nov-21	Quarterly (published January 2022)
	Age of dwelling	Valuation Office Agency (VOA) 2021	Annually (published September 2021)
Employment and worklessness	Universal Credit by Conditionality	DWP Feb-22	Monthly (published January 2022)
	Unemployment benefit (JSA and Universal Credit)	DWP Feb-22	Monthly (published January 2022)
Crime and safety	Recorded crime offences	Police UK Dec-20 to Nov-21	Quarterly (published January 2022)
Health and wellbeing	Life expectancy	ONS 2015-2019	Irregular (published 2021)
	Healthy Life Expectancy	ONS 2009-2013	Annually (published 2016)
	Mortality rate from key causes (age standardised rate per 100,000)	Welsh Index of Multiple Deprivation 2014	Irregular (published 2014)
	Cancer Incidence (age standardised rate per 100,000)	Welsh Index of Multiple Deprivation 2019	Irregular (published 2019)
	People with a limiting long-term illness	Census 2011	10 yearly (published August 2013)
	Personal Independent Payments (PIP) claimant rate	Department for Work and Pensions (DWP) Jan 2022	Quarterly (published 2022)
	People providing unpaid care	Census 2011	10 yearly (published August 2013)
	Unpaid care (50+ hours per week)	Census 2011	10 yearly (published August 2013)
Education and skills	Qualifications by level	Census 2011	10 yearly (published August 2013)
	Participation in Higher Education	Welsh Index of Multiple Deprivation 2019	Irregular (published 2019)
	Pupil attainment at Key Stage 2 and Key Stage 4	Welsh Index of Multiple Deprivation 2019	Irregular (published 2019)
Economy	Annual household income	ONS 2017/18	Irregular (published March 2020)
	Annual household income, after housing costs	ONS 2017/18	Irregular (published March 2020)
	Occupation profile	Census 2011	10 yearly (published August 2013)
	Jobs density	Business Register and Employment Survey (BRES) (2020)	Annually (published November 2020)
Access and transport	Car ownership by number	Census 2011	10 yearly (published August 2013)

Communities and environment	Community Resilience Index	OCSI 2022	Irregular
	Community owned assets (rate per 100,000 population)	Building Communities Trust (in partnership with the Wales Council for Voluntary Action, Wales Co-operative Centre, Development Trust Association and Coalfields Regeneration Trust)	
	Voter turnout at local elections (%)	Electoral Commission https://www.electoralcommission.org.uk/who-we-are-and-what-we-do/elections-and-referendums/past-elections-and-referendums/european-parliamentary-elections/report-may-2019-european-parliamentary-elections-and-local-elections	
	Third sector organisations (rate per 100,000)	Charities Commission https://charitybase.uk/chc . Co-operatives UK https://www.uk.coop/uk , Companies House http://download.companieshouse.gov.uk/en_output.html , from Financial Conduct Authority https://mutuals.fca.org.uk/	
	National Lottery Community Funding per head	360 Giving Grant Nav data https://grantnav.threesixtygiving.org/	
	Grant funding per head from major grant funders	360 Giving Grant Nav data https://grantnav.threesixtygiving.org/	
	Trustees of charities (per 100,000 population)	Wales Institute of Social and Economic Research and Data / Institute of Welsh Affairs, Understanding Welsh Places, December 2020 release http://www.understandingwelshplaces.wales/en/	
	Generative Businesses per 100,000 population	Wales Institute of Social and Economic Research and Data / Institute of Welsh Affairs, Understanding Welsh Places, December 2020 release http://www.understandingwelshplaces.wales/en/	

Appendix C: The Community Assets Index: All MSOAs in Wales

MSOA Name	LAD Name	WCAI Rank	Civic Assets	Connectedness	Active Engaged Community	WIMD 2019 Rank of Average Rank
Merthyr Tydfil - Gurnos, Trefechan & Pontsticill	Merthyr Tydfil	1	167	12	2	10
Rhondda Cynon Taf – Treherbert	Rhondda Cynon Taf	2	34	15	20	29
Torfaen – Abersychan	Torfaen	3	7	54	38	93
Wrexham - Cefn Mawr	Wrexham	4	24	14	76	134
Cardiff - St Mellons West	Cardiff	5	30	175	5	4
Newport - Duffryn & Maesglas	Newport	6	16	151	24	51
Rhondda Cynon Taf – Penrhiwceibr	Rhondda Cynon Taf	7	129	30	16	23
Newport – Bettws	Newport	8	82	158	3	18
Blaenau Gwent - Rassau & Beaufort	Blaenau Gwent	9	33	68	36	125
Bridgend – Cornelly	Bridgend	10	17	195	23	118
Cardiff – Llanedeyrn	Cardiff	11	3	230	70	82
Blaenau Gwent - Abertillery North & Cwmtillery	Blaenau Gwent	12	89	7	118	60
Monmouthshire - Monmouth & Wyesham	Monmouthshire	13	28	8	332	273
Vale of Glamorgan - Rhoose & Airport	The Vale of Glamorgan	14	4	97	158	349
Cardiff - Caerau West	Cardiff	15	14	103	66	22
Caerphilly - Risca East	Caerphilly	16	46	268	6	181
Flintshire - Buckley South	Flintshire	17	31	182	18	268
Blaenau Gwent - Sirhowy	Blaenau Gwent	18	120	21	44	71
Swansea - Penderry	Swansea	19	180	45	13	6
Conwy - Old Colwyn & Llanddulas	Conwy	20	1	202	141	205
Vale of Glamorgan - Llantwit Major	The Vale of Glamorgan	21	5	109	167	358
Torfaen - Fairwater & Greenmeadow	Torfaen	22	13	346	26	255
Swansea - Townhill	Swansea	23	316	106	1	2
Carmarthenshire - Bynea & Llwynhendy	Carmarthenshire	24	6	271	64	122
Conwy - Abergele	Conwy	25	2	108	270	216
Blaenau Gwent - Abertillery South & Llanhilleth	Blaenau Gwent	26	122	5	162	35
Swansea - Clydach & Mawr	Swansea	27	12	73	161	164
Torfaen - West Pontnewydd & Thornhill	Torfaen	28	117	149	7	28
Newport - Ringland	Newport	29	87	161	10	5
Neath Port Talbot - Sandfields	Neath Port Talbot	30	18	308	27	31

Rhondda Cynon Taf - Aberaman	Rhondda Cynon Taf	31	189	72	11	50
Flintshire - Holywell & Bagillt	Flintshire	32	40	29	151	113
Isle of Anglesey - Holyhead	Isle of Anglesey	33	11	89	165	46
Blaenau Gwent - Tredegar & Georgetown	Blaenau Gwent	34	169	22	49	107
Caerphilly - Llanbradach & Penyrheol	Caerphilly	35	10	299	58	142
Wrexham - Rhosllanerchrugog & Johnstown South	Wrexham	36	101	42	52	99
Monmouthshire - Abergavenny North	Monmouthshire	37	171	6	152	128
Conwy - Kinmel Bay & Towyn	Conwy	38	21	153	74	83
Merthyr Tydfil - Treharris & Trelewis	Merthyr Tydfil	39	69	95	47	166
Rhondda Cynon Taf - Church Village West	Rhondda Cynon Taf	40	47	394	14	400
Monmouthshire - Caldicot South	Monmouthshire	41	20	127	114	220
Rhondda Cynon Taf - Beddau & Tyn-y-nant	Rhondda Cynon Taf	42	43	338	19	241
Cardiff - Trowbridge	Cardiff	43	156	190	8	9
Gwynedd - Barmouth & Dolgellau	Gwynedd	44	179	2	329	236
Carmarthenshire - Llanelli South	Carmarthenshire	45	115	11	218	13
Ceredigion - Cardigan & Aber-porth	Ceredigion	46	188	1	398	160
Cardiff - Ely East	Cardiff	47	121	167	15	1
Caerphilly - Rhymney, Pontlottyn & Abertysswg	Caerphilly	48	362	27	33	20
Bridgend - Brackla West	Bridgend	49	154	336	4	239
Gwynedd - Blaenau Ffestiniog & Trawsfynydd	Gwynedd	50	178	3	352	154
Blaenau Gwent - Blaina & Nantyglo	Blaenau Gwent	51	127	37	98	40
Carmarthenshire - Swiss Valley & Llangennech	Carmarthenshire	52	9	297	135	331
Merthyr Tydfil - Merthyr Vale, Troed-y-rhiw & Bedlinog	Merthyr Tydfil	53	402	10	92	69
Swansea - Gorseinon	Swansea	54	23	241	80	196
Merthyr Tydfil - Gelli-deg & Town	Merthyr Tydfil	55	240	4	286	26
Flintshire - Flint North East	Flintshire	56	44	194	61	53
Rhondda Cynon Taf - Mountain Ash	Rhondda Cynon Taf	57	196	20	126	63
Neath Port Talbot - Pontardawe	Neath Port Talbot	58	26	100	207	210
Bridgend - Nant-y-moel, Ogmore Vale & Blackmill	Bridgend	59	391	78	17	80
Merthyr Tydfil - Dowlais	Merthyr Tydfil	60	91	164	42	101
Blaenau Gwent - Ebbw Vale North & Glyncoed	Blaenau Gwent	61	141	47	96	106
Pembrokeshire - Fishguard	Pembrokeshire	62	57	31	358	221
Neath Port Talbot - Neath South	Neath Port Talbot	63	202	285	9	97
Neath Port Talbot - Skewen & Jersey Marine	Neath Port Talbot	64	36	258	77	173
Powys - Ystradgynlais & Tawe Uchaf	Powys	65	71	39	276	157

Swansea - West Cross	Swansea	66	125	53	124	282
Carmarthenshire - Ammanford & Betws	Carmarthenshire	67	41	65	301	151
Swansea - Birchgrove	Swansea	68	27	373	79	306
Rhondda Cynon Taf - Ystrad & Llwynypia	Rhondda Cynon Taf	69	331	87	28	39
Pembrokeshire - Pembroke Dock	Pembrokeshire	70	39	123	185	56
Pembrokeshire - Milford Haven West	Pembrokeshire	71	67	122	112	77
Caerphilly - New Tredegar & Darren Valley	Caerphilly	72	403	58	37	37
Caerphilly - Crosskeys South & Ynysddu	Caerphilly	73	266	113	29	176
Cardiff - Llanrumney North	Cardiff	74	50	357	50	67
Monmouthshire - Abergavenny South & Crucorney	Monmouthshire	75	218	9	385	298
Cardiff - Ely West	Cardiff	76	55	233	78	135
Swansea - Morriston North	Swansea	77	53	348	54	296
Denbighshire - Prestatyn North	Denbighshire	78	78	146	91	139
Blaenau Gwent - Bryn-mawr	Blaenau Gwent	79	124	48	172	88
Pembrokeshire - Milford Haven East	Pembrokeshire	80	80	107	131	102
Cardiff - Pontprennau	Cardiff	81	8	406	248	383
Torfaen - Hollybush & Henllys	Torfaen	82	35	372	86	328
Vale of Glamorgan - Gibbonsdown	The Vale of Glamorgan	83	107	306	35	49
Conwy - Rhos-on-Sea	Conwy	84	42	121	231	313
Neath Port Talbot - Briton Ferry	Neath Port Talbot	85	214	179	30	27
Caerphilly - Bargoed	Caerphilly	86	110	114	99	55
Denbighshire - Rhyl East	Denbighshire	87	81	283	55	194
Newport - Beechwood	Newport	88	325	170	21	123
Bridgend - Pyle, Kenfig Hill & Cefncribwr	Bridgend	89	32	261	149	131
Bridgend - Caerau	Bridgend	90	184	118	60	13
Blaenau Gwent - Ebbw Vale South & Cwm	Blaenau Gwent	91	368	25	132	89
Wrexham - Caia Park	Wrexham	92	295	82	56	7
Gwynedd - Abersoch & Aberdaron	Gwynedd	93	182	19	359	266
Flintshire - Mostyn & Holway	Flintshire	94	106	101	137	199
Gwynedd - Tywyn & Llangelynnin	Gwynedd	95	256	13	365	243
Torfaen - Griffithstown & Sebastopol	Torfaen	96	22	269	229	315
Cardiff - Thornhill	Cardiff	97	19	355	196	405
Rhondda Cynon Taf - Porth East & Ynys-hir	Rhondda Cynon Taf	98	118	64	199	119
Rhondda Cynon Taf - Hirwaun & Rhigos	Rhondda Cynon Taf	99	347	32	129	61
Wrexham - Hermitage & Whitegate	Wrexham	100	301	41	119	72

Caerphilly - Pengam & Cefn Fforest	Caerphilly	101	313	200	22	64
Swansea - Gowerton	Swansea	102	15	340	259	353
Cardiff - Pentwyn	Cardiff	103	29	383	134	111
Rhondda Cynon Taf - Tylorstown	Rhondda Cynon Taf	104	248	34	181	19
Bridgend - Pen-dre, Litchard & Coity	Bridgend	105	61	325	83	324
Wrexham - Pen-y-cae & Minera	Wrexham	106	145	57	205	171
Bridgend - Sarn, Bryn-coch & Bryncethin	Bridgend	107	93	281	65	126
Swansea - Mumbles & Newton	Swansea	108	52	91	356	406
Swansea - Mynydd-bach	Swansea	109	157	252	43	163
Carmarthenshire - Llandovery, Cil-y-cwm & Cynwyl Gaeo	Carmarthenshire	110	213	18	407	177
Gwynedd - Pwllheli & Morfa Nefyn	Gwynedd	111	134	40	322	294
Newport - Gaer	Newport	112	363	333	12	181
Rhondda Cynon Taf - Pont-y-clun & Llanharry	Rhondda Cynon Taf	113	49	351	103	352
Neath Port Talbot - Glyncorrwg & Blaengwynfi	Neath Port Talbot	114	397	16	245	16
Isle of Anglesey - Amlwch & Llannerch-y-medd	Isle of Anglesey	115	84	94	235	162
Caerphilly - Crosskeys North & Abercarn	Caerphilly	116	146	214	59	198
Powys - Machynlleth & Banwy	Powys	117	104	43	403	248
Flintshire - Connah's Quay Wepre	Flintshire	118	173	403	25	350
Flintshire - Connah's Quay North	Flintshire	119	155	303	40	98
Pembrokeshire - Tenby & Caldey	Pembrokeshire	120	206	36	252	275
Cardiff - Llanrumney South	Cardiff	121	158	253	48	78
Swansea - St Thomas	Swansea	122	254	185	41	86
Monmouthshire - Chepstow South	Monmouthshire	123	68	115	256	224
Bridgend - Broadlands	Bridgend	124	45	359	123	356
Vale of Glamorgan - Palmerstown	The Vale of Glamorgan	125	70	273	107	187
Powys - Brecon	Powys	126	25	187	405	288
Rhondda Cynon Taf - Tonypandy West & Clydach Vale	Rhondda Cynon Taf	127	204	93	111	62
Swansea - Morriston South	Swansea	128	79	292	95	81
Denbighshire - Denbigh West	Denbighshire	129	275	24	319	57
Caerphilly - Newbridge	Caerphilly	130	94	197	127	173
Torfaen - Trevethin & Pen-y-garn	Torfaen	131	144	84	200	23
Torfaen - Blaenavon	Torfaen	132	377	28	216	84
Bridgend - Maesteg East	Bridgend	133	66	157	237	74
Swansea - Dunvant & Upper Killay	Swansea	134	38	335	187	381
Rhondda Cynon Taf - Glyn-coch & Ynys-y-bwl	Rhondda Cynon Taf	135	407	132	45	92

Carmarthenshire - Cydweli & Trimsaran	Carmarthenshire	136	298	38	212	94
Conwy - Llandudno Junction North & Deganwy	Conwy	137	37	321	202	374
Vale of Glamorgan - Barry West	The Vale of Glamorgan	138	245	102	101	145
Gwynedd - Bala & Mawddwy	Gwynedd	139	319	17	401	230
Carmarthenshire - Llan-non, Cross Hands & Pen-y-groes	Carmarthenshire	140	63	248	163	259
Denbighshire - Rhyl North	Denbighshire	141	152	63	269	21
Pembrokeshire - St Davids & Letterston	Pembrokeshire	142	48	144	378	282
Swansea - Loughor	Swansea	143	60	311	142	337
Merthyr Tydfil - Pentre-bach & Mountain Hare	Merthyr Tydfil	144	162	86	197	192
Newport - Lawrence Hill	Newport	145	261	324	31	197
Caerphilly - Aber Valley	Caerphilly	146	399	134	51	66
Conwy - Llanfairfechan & Penmaenmawr	Conwy	147	236	44	263	232
Neath Port Talbot - Aberafan	Neath Port Talbot	148	77	247	148	36
Bridgend - Cefn-glas & Bryntirion	Bridgend	149	192	363	39	180
Neath Port Talbot - Ystalyfera & Gwaun-Cae-Gurwen	Neath Port Talbot	150	252	60	189	96
Bridgend - Maesteg West, Garth & Llangynwyd	Bridgend	151	108	180	150	169
Caerphilly - Caerphilly West	Caerphilly	152	226	275	46	206
Vale of Glamorgan - Penarth	The Vale of Glamorgan	153	56	155	344	382
Powys - Llanfyllin & Llanwyddyn	Powys	154	161	49	377	251
Neath Port Talbot - Cwmavon & Bryn	Neath Port Talbot	155	388	69	116	149
Rhondda Cynon Taf - Aberdare East & Cwm-bach	Rhondda Cynon Taf	156	281	77	145	148
Denbighshire - Llangollen & Llandrillo	Denbighshire	157	353	23	351	228
Rhondda Cynon Taf - Ferndale & Maerdy	Rhondda Cynon Taf	158	408	55	140	32
Conwy - Llandudno Junction South & Llansanffraid Glan Conwy	Conwy	159	58	254	215	225
Powys - Welshpool	Powys	160	95	131	264	158
Wrexham - New Broughton & Bryn Cefn	Wrexham	161	181	216	85	158
Newport - Liswerry & Uskmouth	Newport	162	148	259	87	41
Conwy - Llanrwst & Betws-y-coed	Conwy	163	303	26	391	258
Powys - Llandrindod Wells	Powys	164	131	62	410	111
Bridgend - Porthcawl West	Bridgend	165	73	178	260	341
Caerphilly - Hengoed & Maesycwmmer	Caerphilly	166	288	332	34	109
Cardiff - Fairwater North	Cardiff	167	102	208	164	131
Gwynedd - Caernarfon East	Gwynedd	168	51	199	338	140
Powys - Knighton & Presteigne	Powys	169	133	71	370	292
Swansea - Ravenhill	Swansea	170	209	192	89	38

Rhondda Cynon Taf - Tonyrefail East	Rhondda Cynon Taf	171	401	166	53	147
Carmarthenshire - Pembrey & Burry Port	Carmarthenshire	172	246	79	188	195
Caerphilly - Pontllanfraith	Caerphilly	173	100	209	176	175
Newport - Pye Corner & Graig	Newport	174	75	291	168	338
Wrexham - Acton & Maes-y-dre	Wrexham	175	371	293	32	165
Ceredigion - Beulah, Troed-yr-aur & Llandysul	Ceredigion	176	273	35	371	189
Caerphilly - Risca West	Caerphilly	177	160	219	108	149
Wrexham - Gwersyllt West & Summerhill	Wrexham	178	231	286	57	160
Ceredigion - New Quay & Penbryn	Ceredigion	179	172	70	318	223
Caerphilly - Aberbargoed & Gilfach	Caerphilly	180	323	138	88	34
Denbighshire - Rhyl South West	Denbighshire	181	308	152	84	17
Newport - Malpas	Newport	182	76	280	186	308
Flintshire - New Brighton & Mynydd Isa	Flintshire	183	135	395	75	390
Rhondda Cynon Taf - Trefforest	Rhondda Cynon Taf	184	221	169	109	75
Cardiff - Pwll-mawr & St Mellons East	Cardiff	185	72	360	156	204
Caerphilly - Oakdale & Pen-twyn	Caerphilly	186	116	341	105	263
Carmarthenshire - Llanelli Bigyn	Carmarthenshire	187	269	249	63	102
Rhondda Cynon Taf - Tonyrefail West	Rhondda Cynon Taf	188	366	162	72	138
Cardiff - Rhiwbina & Pant-mawr	Cardiff	189	62	337	204	399
Carmarthenshire - Llandeilo, Llangadog & Manordeilo	Carmarthenshire	190	305	33	404	216
Neath Port Talbot - Port Talbot East	Neath Port Talbot	191	138	204	169	95
Bridgend - Porthcawl East	Bridgend	192	112	240	179	245
Carmarthenshire - Brynamman, Y Garnant & Glanaman	Carmarthenshire	193	338	59	236	113
Merthyr Tydfil - Cefn Coed Y Cymer, Heolgerrig & Park	Merthyr Tydfil	194	191	148	171	264
Conwy - Penrhyn Bay	Conwy	195	83	270	214	395
Denbighshire - Prestatyn Central & East	Denbighshire	196	119	171	238	156
Pembrokeshire - Pembroke West & Castlemartin	Pembrokeshire	197	285	56	296	79
Monmouthshire - Gilwern & Llanfoist	Monmouthshire	198	358	50	262	314
Caerphilly - Caerphilly East	Caerphilly	199	217	237	94	117
Swansea - Cwmbwrla	Swansea	200	239	290	69	130
Torfaen - Croesyceiliog	Torfaen	201	175	205	136	293
Rhondda Cynon Taf - Porth West	Rhondda Cynon Taf	202	265	85	217	47
Cardiff - Llanishen	Cardiff	203	59	245	337	262
Vale of Glamorgan - Lower Penarth & Sully	The Vale of Glamorgan	204	142	133	265	380
Denbighshire - Ruthin	Denbighshire	205	205	67	361	347

Cardiff - Rumney	Cardiff	206	113	370	122	227
Bridgend - Central Bridgend	Bridgend	207	140	130	282	67
Wrexham - Johnstown North & Rhostyllen	Wrexham	208	128	316	128	321
Flintshire - Flint South West	Flintshire	209	85	397	153	358
Conwy - Llandudno Town & Gogarth	Conwy	210	139	104	362	109
Newport - Pillgwenlly & Docks	Newport	211	349	74	203	3
Caerphilly - St Cattwg	Caerphilly	212	251	294	73	142
Ceredigion - Aberystwyth North	Ceredigion	213	123	116	381	305
Rhondda Cynon Taf - Church Village East & Ton-teg	Rhondda Cynon Taf	214	186	304	97	270
Gwynedd - Harlech & Llanbedr	Gwynedd	215	304	51	348	298
Torfaen - Cwmbran	Torfaen	216	268	120	174	41
Powys - Newtown South	Powys	217	237	236	100	45
Swansea - Cockett	Swansea	218	229	188	133	146
Flintshire - Mold	Flintshire	219	65	302	287	280
Isle of Anglesey - Bodedern & Rhosneigr	Isle of Anglesey	220	97	232	257	213
Flintshire - Shotton & Garden City	Flintshire	221	253	342	67	87
Newport - Rogerstone	Newport	222	54	391	273	369
Neath Port Talbot - Baglan	Neath Port Talbot	223	222	388	68	312
Neath Port Talbot - Neath Town	Neath Port Talbot	224	219	105	261	43
Rhondda Cynon Taf - Llantrisant & Talbot Green	Rhondda Cynon Taf	225	170	295	121	327
Carmarthenshire - Whitland, Laugharne & Llansteffan	Carmarthenshire	226	163	117	321	257
Cardiff - Llandaff North	Cardiff	227	165	330	113	108
Torfaen - Pontypool	Torfaen	228	185	119	281	85
Neath Port Talbot - Glynneath	Neath Port Talbot	229	297	150	139	105
Carmarthenshire - Dafen & Felin-foel	Carmarthenshire	230	111	264	213	115
Wrexham - Bangor-on-Dee, Overton & Penley	Wrexham	231	263	75	314	343
Torfaen - Pontnewydd & Upper Cwmbran	Torfaen	232	176	276	130	144
Gwynedd - Bangor City	Gwynedd	233	132	140	342	261
Denbighshire - Dyserth & Tremeirchion	Denbighshire	234	114	203	275	237
Swansea - Central Swansea	Swansea	235	264	61	388	73
Vale of Glamorgan - Llandough & Cogan	The Vale of Glamorgan	236	166	224	173	332
Cardiff - Caerau East	Cardiff	237	190	221	154	11
Carmarthenshire - Tre-lech, Cenarth & Llangeler	Carmarthenshire	238	270	66	355	153
Denbighshire - Prestatyn South	Denbighshire	239	159	206	198	268
Rhondda Cynon Taf - Abercynon	Rhondda Cynon Taf	240	395	112	147	104

Neath Port Talbot - Dulais Valley	Neath Port Talbot	241	383	76	222	141
Vale of Glamorgan - Barry Island	The Vale of Glamorgan	242	233	129	219	202
Conwy - Betws-yn-Rhos, Llangernyw & Llansannan	Conwy	243	378	52	331	244
Pembrokeshire - Haverfordwest North	Pembrokeshire	244	88	260	293	131
Pembrokeshire - Saundersfoot	Pembrokeshire	245	212	110	290	267
Wrexham - Chirk & Ceiriog Valley	Wrexham	246	326	80	258	201
Swansea - Ty-coch	Swansea	247	136	210	239	307
Flintshire - Gronant, Ffynnongroyw & Trelawnyd	Flintshire	248	272	111	230	116
Powys - Builth Wells & Llanwrtyd Wells	Powys	249	225	81	389	280
Swansea - Bon-y-maen	Swansea	250	242	358	82	70
Isle of Anglesey - Llangefni	Isle of Anglesey	251	74	317	304	226
Rhondda Cynon Taf - Tonypandy East	Rhondda Cynon Taf	252	224	223	146	58
Monmouthshire - Rhaglan & Llantilio Crossenny	Monmouthshire	253	380	46	408	274
Carmarthenshire - Llandybie & Saron	Carmarthenshire	254	276	128	211	183
Cardiff - Radyr, Morganstown & Gwaelod-y-garth	Cardiff	255	64	393	297	403
Neath Port Talbot - Port Talbot South & Margam	Neath Port Talbot	256	352	265	81	155
Swansea - Killay	Swansea	257	99	347	225	409
Carmarthenshire - Carmarthen South & Llangynnwr	Carmarthenshire	258	194	98	406	213
Torfaen - New Inn	Torfaen	259	151	312	166	348
Neath Port Talbot - Cadoxton & Bryn-coch	Neath Port Talbot	260	147	374	143	368
Carmarthenshire - Llanfihangel-ar-arth & Llanybydder	Carmarthenshire	261	267	90	326	184
Gwynedd - Pen-y-groes, Tal-y-sarn & Dyffryn Nantlle	Gwynedd	262	247	96	334	190
Caerphilly - North Blackwood, Argoed & Markham	Caerphilly	263	327	213	115	186
Caerphilly - Blackwood	Caerphilly	264	249	310	104	264
Neath Port Talbot - Cimla	Neath Port Talbot	265	234	382	90	342
Vale of Glamorgan - Barry East	The Vale of Glamorgan	266	143	313	184	65
Gwynedd - Porthmadog	Gwynedd	267	278	83	379	300
Swansea - Llangyfelach & Tircoed	Swansea	268	109	361	224	367
Newport - Victoria & Somerton	Newport	269	310	207	138	44
Rhondda Cynon Taf - Pentre	Rhondda Cynon Taf	270	293	242	125	120
Rhondda Cynon Taf - Aberdare North & Llwydcoed	Rhondda Cynon Taf	271	311	125	228	123
Conwy - Upper Colwyn Bay	Conwy	272	103	282	309	304
Flintshire - Ewloe & Hawarden	Flintshire	273	153	409	144	396
Pembrokeshire - Haverfordwest South	Pembrokeshire	274	96	343	274	215
Rhondda Cynon Taf - Aberdare West	Rhondda Cynon Taf	275	299	147	209	200

Swansea - Landore	Swansea	276	315	184	159	25
Flintshire - Broughton & Saltney	Flintshire	277	365	402	62	303
Ceredigion - Aberaeron & Llanrhystud	Ceredigion	278	199	126	373	222
Bridgend - Blaengarw, Pontycymer & Bettws	Bridgend	279	369	250	102	48
Flintshire - Pen-y-ffordd & Higher Kinnerton	Flintshire	280	340	389	71	404
Carmarthenshire - Carmarthen North	Carmarthenshire	281	195	225	220	172
Swansea - Llansamlet	Swansea	282	105	377	243	207
Vale of Glamorgan - Barry Dyfan & Illtyd	The Vale of Glamorgan	283	216	379	120	401
Rhondda Cynon Taf - Treorchy	Rhondda Cynon Taf	284	223	231	193	121
Pembrokeshire - Cilgerran & Crymych	Pembrokeshire	285	283	92	380	237
Bridgend - Ynysawdre & Aberkenfig	Bridgend	286	130	309	250	235
Carmarthenshire - Glyn & Pontyberem	Carmarthenshire	287	337	136	223	246
Newport - Shaftesbury & Crindai	Newport	288	370	156	183	76
Neath Port Talbot - Aberdulais & Resolfen	Neath Port Talbot	289	374	135	210	137
Caerphilly - Ystrad Mynach & Nelson	Caerphilly	290	220	278	175	260
Wrexham - Borras & Rhosnesni	Wrexham	291	244	378	117	394
Cardiff - Cyncoed North	Cardiff	292	90	405	294	389
Cardiff - Tongwynlais & Coryton	Cardiff	293	193	172	328	287
Denbighshire - Corwen, Llanelidan & Efenechtyd	Denbighshire	294	343	88	363	253
Ceredigion - Borth & Bont-goch	Ceredigion	295	312	99	360	325
Cardiff - Rhiwbina Village	Cardiff	296	92	399	307	391
Caerphilly - Bedwas & Trethomas	Caerphilly	297	197	329	180	203
Flintshire - Connah's Quay South & Northop Hall	Flintshire	298	306	408	93	386
Carmarthenshire - Carmarthen West & Cynwyl Elfed	Carmarthenshire	299	149	262	303	289
Neath Port Talbot - Neath Abbey	Neath Port Talbot	300	255	263	177	152
Cardiff - Cyncoed South & Roath Park	Cardiff	301	126	390	242	407
Conwy - Colwyn Bay North	Conwy	302	137	279	312	90
Swansea - Llanmorlais & Three Crosses	Swansea	303	376	141	226	357
Wrexham - Coedpoeth & Brymbo	Wrexham	304	379	145	221	249
Isle of Anglesey - Llain-goch & Valley	Isle of Anglesey	305	207	255	232	285
Powys - Hay-on-Wye & Talgarth	Powys	306	168	186	395	339
Monmouthshire - Magor & Rogiet	Monmouthshire	307	198	305	208	373
Cardiff - Fairwater South	Cardiff	308	200	256	247	136
Flintshire - Queensferry & Sandycroft	Flintshire	309	177	367	195	167
Cardiff - Lisvane	Cardiff	310	86	387	376	408

Carmarthenshire - Llanelli North	Carmarthenshire	311	259	239	206	129
Gwynedd - Criccieth & Llanaelhaearn	Gwynedd	312	286	143	311	276
Powys - Rhayader, Newbridge-on-Wye & Elan Valley	Powys	313	284	124	366	250
Swansea - Pontarddulais	Swansea	314	314	217	191	229
Wrexham - Ruabon & Marchwiel	Wrexham	315	291	246	182	285
Rhondda Cynon Taf - Bryn-cae & Llanharan	Rhondda Cynon Taf	316	339	362	106	320
Carmarthenshire - Llanddarog, Llangyndeyrn & Ferryside	Carmarthenshire	317	292	142	320	211
Powys - Four Crosses & Guilsfield	Powys	318	203	215	305	346
Cardiff - Whitchurch	Cardiff	319	98	369	367	376
Wrexham - Llay South & Gwersyllt East	Wrexham	320	230	301	194	256
Conwy - Llandudno South	Conwy	321	211	251	254	211
Cardiff - Tremorfa & Pengam	Cardiff	322	208	266	249	30
Powys - Llanfair Caereinion & Caersws	Powys	323	164	244	353	278
Ceredigion - Lampeter & Llanfihangel Ystrad	Ceredigion	324	238	160	374	185
Flintshire - Hope	Flintshire	325	386	154	240	344
Caerphilly - Caerphilly South	Caerphilly	326	187	339	227	355
Bridgend - Brackla East & Coychurch Lower	Bridgend	327	150	398	244	363
Ceredigion - Aberystwyth South	Ceredigion	328	262	163	346	254
Newport - St Julians & Barnardtown	Newport	329	359	380	110	192
Rhondda Cynon Taf - Taff's Well & Nantgarw	Rhondda Cynon Taf	330	201	218	347	209
Isle of Anglesey - Beaumaris & Benllech	Isle of Anglesey	331	289	198	267	302
Conwy - Conwy & Afon Roe	Conwy	332	348	139	317	326
Carmarthenshire - Yr Hendy & Tŷ-croes	Carmarthenshire	333	367	272	155	330
Gwynedd - Bethel & Llanrug	Gwynedd	334	354	181	246	365
Isle of Anglesey - Rhos-y-bol, Marian-glas & Moelfre	Isle of Anglesey	335	227	257	272	309
Carmarthenshire - Llanelli West	Carmarthenshire	336	241	228	295	178
Flintshire - Leeswood, Treuddyn & Gwernaffield	Flintshire	337	385	274	160	333
Bridgend - Pen-prysg, Hendre & Felindre	Bridgend	338	335	323	157	310
Cardiff - South Riverside	Cardiff	339	389	137	327	8
Gwynedd - Bethesda	Gwynedd	340	341	165	313	208
Pembrokeshire - Neyland	Pembrokeshire	341	307	235	253	297
Powys - Llanidloes, Blaen Hafren & Llandinam	Powys	342	235	212	375	333
Cardiff - Adamsdown	Cardiff	343	324	220	268	12
Ceredigion - Rheidol, Ystwyth & Caron	Ceredigion	344	260	191	390	234
Swansea - Brynmill	Swansea	345	258	284	271	230

Torfaen - Llantarnam & Oakfield	Torfaen	346	183	354	306	329
Denbighshire - St Asaph & Trefnant	Denbighshire	347	350	176	324	289
Gwynedd - Caernarfon West & Waunfawr	Gwynedd	348	280	183	392	216
Powys - Newtown North	Powys	349	174	288	402	240
Vale of Glamorgan - Dinas Powys	The Vale of Glamorgan	350	257	300	266	362
Powys - Montgomery, Trewern & Berriew	Powys	351	215	322	300	336
Cardiff - Grangetown North	Cardiff	352	334	368	170	33
Gwynedd - Bangor South	Gwynedd	353	250	365	234	233
Monmouthshire - Caldicot North & Caer-went	Monmouthshire	354	287	267	283	366
Rhondda Cynon Taf - Pontypridd East & Cilfynydd	Rhondda Cynon Taf	355	333	366	178	167
Pembrokeshire - Pembroke East & Manorbier	Pembrokeshire	356	282	238	325	318
Cardiff - Butetown	Cardiff	357	329	168	400	100
Monmouthshire - Chepstow North & Trellech	Monmouthshire	358	277	234	349	371
Flintshire - Caerwys, Halkyn & Nannerch	Flintshire	359	373	307	201	335
Denbighshire - Denbigh East & Pentre Llanrhaeadr	Denbighshire	360	328	226	315	364
Swansea - Mayals & Bishopston	Swansea	361	400	174	336	410
Monmouthshire - Usk, Goytre & Llangybi Fawr	Monmouthshire	362	387	159	382	354
Rhondda Cynon Taf - Pontypridd West	Rhondda Cynon Taf	363	296	243	330	170
Vale of Glamorgan - Cowbridge	The Vale of Glamorgan	364	351	196	345	393
Newport - Maendy	Newport	365	357	353	190	90
Powys - Abermule, Churchstoke & Kerry	Powys	366	232	326	335	301
Cardiff - Gabalfa	Cardiff	367	228	392	285	284
Isle of Anglesey - Newborough	Isle of Anglesey	368	318	287	280	219
Newport - Stow Hill	Newport	369	381	173	387	51
Caerphilly - Machen	Caerphilly	370	409	227	277	242
Cardiff - Birchgrove	Cardiff	371	210	407	302	379
Swansea - West Gower	Swansea	372	300	222	393	384
Flintshire - Buckley North, Northop & Sychdyn	Flintshire	373	393	364	192	387
Carmarthenshire - Abergwili, Llanegwad & Carmel	Carmarthenshire	374	384	193	372	271
Powys - Sennybridge & Talybont-on-Usk	Powys	375	317	229	384	323
Powys - Crickhowell, Llangynidr & Llangorse	Powys	376	394	177	399	351
Cardiff - Grangetown South	Cardiff	377	355	328	241	54
Cardiff - Cathays South & Bute Park	Cardiff	378	375	189	397	179
Pembrokeshire - Narberth	Pembrokeshire	379	344	211	394	311
Gwynedd - Llanberis & Deiniolen	Gwynedd	380	390	201	369	252

Pembrokeshire - Johnston, Broad Haven & St Ishmaels	Pembrokeshire	381	271	319	340	277
Swansea - Uplands	Swansea	382	320	334	278	319
Wrexham - Wrexham West	Wrexham	383	345	314	279	188
Newport - Langstone & Llanwern	Newport	384	382	345	233	316
Swansea - Sketty	Swansea	385	243	344	368	397
Cardiff - Plasnewydd	Cardiff	386	361	289	298	59
Cardiff - Pen-y-lan North	Cardiff	387	309	371	284	388
Pembrokeshire - Crundale, Clynderwen & Maenclochog	Pembrokeshire	388	279	315	386	295
Newport - Caerleon	Newport	389	398	350	251	340
Denbighshire - Llandyrnog & Llanarmon-yn-Iâl	Denbighshire	390	404	277	316	345
Cardiff - Llandaff & Danescourt	Cardiff	391	274	384	343	392
Isle of Anglesey - Llanfair Pwllgwyngyll & Menai Bridge	Isle of Anglesey	392	330	327	339	370
Wrexham - Gresford, Marford & Rossett	Wrexham	393	360	331	308	377
Cardiff - Cardiff Bay	Cardiff	394	322	298	383	372
Denbighshire - Rhuddlan & Bodelwyddan	Denbighshire	395	364	349	292	279
Bridgend - Pen-y-fai, Laleston & Merthyr Mawr	Bridgend	396	336	386	289	385
Cardiff - Roath	Cardiff	397	342	381	288	191
Cardiff - Splott	Cardiff	398	356	318	333	13
Cardiff - Victoria Park	Cardiff	399	332	320	357	316
Cardiff - Pen-y-lan South	Cardiff	400	346	356	310	271
Cardiff - Cathays North	Cardiff	401	321	400	299	246
Wrexham - Town North, University & Rhos-ddu	Wrexham	402	290	376	354	321
Cardiff - Heath	Cardiff	403	302	410	323	398
Cardiff - Canton	Cardiff	404	294	352	396	127
Newport - Marshfield	Newport	405	405	401	255	358
Cardiff - Creigiau, Pentyrch & St Fagans	Cardiff	406	406	404	291	401
Cardiff - Pontcanna	Cardiff	407	396	296	409	291
Vale of Glamorgan - Ogmore-by-Sea & Llandow	The Vale of Glamorgan	408	392	375	350	378
Newport - Ridgeway & Glasllwch	Newport	409	372	396	364	361
Vale of Glamorgan - Peterston-super-Ely & Wenvoe	The Vale of Glamorgan	410	410	385	341	375

Appendix D: The indicators in the Wales Community Assets Index

The table below outlines the key socio-economic indicators which have been included in the WCAI. These have been grouped into domains and subdomains:

- Civic Assets: Measures of the presence of key community, civic, educational and cultural assets in and in close proximity to the area

- Connectedness: Measures of connectivity to key services, digital infrastructure, social isolation and strength of the local jobs market

- Active and engaged community: Measures concerning the levels of third sector civic and community activity and low levels of participation and engagement

The table provides an overview of each of these indicators with metadata detailing:
- Source (included URL)

- Timepoints the data is available for

- Geographical unit at which the data is published

- Relevance

- Notes associated with the indicator – including robustness issues to consider when incorporating the data

Indicator	Details	Source	Date	Granularity	Notes/Caveats
Civic Assets					
CA1: Density of community space assets	This is conceptualised as the number of community and civic assets inside the local area or within 1km of the local area boundary, divided by the number of people living inside the local area or within 1km of the local area boundary. Rate is expressed per 100,000 population. The following assets are included: • Public / Village Hall / Other Community Facility • Youth Recreational / Social Club • Church Hall / Religious Meeting Place / Hall • Community Service Centre / Office • Place Of Worship	AddressBase https://www.ordnancesurvey.co.uk/business-government/products/addressbase	July 2021	Point Location	Details are not available on how accessible the assets are to the community.
CA2: Density of educational assets	This is conceptualised as the number of community and civic assets inside the local area or within 1km of the local area boundary, divided by the number of people living inside the local area or within 1km of the local area boundary. Rate is expressed per 100,000 population. The following assets are included: • College • Further Education • Higher Education • Children's Nursery / Crèche • First School • Infant School • Junior School • Middle School • Primary School • Secondary School • University • Special Needs Establishment. • Other Educational Establishment	AddressBase https://www.ordnancesurvey.co.uk/business-government/products/addressbase	July 2021	Point Location	Details are not available on how accessible the assets are to the community.

Indicator	Details	Source	Date	Granularity	Notes/Caveats
CA3a: Density of sport and leisure assets (address base)	This is conceptualised as the number of community and civic assets inside the local area or within 1km of the local area boundary, divided by the number of people living inside the local area or within 1km of the local area boundary. Rate is expressed per 100,000 population. The following assets are included: • Public House / Bar / Nightclub • Activity / Leisure / Sports Centre • Skateboarding Facility • Recreational / Social Club(Bingo)	AddressBase https://www.ordnancesurvey.co.uk/business-government/products/addressbase	July 2021	Point Location	Details are not available on how accessible the assets are to the community. Some of the facilities identified will have a cost associated with access, which could potentially exclude those on lower incomes in the community.
CA4: Density of cultural assets	This is conceptualised as the number of community and civic assets inside or within 1km of the local area boundary divided by the number of people living inside or within 1km of the local area boundary. Rate is expressed per 100,000 population. The following assets are included: • Library • Reading Room • Museum/Gallery	AddressBase https://www.ordnancesurvey.co.uk/business-government/products/addressbase	July 2021	Point Location	Details are not available on how accessible the assets are to the community. Some of the museums will not be free to enter, which will exclude some sections of the community. Some of the libraries and reading rooms will not have open access.
CA5a: Green assets (density)	This is conceptualised as the number of community and civic assets inside or within 1km divided by the number of people living in the inside or within 1km of the local area boundary. Rate is expressed per 100,000 population. The following assets are included: • Public Park / Garden • Public Open Space / Nature Reserve • Playground • Play Area• Paddling Pool• Picnic / Barbeque Site• Allotment• Playing Field • Recreation Ground	AddressBase https://www.ordnancesurvey.co.uk/business-government/products/addressbase	July 2021	Point Location	Details are not available on the accessibility of the asset from within the community. Some assets are not open- access to the whole community, e.g. allotments and some of the play areas/paddling pools. It is not possible to distinguish between these (though private parkland has been excluded). There is no information regarding the size or quality of the green space.
CA5b: Green assets (Area of public green space)	Area of public green space. Shows the average combined size of Parks, Public Gardens, or Playing Fields within 1,000 m radius (m2). Data is based on analysis of Ordnance Survey (OS) data on access to private gardens, public parks and playing fields in Great Britain.	Ordnance Survey https://www.ons.gov.uk/economy/environmentalaccounts/datasets/accesstogardensandpublicgreenspaceingreatbritain	April 2020	MSOA	

Indicator	Details	Source	Date	Granularity	Notes/Caveats
CA6: Retail assets	Number of retail premises in the local area or within 1km of the local area boundary) divided by the number of people living inside or within 1km of the local area boundary. The rate is expressed per 100,000 population. The following assets are included: Post Office, Market, Restaurant / Cafeteria, Shop / Showroom and Garden Centre	AddressBase https://www.ordnancesurvey.co.uk/business-government/products/addressbase	July 2021	Point Location	Does not take into account the size of the retail unit or how accessible it is to the local community. Excludes assets with negative community benefit
CA7a: Community-owned assets	Community owned assets are divided by the number of people living inside or within 1km of the local area boundary. The rate is expressed per 100,000 population. Figures are compiled using data from Power to Change, the Community Land Trust Network, Co-operatives UK, Plunkett Foundation and Locality and Keep it in the Community.	Renaisi/ Plunkett Foundation/Locality	2021	Postcode	Some assets are geolocated based on the location of the organisation owning the assets rather than the assets itself, and some postcodes containing multiple assets are listed as single assets in the database.
	Connectedness				
CN1a: Travel time to key services by public transport/walk	Travel times in minutes to 8 key services using public transport and 9 services using private transport. Public transport includes travel by: public bus, public train, foot and national coach. Private transport is considered to be transport by private car. The following services are included: ● Average of public and private travel times to food shops ● Average of public and private travel times to GP surgeries ● Average of public and private travel times to Primary schools ● Average of public and private travel times to Secondary schools ● Average of public and private travel times to Post office ● Average of public and private travel times to Public library ● Average of public and private travel times to Pharmacies ● Private travel times to Petrol stations (private transport only) ● Average of public and private travel times to Sports Facilities The travel time indicators are a weighted average of the private and public transport times to each service (with the exception of petrol stations).	Welsh Government	2019	LSOA	An isochrone approach (shapes representing how far one can travel in a given time) to calculate access. Isochrones are produced from 0 to 90 minutes in 5-minute intervals to accurately capture the areas of Wales that can and cannot be accessed via. the Public Transport network.
CN1b: Average distance to nearest Park, Public Garden, or Playing Field (m)	Average distance to the nearest park, public garden or playing field in meters. Data is based on analysis of Ordnance Survey (OS) data on access to private gardens, public parks and playing fields in Great Britain.	Ordnance Survey https://www.ons.gov.uk/economy/environmentalaccounts/datasets/accesstogardensandpublicgreenspaceingreatbritain	April 2020	MSOA	

Indicator	Details	Source	Date	Granularity	Notes/Caveats
CN2a: Jobs density in the Travel to Work Area	The number of jobs located in the area as a percentage of the working-age population in that area – this is to be used as a measure of economic opportunities locally. Data are taken from the Business Register and Employment Survey (BRES) of approximately 80,000 businesses, weighted to represent all sectors of the UK economy. The BRES definition of an employee is anyone aged 16 years or over at the time of the survey, whom the employer pays directly from its payroll(s) in return for carrying out a full-time or part-time job or for being on a training scheme. This indicator will be calculated at travel-to-work-area (TTWA) level rather than at community-geography level, to reflect the fact that people typically commute outside of their local area to work[10]. TTWAs are a geography created to approximate labour-market areas. In other words, they are designed to reflect self-contained areas in which most people both live and work. The current ONS criteria for defining TTWAs are that at least 75% of the area's resident workforce work in the area, and at least 75% of people who work in the area also live in the area. The area must also have an economically active population of at least 3,500.	Business Register and Employment Survey (BRES) https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=57	2019	TTWA	This measure does not take into account the quality of the job, whether they are full or part time, zero hours or temporary or permanent contract or how easily accessible the core of the travel to work area is from the specific community geography area.
CN2b: Jobs density in the local area	The number of jobs located in the area as a percentage of the working-age population in that area – this is to be used as a measure of economic opportunities locally. Data are taken from the Business Register and Employment Survey (BRES) of approximately 80,000 businesses, weighted to represent all sectors of the UK economy. The BRES definition of an employee is anyone aged 16 years or over at the time of the survey, whom the employer pays directly from its payroll(s) in return for carrying out a full-time or part-time job or for being on a training scheme. This indicator will be calculated based on the number of jobs inside or within 1km of the local area boundary to balance and ranked alongside the Jobs Density measure to get a weighted measure of local jobs and jobs in the wider labour market.	Business Register and Employment Survey (BRES) https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=57	2019	LSOA	This measure does not take into account the quality of the job, whether they are full or part time, zero hours or temporary or permanent contract.

[10] More than half of those in employment travel more than 5km to work, with the average distance travelled to work across the England and Wales - 15km – Source: Census 2011 Distance travelled to work

Indicator	Details	Source	Date	Granularity	Notes/Caveats
CN3: Households with no car	The proportion of households who do not have a car or van. Figures are based on responses to the 2011 Census car ownership question, which asks for information on the number of cars or vans owned or available for use by one or more members of a household. It includes company cars and vans available for private use. This is included to supplement the accessibility of key services and labour market indicators in this domain, to take account of the additional challenges in accessing services for those without access to private transport.	Census 2011 https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=621	2011	Output Area	The count of cars or vans in an area is based on details for private households only. Cars or vans used by residents of communal establishments are not counted.
CN4a: Broadband download speeds	Average broadband download line-speed (Mbit/s) for connections in the area.	OfCom	2020	Postcode	Due to variations in broadband performance over time, this data should not be regarded as a definitive and fixed view of the UK's fixed broadband infrastructure. However, the information provided here may be useful in identifying variations in broadband performance.
CN4b: Broadband upload speeds	Average broadband upload line-speed (Mbit/s) for connections in the area.	OfCom	2020	Postcode	Due to variations in broadband performance over time, this data should not be regarded as a definitive and fixed view of the UK's fixed broadband infrastructure. However, the information provided here may be useful in identifying variations in broadband performance.
CN5: Loneliness (People living alone)	Shows the proportion of households that comprise one person living alone (as a proportion of all households). Figures are self-reported and taken from the household composition questions in the 2011 census.	Census 2011 https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=605	2011	Output Area	This is included as a proxy measure of social isolation.

Indicator	Details	Source	Date	Granularity	Notes/Caveats
CN5b: Loneliness (Loneliness Index – GP Prescriptions for Loneliness)	An outcome-based loneliness index using open prescription data. Open prescription data lists medicines, dressings and appliances prescribed by NHS primary care facilities, including General Practices (GPs), each month. Loneliness Index is created by using GP prescription data to find areas with above-average prescriptions for five conditions where loneliness has been shown to be a risk factor: Alzheimer's, depression, high blood pressure, anxiety and insomnia. An index was created for each condition by standardising the proportion of a practices prescriptions that were given for the condition relative to the levels in other practices (into z scores). The index for each condition had a value that was negative if prescribing was lower than typical and positive if it was greater than typical. The loneliness index is generated by summing together these standardised-scores for each condition.	Office for National Statistics' Data Science Campus /NHS /Red Cross https://github.com/matthewgthomas/loneliness/blob/master/README.md	2019	MSOA	These data do not include any information about the person it was prescribed to and are averaged for a whole GP practice.
CN4c: Loneliness (Self-reported levels of loneliness)	People who have self-reported that they feel lonely. This is a Future Generations Indicator derived from the National Survey for Wales.	National Survey for Wales	2016/17 and 2019/20	LSOA	Data is available in the National Survey for Wales by Local Authority and Wales Index of Multiple Deprivation quintile and allocated to LSOAs based on their parent Local Authority and WIMD quintile score. Two years of data is used to improve the robustness of the measure.
AE1: Voter turnout at local elections	Valid votes turnout (%) at the most recent Local Council Elections	Electoral Commission https://www.electoralcommission.org.uk/who-we-are-and-what-we-do/elections-and-referendums/past-elections-and-referendums/european-parliamentary-elections/report-may-2019-european-parliamentary-elections-and-local-elections	2017	Ward	

Indicator	Details	Source	Date	Granularity	Notes/Caveats
AE2a: Civic participation (Self-reported measures of community and civic participation)	The National Survey for Wales contains key indicators of volunteering and civic participation. We have explored datasets from the 2012/13, 2013/14, 2014/15, 2016/17, 2017/18, 2018/19 and 2019/20 iterations of the survey in order to produce a composite measure of participation. The 2012/14, 2013/14 and 2014/15 surveys are published with the associated Output Area Classification of each respondent in the survey. Using the Output Area Classification it is possible to apportion response rates to Output Area level allocating response rates (%) to each Output Area based on their Output Area Classification sub group membership. Data is then aggregated from Output Area to provide estimated rates for key indicators for MSOAs. The 2016/17, 2017/18, 2018/19 and 2019/20 are published broken down by Local Authority and WIMD. Using a combination of these variables it is possible to apportion response rates to LSOA level allocating response rates (%) to each LSOA based on their WIMD score and parent Local Authority. Indicators are then combined over multiple years to boost the sample size and improve the robustness of the estimates. The following indicators are included (with survey years in brackets): ● People who volunteer (formally or informally) (2016/17, 2019/20) ● Local Authority Services – Agree or strongly agree that I can influence decisions affecting my local area (2018/19) ● Local Democracy – Have contacted local councillor in the past 12 months (2014/15, 2016/17, 2018/19) ● Tend to agree or strongly agree that I have an opportunity to participate in making decisions about the running of my local authority services (2017/18, 2019/20)	National Survey for Wales/Output Area Classification 2011: ONS Licensed data – access via UK data archive https://www.data-archive.ac.uk/	2014/15, 2016/17, 2017/18, 2018/19 and 2019/20	Output Area/LSOA	Data are constructed from a survey with a small sample size. Data has been apportioned down to Output Area level using Output Area Classification group membership – (which groups together Output Areas based on their shared socio-economic characteristics) and Local Authority/WIMD 2019 quintile. Caution should be applied when interpreting these results at small-area level because of the small sample size of the survey. Five years of data were used to increase the size of the response rate.

Indicator	Details	Source	Date	Granularity	Notes/Caveats
AE2b: Strength of local social relationships	The National Survey for Wales contains key indicators of strength of local social relationships. We have explored datasets from the 2012/13, 2013/14, 2014/15, 2016/17, 2017/18, 2018/19 and 2019/20 iterations of the survey in order to produce a composite measure of participation. The 2012/14, 2013/14 and 2014/15 surveys are published with the associated Output Area Classification of each respondent in the survey. Using the Output Area Classification it is possible to apportion response rates to Output Area level allocating response rates (%) to each Output Area based on their Output Area Classification sub group membership. Data is then aggregated from Output Area to provide estimated rates for key indicators for MSOAs. The 2016/17, 2017/18, 2018/19 and 2019/20 are published broken down by Local Authority and WIMD. Using a combination of these variables it is possible to apportion response rates to LSOA level allocating response rates (%) to each LSOA based on their WIMD score and parent Local Authority. Indicators are then combined over multiple years to boost the sample size and improve the robustness of the estimates. The following indicators are included (with survey years in brackets): ● Agree or strongly agree that most people can be trusted (2016/17) ● Tend to agree or strongly agree that I feel a sense of belonging to local area (2012/13, 2013/14, 2016/17, 2018/19) ● Tend to agree or strongly agree that people from different backgrounds get on well together in the local area (2012/13, 2013/14, 2016/17, 2018/19) ● Tend to agree or strongly agree that people in the local area treat each other with respect and consideration (2012/13, 2013/14, 2016/17, 2018/19)	National Survey for Wales/Output Area Classification 2011: ONS Licensed data – access via UK data archive https://www.data-archive.ac.uk/	2012/13, 2013/14, 2016/17, 2018/19	Output Area/LSOA	Data are constructed from a survey with a small sample size. Data has been apportioned down to Output Area level using Output Area Classification group membership – (which groups together Output Areas based on their shared socio-economic characteristics) and Local Authority/WIMD 2019 quintile. Caution should be applied when interpreting these results at small-area level because of the small sample size of the survey. Four years of data were used to increase the size of the response rate.

Indicator	Details	Source	Date	Granularity	Notes/Caveats
AE3: Leisure and cultural participation	The National Survey for Wales contains key indicators of cultural and sport participation. We have explored datasets from the 2012/13, 2013/14, 2014/15, 2016/17, 2017/18, 2018/19 and 2019/20 iterations of the survey in order to produce a composite measure of participation. The 2012/14, 2013/14 and 2014/15 surveys are published with the associated Output Area Classification of each respondent in the survey. Using the Output Area Classification it is possible to apportion response rates to Output Area level allocating response rates (%) to each Output Area based on their Output Area Classification sub group membership. Data is then aggregated from Output Area to provide estimated rates for key indicators for MSOAs. The 2016/17, 2017/18, 2018/19 and 2019/20 are published broken down by Local Authority and WIMD. Using a combination of these variables it is possible to apportion response rates to LSOA level allocating response rates (%) to each LSOA based on their WIMD score and parent Local Authority. Indicators are then combined over multiple years to boost the sample size and improve the robustness of the estimates. The following indicators are included (with survey years in brackets): ● Have been participating in any physical activity (2017/18, 2018/19, 2019/20) ● Have visited an art gallery/event in Wales in the last 12 months (2014/15) ● Have visited a museum in Wales in the last 12 months (2014/15) ● Have visited a heritage site in Wales in the last 12 months (2014/15)	National Survey for Wales/Output Area Classification 2011: ONS Licensed data – access via UK data archive https://www.data-archive.ac.uk/	2014/15, 2017/18, 2018/19 and 2019/20	Output Area/LSOA	Data are constructed from a survey with a small sample size. Data has been apportioned down to Output Area level using Output Area Classification group membership – (which groups together Output Areas based on their shared socio-economic characteristics) and Local Authority/WIMD 2019 quintile. Caution should be applied when interpreting these results at small-area level because of the small sample size of the survey. Four years of data were used to increase the size of the response rate.

Indicator	Details	Source	Date	Granularity	Notes/Caveats
AE4: Third sector organisations	Non-overlapping count of 1) Registered charities from Charity Base 2) Co-operative societies from Co-operatives UK 3) Charitable Incorporated Organisations, Community Interest Companies, PRI/LTD BY GUAR/NSC (Private, limited by guarantee, no share capital) and Registered Societies from Companies House 4) Co-operative societies, community benefit societies, and former industrial and provident societies from Financial Conduct Authority Figure is expressed as a rate per 100,000 population.	Charities Commission https://charitybase.uk/chc . Co-operatives UK https://www.uk.coop/uk , Companies House http://download.companieshouse.gov.uk/en_output.html , from Financial Conduct Authority https://mutuals.fca.org.uk/	2021	Postcode	This is based on the location of organisations rather than on their area of operations (some will have a global focus). Larger charities ae excluded from this measure. This indicator is included in this theme to capture the level of third sector activity in the local area. Organisations with an exclusively national or international focus have been excluded, to ensure only organisations with a local focus are included. Some organisations appear on multiple registers – duplicate records have been stripped so only unique records remain. This will exclude smaller companies not registered and exclude co-operatives, community benefit societies, associations, trusts and partnerships (of varying types).
AE5: National Lottery Community Fund	Combined total of grants made to local projects and organisations by the National Lottery Community Fund between 2004 and 2021 per 1,000 population (£). Figures are taken from data on grants made to projects and organisations in local areas in the UK by the Big Lottery Fund, from grants data published by Big Lottery in conjunction with the 360Giving initiative. Big Lottery used the 360Giving standard to produce a file of all the grants made in 2004-2021.	National Lottery (through 360 Giving) https://grantnav.threesixtygiving.org/	2004-2021	Ward level	Included in the active/engaged community theme to capture the level of third sector activity in the local area.

Indicator	Details	Source	Date	Granularity	Notes/Caveats
AE6: Grant funding per head from major grant funders	Combined grant funding from grant giving organisations whose data has been subject to the 360giving standard (per head of population). The following organisations are included: A B Charitable Trust, Access to Justice Foundation, Andrew Lloyd Webber Foundation, Barrow Cadbury Trust, CHK Foundation, Cabinet Office, Calouste Gulbenkian Foundation, UK Branch, Co-operative Group, Coop Foundation, Department for Business, Energy and Industrial Strategy, Department for Culture, Media and Sport, Department for Digital, Culture, Media & Sport, Department for Digital, Culture, Media and Sport, Department for Education, Department for Environment, Food and Rural Affairs, Department for International Development, Department for International Trade, Department for Transport, Department for Work and Pensions, Department of Health, Department of Health and Social Care, Esme Fairbairn Foundation, Gatsby Charitable Foundation, HM Revenue & Customs, Hazelhurst Trust, Home Office, Imperial Health Charity, Indigo Trust, John Ellerman Foundation, John Moores Foundation, Joseph Levy Foundation, LGBT Consortium, LandAid Charitable Trust, Lloyd's Register Foundation, Lloyds Bank Foundation for England and Wales, London Marathon Charitable Trust, Masonic Charitable Foundation, Mercers' Charitable Foundation, Ministry for Housing, Communities and Local Government, Ministry of Defence, Ministry of Housing, Communities & Local Government, Ministry of Justice, National Churches Trust, National Emergencies Trust, Nationwide Foundation, Nesta, Nuffield Foundation, OVO Foundation, Paul Hamlyn Foundation, Pears Foundation, Power to Change Trust, Rank Foundation, Road Safety Trust, Rothschild Foundation, Samworth Foundation, Sport England, Staples Trust, Tedworth Charitable Trust, The AIM Foundation, The Badur Foundation, The Bishop Radford Trust, The Blagrave Trust, The Clothworkers Foundation, The David & Elaine Potter Foundation, The Dulverton Trust, The Dunhill Medical Trust, The Fore, The Henry Smith Charity, The Joseph Rank Trust, The Michael And Betty Little Trust, The Pilgrim Trust, The Rayne Foundation, The Seafarers' Charity, The Segelman Trust, The Tudor Trust, Three Guineas Trust, True Colours Trust, Tuixen Foundation, Virgin Money Foundation, Vision Foundation, Wates Family Enterprise Trust, Wates Foundation, William Grant Foundation, Wolfson Foundation, Woodward Charitable Trust, ZING, the Trussell Trust	360 Giving Grant Nav data https://grantnav.threesixty giving.org/	Up to 2021	Postcode level[11]	Data are based on the location of grant recipients rather than the location of their beneficiaries. This indicator is included in this theme to capture the level of third-sector activity in the local area. Grants above £1m are excluded to ensure capturing local initiatives rather than national activity. Measure expanded to include all Grant Funders which have a nationwide focus (e.g. not focused in one region of the country only[12]) where geographic information supplied.

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[11] Comic relief and Children in Need only supply references of Local Authority recipients. This data will be allocated to local area by apportioning

Indicator	Details	Source	Date	Granularity	Notes/Caveats
AE7a: SME lending by banks	Total value of lending to SME businesses from key financial lenders (Barclays, CYBG, Lloyds Banking Group, HSBC, Nationwide Building Society, Royal Bank of Scotland and Santander UK in Great Britain).	UK Finance	June 2020	Postcode sector	Take four quarters of lending data at postcode sector level. The data is modelled from postcode sector to Output Areas using a weighted lookup built from the numbers of shared postcodes between a postcode sector and Output Area in combination with the working age population per Output Area. Data is then aggregated to local area level to get total value of SME lending at local area level.
AE7b: Small businesses: Local Business Units with 0-4 employees	Small businesses: VAT registered local businesses with 0-4 employees per 10,000 population	Inter Departmental Business Register (IDBR)	2020	MSOA	
AE7c: Generative Businesses	Number of Generative Businesses per 100,000 population. Generative businesses reinvest surpluses into the local community, retaining wealth for the benefit of their local place rather than maximising profits for shareholders and owners.	Understanding Wales Places http://www.understandingwelshplaces.wales/en/compare/W38000067/	2021	MSOA	
AE8 Trustees of charities	The number of trustees of charities (per 100,000 population). Data has been gathered from the Charity Commission.	Understanding Wales Places http://www.understandingwelshplaces.wales/en/compare/W38000067/	2021	MSOA	

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[12] Grant givers with a specific area focus e.g. Community Foundations have been excluded to mitigate against reflecting the extent to which local grant givers have submitted data to GrantNav e.g. Not all Community Foundations have submitted data to Grant Nav and we want to guard against introducing systematic bias into the data by including data for some regions and excluding others.

Appendix E: Methodology for Producing a Community Assets Index for Wales.

Step 1 Convert indicator data to MSOA level

Each of the indicators in the WCAI is published at a different geographical level – however, in order to align with ECNI we intend to produce the WCAI at Middle layer Super Output Area (MSOA) level.

MSOAs are the preferred unit of measure because:
- They only change after every census, so they are more consistent over time. Even with changes made due to the census, about 95% will remain the same. They therefore represent a more stable geography than wards.
- They are generally all the same size (less than 5,000 people) but are sufficiently large enough that they are comparable to the average ward sizes.
- They are less politically linked (councillors or MPs) which was a criticism raised by a few stakeholders. That is, ward boundaries can be gerrymandered but MSOAs are not linked politically.
- They now have neighbourhood names (not just codes) so are more identifiable. They are also increasingly used to disseminate statistics releases – most notably the COVID-19 caseload - https://coronavirus.data.gov.uk/
- The list of 'less resilient' MSOAs can still be linked to wards and local authorities. With MSOAs, you might see more wards that are either fully or partially identified as 'left behind'.
- They nest directly with smaller statistical geographies such as Output Areas and Lower layer Super Output Areas (LSOA) without requiring a best-fit lookup.

We therefore need to convert each of the underlying indicators to MSOA geography for inclusion in the WCAI.

The table below outlines our approach to converting indicators to MSOA level:

Geography	Indicators	Approach to conversion
Postcode/Point Location	Density of community space assets Density of educational assets Density of sport and leisure assets Density of cultural assets Green assets Retail assets Broadband speeds Grant funding per head from major grant funders Third sector organisations Community-owned assets	Use the ONS Postcode directory https://geoportal.statistics.gov.uk/datasets/ons-postcode-directory-may-2021/about - to aggregate Postcode data to Output Area level. Use the Output Area to MSOA Lookup table to aggregate data from Output Area to MSOA level. Note for some of these areas a buffer zone is required around each of the MSOAs to allow for access to services outside of the MSOA of residence.
Output Area	Households with no car People living alone	Use the Output Area to MSOA Lookup table to aggregate data from Output Area to MSOA level.

LSOA	Travel time to key services by public transport/walk Jobs Density in the local area Self-reported levels of loneliness Civic participation Strength of local social relationships Leisure and cultural participation	Use the 2011 Output Area to 2011 LSOA Look-up table to apportion data to Output Area. Use the Output Area to MSOA Lookup table to aggregate data from Output Area to MSOA level.
MSOA	Small businesses Green assets (Area of public green space) Average distance to nearest Park, Public Garden, or Playing Field Loneliness Index – GP Prescriptions for Loneliness Generative businesses Trustees	Use MSOA boundaries directly
Electoral ward	Voter turnout at local elections National Lottery Community Fund	Apportion data from relevant ward to Output Area – using the appropriate Ward to Output Area look-up table – see https://geoportal.statistics.gov.uk/datasets/ons::output-area-to-ward-to-local-authority-district-december-2011-lookup-in-england-and-wales/about and apply Ward level scores to each Output Area. Aggregate from Output Area to MSOA using the Output Area to MSOA Lookup table.
TTWA	Jobs density in the Travel to Work Area	Apply TTWA score to all the Output Areas in the TTWA using the LSOA to Travel to Work area lookup table. Aggregate from Output Area to MSOA using the Output Area to MSOA Lookup table.
Postcode Sector	SME lending by banks	Apply Postcode Sector score to all the Output Areas in the Postcode sector using the Output Area to Postcode Sector look-up table. Aggregate from Output Area to MSOA using the Output Area to MSOA Lookup table.

Step 2 Quality Assurance of the data

The next step is to comprehensively check the distributions of all indicators at MSOA level to ensure that all indicators have passed the relevant fitness tests and are suitable for further analysis for the purpose of the WCAI. These tests include excluding indicators with high numbers of zeros or equal upper limit e.g. 100% values which would distort the Index.

Step 3 Applying shrinkage to improve the robustness of indicators

Where a rate or other measure of community resilience for an MSOA is based on small numbers, the resulting estimate may be unreliable, with an unacceptably high standard error. The technique of shrinkage estimation is used to 'borrow strength' from larger areas to increase the reliability of small area data; the impact of shrinkage will tend to move an MSOA's score towards that of their parent higher-level area. Shrinkage moderates the levels of unreliability in the dataset and reduces the impact of chance fluctuations from year to year. Such scores occur most commonly where numbers are small at MSOA level and the event is thus relatively rare. This may be the case for the indicator as a whole or only for particular MSOAs. In shrinkage estimation the score for a small area is estimated as a weighted combination of that small area's

score and the mean value for a larger area from which the smaller areas within the larger area borrow strength. The 2020 Local Authority Districts will be used as the larger area (this was the larger area used in the Indices of Deprivation shrinkage calculations). MSOAs within a single Local Authority District share issues relating to local governance. To a certain extent, they may also share issues relating to labour market sub-climates. Shrinkage will be applied to all indicators with the exception of those published at Local Authority District level and Travel to Work Area (see table in Step 1 above).

Step 4 Ensuring that all indicators are "pointing in the same direction"

In order to combine the indicators into domains, it is necessary for each of the indicators to be orientated in the same direction. However, for some of the indicators included in this measure, a *high* value indicates *low* levels of resilience on the WCAI – for example an area with high levels of travel times to key services would be measured as having low levels of resilience. By contrast, for other indicators, a high score denotes high levels of resilience – for example areas with high grant funding. It is necessary therefore to 'reverse the polarity' for some scores to ensure that a high value is negative for all indicators – so they can be consistently combined.

Step 5 Producing composite indicators

A small subset of the indicators will be amalgamated to provide composite indicators before combining with the other indicators to create domain scores. The following indicators will be grouped together:

Original indicators	Combined indicator
- Density of Green Assets - Area of public green space	Green assets
- Jobs Density in the Travel to Work Area - Jobs Density in the Local Area	Jobs Density
- Broadband upload speed - Broadband download speed	Broadband
- Average of public and private travel times to food shops - Average of public and private travel times to GP surgeries - Average of public and private travel times to Primary schools - Average of public and private travel times to Secondary schools - Average of public and private travel times to Post office - Average of public and private travel times to Public library - Average of public and private travel times to Pharmacies - Private travel times to Petrol stations (private transport only) - Average of public and private travel times to Sports Facilities - Average distance to nearest Park, Public Garden, or Playing Field	Physical connectedness

• People living alone • GP Prescriptions for Loneliness • Self-reported levels of loneliness	Social isolation[13]
• Self-reported measures of community and civic participation • Strength of local social relationships	Civic participation
• Small businesses: Local Business Units with 0-4 employees • Small businesses: SME lending by banks • Small businesses: Number of generative businesses	Small businesses

Before combining each of the individual indicators to produce an overall composite indicator, the indicators will first have shrinkage applied (to reduce any standard errors associated with small numbers), the indicators will then be standardised (by ranking and transforming to a normal distribution) – as each of the composite indicators are on a different scale (step 6 below describes the standardisation process in more detail). Note: Where there are more than two component indicators in a composite indicator – indicators will be checked for positive correlation and provided indicators are positively correlated, the weights of each component indicator will be determined using factor analysis (see step 8 below); where there are two indicators in a composite indicator, each indicator will be assigned an equal weight of 0.5.

Step 6 Standardisation

When combining measures, it is important to ensure that indicator scores are comparable and that the weighting of domains is not distorted by the fact that some of the indicators may have very different distributions. The indicators in the WCAI are based on different metrics and each indicator in the Index needs to be standardised to ensure that each indicator has a common distribution, so that indicators can be combined, without one indicator dominating due to a much larger distribution. Indicators will be standardised by ranking each of the indicators and then transforming to a normal distribution.

Step 7 Creating subdomains

The *Connectedness* and *Active and engaged community* domains will be split into subdomains. The principal reason for doing this is to reflect the character of the domains - as both sets of domains contain two conceptually distinct subsets of indicators.
The *Connectedness* domain explores connectivity both in terms of access to services on the one hand and wider measures of connectivity on the other hand - such as access to transport, digital connectivity and isolation, which do not necessarily have strong associations with the more physical concepts of connectivity. We therefore propose grouping the domain into two subdomains:

Subdomain	Indicators
Physical connectivity	Physical connectedness Jobs Density

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[13] Factor analysis is used to weight this indicator (see explanation below)

	Households with no car
Wider connectivity	Broadband speeds
	Social isolation

The Active and engaged community domain consists of measures concerning self-reported participation and engagement, alongside measures of the strength of the community sector. Again, it makes conceptual sense to group these into separate subdomains as follows:

Subdomain	Indicators
Civic participation	Voter turnout at local elections
	Self-reported measures of community and civic participation
	Cultural participation
Civic activity	Third sector organisations per head
	Big Lottery funding per head
	Grant funding per head from major grant funders
	Small businesses

An additional advantage of grouping indicators into subdomains is that it makes it possible to apply empirical weights to the indicators using factor analysis (explored in the weighting section below) – one of the key blockers of running factor analysis on the domains as a whole is that, within the Connectedness and Active and Engaged domains, the respective underlying indicators do not have a close association/a common underlying factor which explains their distribution. Grouping the indicators into smaller subdomains where indicators share the same factors, enables factor analysis to be run to apply weightings to the majority of indicators.

Step 8 Weighting indicators

A statistical technique called Maximum Likelihood Factor Analysis will be used to determine the weights of the indicators within each domain/subdomain. Factor analysis works most effectively where there is a single overwhelming factor which explains the performance on a set of indicators within a domain and where indicators within a domain exert an influence on one another. The outcome of applying factor analysis is that not all indicators in the domain will have equal weights, with the weights affected by the extent to which each of the indicators within a domain measures the underlying aspect that the domain is trying to capture. A key advantage of using factor analysis is that it takes into account 'double-counting' within domains. We have run correlation analysis on the WCAI to determine the associations between indicators within each domain/subdomain. Following the outcome of this research we have applied factor analysis to the *Civic assets* domain, the *Physical connectivity* subdomain, the *Civic activity* subdomain and the *Civic participation* subdomain of the WCAI. For the *Wider connectivity* subdomain each of the indicators will be assigned an equal weighting as each of the component indicators do not have close associations.

Step 9 Combining indicators to form subdomains and domains

The weighted and standardised indicators have then been combined to form subdomain scores (in the case of indicators in the *Active/engaged community* and *Connectedness* domains) and domain scores (in the case of the Civic assets domain – which does not contain any subdomains). The combination process involves summing each of the weighted indicator scores (the standardised indicator scores * weight) together for all the indicators within a domain/subdomain.
The subdomains are then standardised (using the exponential transformation method outlined in step 10 below) and then added together to form domain scores.

Step 10 Standardising domains

The three domain scores are then combined to produce the overall Wales Community Assets Index (WCAI).
However, each of the domains are on a different scale to one another, two will be produced from combined subdomain scores, while the *Civic assets* domain will be produced from combined weighted indicators. It is therefore necessary to standardise the domain scores before combining. As with the 2021 English Community Needs Index, the method of standardisation that has been adopted is to transform the domains to a specified **exponential distribution** using an Exponential Transformation function. The exponentially transformed subdomain/domain scores are then combined to form an overall 'community resilience' measure at MSOA level.

The Exponential Transformation method of standardisation differs from the normal distribution method as it gives more emphasis on the most deprived end of the distribution and so facilitates identification of the areas with the lowest levels of resilience. This was the method of standardisation applied in the Indices of Deprivation in order to control cancellation effects e.g. high levels of deprivation in one domain are not completely cancelled out by low levels of deprivation in a different domain and ensures that areas that perform particularly badly on a particular aspect of community resilience are moved closer to the low end of the community resilience spectrum even when they show positive outcomes on other indicators.

Step 11 Weighting domains

The final stage for producing the Wales Community Assets Index is to assign weights to the three domains that have been created – to apply to the domain scores before importing. It is important to note that all potential combinations of domains involve weights. If, after standardisation, the domains are simply added together, this gives each domain an equal weight. Our approach is for the weights to be explicit and based on clear criteria. We are committed to a procedure of combining Domain Indices in such a way that the weighting of the indices is explicit. Part of this commitment to transparent weights involves the standardisation of the Domain Indices as outlined above. This ensures that the domains can be combined without 'hidden' weights. Having standardised the domains, we are then able to choose explicit weights. We have adopted the same approach to weighting domain as agreed for the English CNI 2021.

Step 12 Creating a Wales Community Asset Index (WCAI)

Once the preferred approach to producing domain weights is agreed, the domains can be combined to produce the overall Wales Community Assets Index (WCAI). The combination process involves summing each of the weighted standardised domain scores (the exponentially transformed domain scores * weight) together to produce an overall Wales Community Assets Index score. This score is then ranked across all MSOAs in Wales in order to combine with the WIMD score (step 13 below) to identify 'less resilient' areas.

Step 13 Identifying at less-resilient areas

Less-resilient areas are conceptualised as MSOAs in Wales, which have high levels of need on both the WCAI and the Wales Index of Multiple Deprivation (WIMD) 2019. Stages 1-12 are concerned with producing an *MSOA* level WCAI. The next step is to match this data against the WIMD 2019 – in order that both Indices can be analysed together to identify left-behind areas.
In order to combine the WCAI and the WIMD 2019, it is first necessary to aggregate the WIMD 2019 to MSOA level.

The WIMD 2019 is produced at 2011 LSOA level – 2011 LSOAs nest perfectly with 2011 MSOAs so LSOA scores can be aggregated to MSOA level using a population weighted aggregation method[1] (note, this is a best fit look-up table which assigns each Output Area to one ward only – Output Areas do not straddle ward boundaries). The population weighted approach sums together the LSOA scores. In order to give each LSOA the appropriate weight into the sum, the LSOA scores are weighted by the LSOA population size. This means that each of the LSOA scores are multiplied by the relevant LSOA population before summing, and the final scores for the areas of interest are divided by the sum of the relevant LSOA populations in that area. The relevant LSOA population used in this calculation is derived from an apportioned version of the Indices of Deprivation population denominators[2]. The outcome of this stage is that a 2019 WIMD score at MSOA level is produced.

The MSOA level 2019 WIMD score is combined with the WCAI to produce the overall measure for identifying LRAs. However, the WIMD and the WCAI are on a different scale to one another. It is therefore necessary to standardise the scores for each of these measures before combining. As with the approach for combining domains to create the WCAI, the method of standardisation that has been adopted is to transform the domains to a specified **exponential distribution** using an Exponential Transformation function. The exponentially transformed subdomain/domain scores are then combined to produce an overall score across each MSOA in Wales. MSOAs are ranked from 1-410 on this measure (where 1 is the highest combined score), with those areas ranked in the top 25% in Wales (ranked 1-102) identified as 'less-resilient' areas.

Appendix F: Factor Analysis methodology

Factor analysis is used as a method for combining indicators, by finding appropriate weights for combining indicators into a single score based on the inter-correlations between all the indicators.

Factor analysis is only used in domains where 'latent variables' are hypothesised to exist and where the indicator variables are 'effect indicators', i.e. indicators that are influenced by the latent variable.

There are many candidates in terms of types of factor analysis. Two of the main contenders are maximum likelihood factor analysis (as used in the current and previous versions of the Indices of Deprivation) and Principal Components Analysis. The distinction between maximum likelihood factor analysis and Principal Components Analysis is a technical one. In brief, the assumptions underpinning Principal Components Analysis are that the indicators going into the analysis are perfectly reliable and measured without error. Maximum likelihood factor analysis requires no such assumption.

The process of combining indicators using factor analysis comprised three stages:

All indicators were converted to the standard normal distribution.

The standardised scores were factor analysed (using the Maximum Likelihood method), deriving a set of weights.

The indicators were then combined using these weights.

Appendix G: Exponential transformation

In order to combine the domains into an overall measure of need, the domain scores first need to be standardised. Any standardisation and transformation should meet the following criteria:

- Standard distribution. It must ensure that each domain has a common distribution, so that domains can be combined, without one domain dominating due to a much larger distribution.

- Identify areas of need. It must facilitate the easy identification of the areas with highest levels of need.

- Scale independent. It must not be scale dependent (in other words confuse population size with level of need).

One possible standardization approach involves each of the domain scores being ranked, and then the ranks are transformed to an exponential distribution.

The exponential distribution has a number of properties that satisfy the criteria above.

Standard distribution

The exponential distribution transforms each domain so that they each have a common distribution, the same range and identical maximum / minimum values. The process starts by ranking the scores in each domain to standardise the domain scores (from 1 for the lowest need to 410 for the highest need), before applying the exponential transformation procedure to create a standardised domain score ranging from 0 (lowest need) to 100 (highest need).

Cancellation

The exponential transformation procedure gives control over the extent to which lack of need in one domain cancels or compensates for high need in another domain. It allows precise regulation, although not elimination, of these cancellation effects. The scaling constant (23) used produces roughly 10 per cent cancellation. This means that in the extreme case, an MSOA which was ranked most deprived on one domain but least deprived on another would overall be ranked at the 90th percentile in terms of levels of need. This compares to the 50th percentile if the untransformed ranks or a normal distribution had been used instead.

Identify deprived areas

The exponential transformation effectively spreads out that part of the distribution in which there is most interest - that is the 'tail' which contains the areas with the highest levels of need in each domain. The scaling constant ensures that the most deprived 10 per cent of areas cover 50 per cent of the distribution of scores (in other words, scores between 50 and 100 after exponential transformation).

The transformation is not affected by the size of the MSOA's population.

The exponential transformation calculation

The transformation used is as follows:

For any MSOA, denote its rank on the domain R, scaled to the range [0,1]. R=1/N for the least deprived and R=N/N (in other words R=1) for the most deprived, where N=the number of MSOAs in Wales.

The transformed domain score X is given by:

$$X = -23 \ln\left(1 - R\left(1 - \exp^{-100/23}\right)\right)$$

where 'ln' denotes natural logarithm and 'exp' the exponential or antilog transformation

Appendix H: Shrinkage

Improving the reliability of small area data values using shrinkage estimation

The shrinkage technique is designed to deal with the problems associated with small numbers in an MSOA. In some areas – particularly where the at-risk population is small – data may be 'unreliable', that is more likely to be affected by sampling and other sources of error.

The technique of shrinkage estimation (in other words empirical Bayesian estimation) is used to 'borrow strength' from larger areas to avoid creating unreliable small area data. Shrinkage estimation involves moving MSOA scores towards another more robust score, often relating to a higher geographical level. All MSOA scores will move somewhat through shrinkage, but those with large standard errors (in other words the most 'unreliable' scores) will tend to move the most. The MSOA score may be moved towards a 'higher need' or 'lower need' score through shrinkage estimation. Without shrinkage, some MSOAs would have scores which do not reliably describe the community need in the area due to chance fluctuations from year to year.

It could be argued that shrinkage estimation is inappropriate for administrative data which are, in effect, a census. This is not correct. The problem exists not only where data are derived from samples but also where scans of administrative data effectively mean that an entire census of a particular group is being considered. This is because such censuses can be regarded as samples from 'super-populations', which one could consider to be samples in time. All the data from administrative sources and the 2011 Census are treated as samples from a super-population in this way, and the shrinkage technique was applied to indicators which use this data. The exceptions are the indicators supplied at Local Authority District level.

Selecting the larger areas from which unreliable small area data can borrow strength

The principle for selecting the larger area should be that the MSOAs within them share characteristics. In the current shrinkage methodology, Local Authority Districts are used. The MSOAs within a single district share issues relating to local governance and possibly to economic sub-climates. To a certain extent, they may also share issues relating to labour market sub-climates.

The shrinkage calculation

The actual mechanism of the shrinkage procedure is to estimate deprivation in a particular MSOA using a weighted combination of (a) data from the MSOA, and (b) data from another more robust score (in the case of the Indices, this is the Local Authority District score). The weight attempts to increase the efficiency of the estimation, while not increasing its bias. All MSOA scores are adjusted to some degree through the shrinkage process, but the magnitude of the adjustment will be greatest for areas with the least reliable scores. The amount of movement depends on both the size of the standard error and the amount of heterogeneity amongst the MSOAs in a Local Authority District.

The 'shrunk' estimate of an MSOA level proportion (or ratio) is a weighted average of the two 'raw' proportions for the MSOA and for the corresponding District. The weights used are determined by the relative magnitudes of within-Ward and between-Ward variability.

If the rate for a particular indicator in MSOA j is r_j events out of a population of n_j, the empirical logit for each MSOA is:

$$m_j = \log\left[\frac{(r_j + 0.5)}{(n_j - r_j + 0.5)}\right]$$

whose estimated standard error s_j is the square root of:

$$s_j^2 = \frac{(n_j + 1)(n_j + 2)}{n_j(r_j + 1)(n_j - r_j + 1)}$$

The corresponding counts r out of n for the district in which MSOA j lies gives the district-level logit:

$$M = \log\left[\frac{(r + 0.5)}{(n - r + 0.5)}\right]$$

The 'shrunk' MSOA level logit is then the weighted average:

$$m_j^* = w_j m_j + (1 - w_j)M$$

where w_j is the weight given to the 'raw' MSOA-j data and $(1-w_j)$ the weight given to the overall rate for the district. The formula used to determine w_j is:

$$w_j = \frac{1/s_j^2}{1/s_j^2 + 1/t^2}$$

where t^2 is the inter-Ward variance for the k MSOAs in the district, calculated as:

$$t^2 = \frac{1}{k-1}\sum_{j=1}^{k}(m_j - M)^2$$

Thus large MSOAs, where precision $1/s_2^j$ is relatively large, have weight w_j close to 1 and so shrinkage has little effect. The shrinkage effect is greatest for small MSOAs in relatively homogeneous districts.

The final step is to back-transform the shrunk logit m_j* using the 'anti-logit', to obtain the shrunk MSOA level proportion for each MSOA:

$$z_j = \frac{\exp\left(m_j^*\right)}{1 + \exp\left(m_j^*\right)}$$