

Monmouthshire
Replacement Local Development
Plan

Sustainability Appraisal
Scoping Report

Appendix 2 – The Baseline Characteristics of
Monmouthshire

Updated November 2022

Contents

1.	Introduction	1
2.	A Prosperous Wales	2
2.1	Introduction	2
2.2	Employment and Economy	2
2.3	Tourism	16
2.4	Retail	19
2.5	Education	22
2.6	Key Issues arising from a review of the Baseline Characteristics	26
3.	A Resilient wales	28
3.1	Introduction	28
3.2	Air Quality and Light Pollution	28
3.3	Biodiversity, Flora & Fauna	33
3.4	Geology & Soils	40
3.5	Water	44
3.6	Minerals	47
3.7	Waste	50
3.8	WIMD Physical Environment Domain	53
3.9	Key Issues arising from a review of the Baseline Characteristics	53
4.	A Healthier Wales	55
4.1	Introduction	55
4.2	Access to Services	55
4.3	Community Facilities & Recreation	55
4.4	Human Health	59
4.5	Key Issues arising from a review of the Baseline Characteristics	65
5.	A More Equal Wales	66
5.1	Introduction	66
5.2	Population	66
5.3	Key Issues arising from a review of the Baseline Characteristics	74
6.	A Wales of Cohesive Communities	76
6.1	Introduction	76
6.2	Multiple Deprivation	76
6.3	Housing	78
6.4	Crime	84
6.5	Transport	85
6.6	Key Issues arising from a review of the Baseline Characteristics	95
7.	A Wales of Vibrant Culture & Thriving Welsh Language	97
7.1	Introduction	97
7.2	Welsh Language	97
7.3	Ethnic Diversity	98

7.4	Cultural & Heritage Assets	98
7.5	Landscape	103
7.6	Key Issues arising from a review of the Baseline Characteristics	104
8.	A Globally Responsible Wales	106
8.1	Introduction	106
8.2	Greenhouse Gas Emissions	106
8.3	Climatic Factors	110
8.4	Flooding	115
8.5	Key Issues arising from a review of the Baseline Characteristics	118

	Page
Charts	
Chart 1: % Employment by SOC 2020 major group (July 2021 – June 2022)	10
Chart 2: Employment by Sector 2011	10
Chart 3: Where residents of the authority work	14
Chart 4: Origin of those working in the authority	15
Chart 5: Total Tourist Expenditure Against Tourist Numbers	17
Chart 6: Tourist Expenditure by Sector 2019	17
Chart 7: Bedstock in Monmouthshire 2019	18
Chart 8: Visitor Figures	19
Chart 9: Central Shopping Area Retail Types 2021	20
Chart 10: Trade Retention by Town for Convenience Shopping (%)	21
Chart 11: Number of vacant units in the Central Shopping Areas	21
Chart 12: Average footfall by retail centre	22
Chart 13: Qualifications as % of working age population (Jan 2021 – Dec 2021)	24
Chart 14: Agricultural Land Classification, proportion by grade	40
Chart 15: Total area farmed per local authority area (%) (2020)	42
Chart 16: Use of farming land within Monmouthshire (2020)	42
Chart 17: Number of housing completions on greenfield/brownfield land	43
Chart 18: Municipal Waste Arisings in Monmouthshire (Tonnes)	51
Chart 19: Household Waste produced per dwelling in Monmouthshire (Kilograms)	52
Chart 20: Reuse, recycling and composting of Monmouthshire Municipal Waste against the Targets (%)	52
Chart 23: Deficiency/surplus of provision against the standards in the main settlements and villages surveyed	59
Chart 24: Number of Live Births and General Fertility Rate (GFR) in Monmouthshire and the Aneurin Bevan University Health Board (ABUHB)	60
Chart 25: Number of Deaths and Crude Death Rate (CDR) in Monmouthshire and the Aneurin Bevan University Health Board (ABUHB)	61
Chart 26: Life expectancy at birth	62
Chart 27: Urban-Rural distribution of population	69
Chart 28: Age structure of the population 2011 compared to 2021	70
Chart 29: Drivers of population growth (Monmouthshire)	72
Chart 30: Number of households and household size	74
Chart 31: Household composition	78
Chart 32: Dwelling type (%)	79
Chart 33: Average property prices (February 2014 – August 2022)	81
Chart 34: Ratio of house prices to income (lower quartile) November 2022	83
Chart 35: Incidences of Reported Crime in Monmouthshire (Count) (Year Ending June 2022)	85
Chart 36: Distance travelled to work (resident population) 2011	87
Chart 37: Distance travelled to work (resident population) 2011, main settlements	87
Chart 38: Car ownership by households	90

	Page
Chart 39: Emissions of greenhouse gases in Wales (million tonnes carbon equivalent)	106
Chart 40: Emissions of CO ₂ in Wales by Source	107
Chart 41: CO ₂ emission estimates in Monmouthshire (ktCO ₂) (2020)	109
Chart 42: Total CO ₂ Emissions	109
Tables	
Table 1: SAE1 Identified Industrial and Business Sites	2
Table 2: SAE2 Protected Employment Sites	3
Table 3 SAH2-5 Identified Mixed Use Sites	3
Table 4: Enterprise Births and Deaths in Monmouthshire	4
Table 5: Number of enterprises by size and Industrial sector 2022	4
Table 6: Working age population (2021)	5
Table 7: Economically active (July 2021 – June 2022)	6
Table 8: Economically Inactive (July 2021 – June 2022)	6
Table 9: Economically Inactive by Reason (July 2021 – June 2022)	8
Table 10: WIMD 2019 – Monmouthshire Employment Domain Summary (Number)	9
Table 11: Employee Jobs (2021)	11
Table 12: WIMD Income Domain 2019 (Number)	12
Table 13: Average annual earnings for full time employment 2021 (by place of residence)	13
Table 14: Average annual earnings for part time employment 2021 (by place of residence)	13
Table 15: Summary Commuting Statistics 2021	14
Table 16: Digital Connectivity Quarter 3 of 2022	16
Table 17: Retail centre vacancy rates (% units)	22
Table 18: WIMD Education Domain (Number)	23
Table 19: Measured Annual Mean Concentrations at each Diffusion Tube Monitoring Site in Usk (µg/m ³)	29
Table 20: Measured Annual Mean Concentrations at a selection of the Diffusion Tube Monitoring Sites in Chepstow (µg/m ³)	31
Table 21: Light Pollution in Monmouthshire and surrounding authorities (%)	32
Table 22: WIMD 2019 – Monmouthshire Physical Environment Domain Summary (Number)	53
Table 23: WIMD 2019 – Monmouthshire Access to Services Domain Summary (Number)	55
Table 24: Teenage (Aged 16 and Under) Conception Rate (Per 1000)	61
Table 25: Self-Assessment of General Health	62
Table 26: Health-Related Lifestyle 2020/21	64
Table 27: WIMD 2019 – Monmouthshire Health Domain Summary (Number)	65
Table 28: Resident Population Monmouthshire Towns and Community Councils 2011 and 2021	66
Table 29: Median Age in Monmouthshire compared with Wales	70
Table 30: Migration patterns by age	71
Table 31: Dwelling Stock Estimates 2020	78

	Page
Table 32: Housing completions	80
Table 33: Housing Association (HA) Stock by Type (2021)	80
Table 34: Average property prices based on sales (March 2022 – August 2022)	82
Table 35: Lower Quartile House Price to Income Ratio in Monmouthshire Wards (November 2022)	83
Table 36: Crime in Monmouthshire	84
Table 37: Road Length by Road Class 2021/22 (KM)	85
Table 38: Volume of Traffic (Billion Vehicle miles)	86
Table 39: Mode of travel to work – resident population (excluding those working mainly from home)	88
Table 40: Extent of PRoW network (Excluding BBNP)	93
Table 41: Knowledge/Skill in Welsh (%) People aged 3 and over	97
Table 42: Ethnic Diversity	98
Table 43: Emissions summary for Wales and Monmouthshire, 2020 (kt CO2)	108
Table 44: Projected Changes in Climate	110
Maps	
Map 1: % of Economically Active Population Unemployed by Town and Community Council Area (2011)	7
Map 2: % of Economically Inactive Population who are Retired (2011)	8
Map 3: Travel to Work Areas	15
Map 4: % of working age population with no qualifications or where the qualification level is unknown	25
Map 5: Usk Air Quality Management Area	29
Map 6: Chepstow Air Quality Management Area	30
Map 7: Light Pollution in Monmouthshire	32
Map 8: International and National Designations of Biodiversity Value in Wales	34
Map 9: Location of International, National and Locally Designated Sites for Biodiversity Value	37
Map 10: Location of Sites of Special Scientific Interest within Monmouthshire	38
Map 11: Total area farmed within Monmouthshire in hectares (2020)	41
Map 12: Phosphorus Sensitive Areas in Monmouthshire	45
Map 13: Groundwater Source Protection Zones within Monmouthshire	47
Map 15: Minerals Safeguarding Areas	49
Map 16: Licensed Non-landfill Waste Facilities in Monmouthshire	50
Map 17: Distribution of areas of amenity open space	58
Map 18: % Providing in Excess of 50hrs a week of Unpaid Care	63
Map 19: Population density per hectare (by Town and Community Council Area)	68
Map 20: Spatial distribution of migration	73
Map 21: Overall Index of Multiple Deprivation for Monmouthshire	77
Map 22: Travel to Work – use of public transport	89
Map 23: % Households with 2 or more cars or vans	91
Map 24: Monmouthshire Bus Services	92
Map 25: Networks of Rights of Way	94
Map 26: Network for off road cyclists and horse riders	95

	Page
Map 27: Location and Designation of Sites, Areas and Buildings of Historic or Conservation Importance	100
Map 28: Location of Listed Buildings within Monmouthshire	101
Map 29: Proportion of Listed Buildings at Risk- Percentage per Community	102
Map 30: Internationally, Nationally and Locally Designated areas within Monmouthshire	104
Map 31: Total Welsh CO ₂ emissions 2014	107
Map 32: Change in summer mean temperature for Wales, 2080s, under a Medium emissions scenario	111
Map 33: Change in summer mean precipitation for Wales, 2080s, under a Medium emissions scenario	112
Map 34: Change in winter mean precipitation for Wales, 2080s, under a Medium emissions scenario	113
Map 35: Areas of flooding within Monmouthshire, with and without flood defences	116
Map 36: Areas of Concentrated Flood Risk	117

1. Introduction

This appendix provides the baseline social, economic, cultural and environmental data for Monmouthshire and is used to help undertake the following aspects of the Integrated Sustainability Appraisal (ISA):

- Identify the current baseline social, economic, cultural and environmental situation within Monmouthshire against which the likely effect of the RLDP will be predicted;
- Identify key trends issues and opportunities for the ISA and RLDP to consider;
- Develop the ISA Framework to use for the appraisal of the RLDP; and
- Ultimately assist the development of a monitoring framework to monitor the significant effects of the RLDP.

The appendix has been structured around each of the seven well-being goals and within these goals, the baseline data has been sub-divided into a series of ISA topics. The baseline data is derived from specific facts and statistics that are gathered by different organisations including, for example, the Welsh Government, the UK Government, or statutory bodies such as Natural Resources Wales (NRW), amongst others. These data sources provide information for Monmouthshire as a whole and where available at town and community council level. Where data isn't available at the local level data at the national scale is used.

2. A Prosperous Wales

2.1 Introduction

This section provides baseline data relating to the following well-being goal:

‘An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work.’

The data relates primarily to:

- The Economy, Employment and Income in Monmouthshire; and
- Education in Monmouthshire.

2.2 Employment & Economy

2.2.1 Employment Land & Vacancy Rates

A significant issue for Monmouthshire in the past has been the slow uptake of allocated employment land, which has led to pressure for it to be used for other purposes such as housing and retail. Tables 1 through 3 indicate the current situation across the various industrial and employment sites around the County. Currently, 19.5% of the total area of industrial and business sites identified in the adopted LDP remain available for development in 2022.

Table 1: SAE1 Identified Industrial and Business Sites

Site Ref.	Site Name	Area (Ha)	Remaining land at site (approx Ha)	Use Class
SAE1a	Wales One, Magor (West)	4.0	4.0	B1
SAE1b	Quay Point, Magor	19.6	Approx. 13.76	B1, B2, B8
SAE1c	Gwent Europark, Magor	13.3	13.3	B8
SAE1d	Westgate Business Park, Llanfoist	5.0	1.3	B1,B2
SAE1e	Ross Road, Abergavenny	1.5	1.5	B1,B2
SAE1f	Newhouse Farm, Chepstow	4.0	4.0	B2, B8
SAE1g	South Woodside, Usk	1.3	1.3	B1
SAE1h	Pill Row, Severn Bridge Industrial Estate, Caldicot	1.0	1.0	B1,B8
SAE1i	Beaufort Park Chepstow	0.42	0	B1

Source: Monmouthshire Employment Land Background Paper 2021-2022

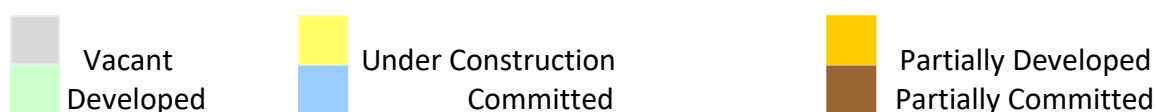
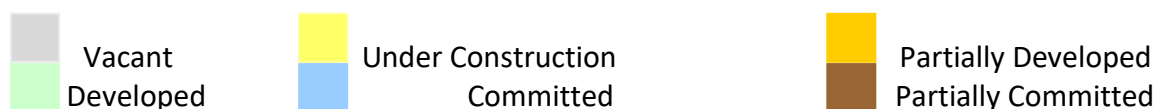


Table 2: SAE2 Protected Employment Sites

Site Ref.	Site Name	Area (Ha)	Remaining land at site (approx Ha)	Use Class
SAE2a	Mill, Street, Abergavenny	2.13	0	B1,B2, B8
SAE2b	Lower Monk Street, Abergavenny	1.21	0	B1, B2, B8
SAE2c	Union Road, Abergavenny	3.53	0	B1,B2, B8
SAE2d	Hatherleigh Place, Abergavenny	2.44	0	B1,B2, B8
SAE2e	Ross Road (Junction Yard), Abergavenny	1.03	0	B1,B2, B8
SAE2f	School Hill, Chepstow	0.30	0	B1,B2, B8
SAE2g	Station Road, Chepstow	2.29	0	B1,B2, B8
SAE2h	Job Centre, Chepstow	0.07	0	B1,B2, B8
SAE2i	Bulwark Road, Chepstow	5.46	0	B1,B2, B8
SAE2j	Beaufort Park, Chepstow	2.92	0	B1,B2, B8
SAE2k	Newhouse Farm, Chepstow	60.59	0	B1,B2, B8
SAE2l	Wonastow Road, Monmouth	13.10	0	B1,B2, B8
SAE2m	Mayhill/ Hadnock Road, Monmouth	7.39	0	B1,B2, B8
SAE2n	Tri-Wall, Wonastow Road, Monmouth	4.08	0	B1,B2, B8
SAE2o	Magor Brewery	21.53	0	B1,B2, B8
SAE2p	Severn Bridge, Caldicot	35.55	0	B1,B2, B8
SAE2q	Cheeseman's Industrial Estate, Rogiet	1.18	0	B1,B2, B8
SAE2r	Progress Industrial Estate, Rogiet	0.75	0	B1,B2, B8
SAE2s	Former Railway Goods Yard, Usk	0.86	0	B1,B2, B8
SAE2t	Cuckoo's Row, Raglan	1.72	0	B1,B2, B8
SAE2u	Raglan Enterprise Park	0.27	0	B1,B2, B8
SAE2v	Mamhilad	3.54	0	B1,B2, B8
SAE2w	Wales One, Magor	3.3	Approx. 0.57	B1,B2, B8
SAE2x	Woodside Industrial Estate, Usk	2.22	0	B1,B2, B8
SAE2y	Cranberry Foods, Abergavenny	4.43	0	B1,B2, B8







Source: Monmouthshire Employment Land Background Paper 2021-2022

**Table 3: SAH2-5 Identified Mixed Use Sites**

Site Ref.	Site Name	Area (Ha)	Remaining land at site (approx Ha)	Use Class
SAH2	Crick Road, Portskewett	1.0	1.0	B1
SAH3	Fairfield Mabey, Chepstow	0.65 (reduced from 2.8 as allocated)	0.65	B1
SAH4	Wonastow Road, Monmouth	6.5	2.78	B1

SAH5	Rockfield Farm, Undy	2.0	2.0	B1
------	----------------------	-----	-----	----

Source: Monmouthshire Employment Land Background Paper 2021-2022

	Vacant		Under Construction		Partially Developed
	Developed		Committed		Partially Committed

2.2.2 Business Registrations

Table 4: Enterprise Births and Deaths in Monmouthshire

Year	Births	Deaths	+/-
2006	380	360	+20
2007	395	365	+30
2008	420	345	+75
2009	355	415	-60
2010	305	450	-145
2011	325	345	-20
2012	325	340	-15
2013	450	345	+105
2014	440	305	+135
2015	455	365	+95
2016	430	370	+30
2017	415	425	-10
2018	415	345	+70
2019	415	395	+20
2020	355	370	-15

Source: Office for National Statistics - (Accessed 13/10/2022)

Business births have exceeded business deaths in Monmouthshire in 3 of the past 5 years and the number of enterprise births have remained fairly consistent from 2016 through to 2020. Between 2016 and 2020, Monmouthshire saw an 1.9% increase in the number of active enterprises, this compares to an increase of 6.6% for the South East Wales Region and 6.1% for Wales as a whole. The South East Wales Region accounted for 46.4% of the active enterprises in Wales in 2020, with enterprises in Monmouthshire accounting for just over 8.7% of these.

2.2.3 Number of Enterprises in Monmouthshire by Size and industrial sector

Table 5: Number of enterprises by size and Industrial sector 2022

Industrial Sector	Micro (0 to 9 employees)	Small (10 to 49 employees)	Medium-sized (50 to 249 employees)	Large (250+ employees)	All Enterprises
Agriculture, forestry & fishing	675	10	0	0	685 (15.0%)
Mining, quarrying & utilities	25	0	0	0	25(0.55%)
Manufacturing	190	20	10	5	225 (4.9%)
Construction	480	20	5	0	505 (11.0%)
Motor trades	120	10	0	0	130 (2.8%)

Industrial Sector	Micro (0 to 9 employees)	Small (10 to 49 employees)	Medium-sized (50 to 249 employees)	Large (250+ employees)	All Enterprises
Wholesale	110	25	5	5	140 (3.1%)
Retail	250	30	5	0	285 (6.2%)
Transport & storage	180	15	0	0	195 (4.3%)
Accommodation & food services	280	65	0	0	345 (7.5%)
Information & communication	240	5	0	0	245 (5.4%)
Financial & insurance	60	0	0	0	65 (1.4%)
Property	135	5	0	0	145 (3.2%)
Professional, scientific & technical	700	30	0	0	730 (16.0%)
Business administration & support services	305	20	5	0	330 (7.2%)
Public administration & defence	30	0	0	0	30 (0.7%)
Education	55	5	0	5	65 (1.4%)
Health	120	45	10	0	175 (3.8%)
Arts, entertainment, recreation & other services	230	15	0	0	245 (5.4%)
Column Total	4,190 (91.6%)	320 (7.0%)	50 (1.1%)	15 (0.3%)	4,575

Source: Nomis - (Accessed 17/10/2022)

In 2022, nearly 92% of enterprises in Monmouthshire employed less than 10 people. The highest percentage of enterprises is accounted for by professional, scientific & technical services, (16%). Agriculture, forestry and fishing accounted for 15% and construction 11%.

2.2.4 Working Age Population

Monmouthshire has a lower percentage of its population at working age (16-64) than Wales as a whole, 58.3% compared to the Wales figure of 61.1%. At the time of the 2011 Census 59.2% of Monmouthshire's population was of working age compared to the Welsh figure of 59.7%, indicating that Monmouthshire's working age population has decreased whilst the working age population in Wales has increased.

Table 6: Working age population (2021)

	Monmouthshire (numbers)	Monmouthshire (%)	Wales (%)
All people – working age	54,200	58.3	61.1
Males – working age	26,757	28.7	30.1
Females – working age	27,443	29.5	31.0

Source: Census 2021

2.2.5 Economic Activity

Table 7: Economically active (July 2021– June 2022)

	Economically active (1)	In employment (1)	Employees (1)	Self employed (1)	Model-based unemployed (2)
Monmouthshire	79.9	78.4	67.9	10.5	2.7
Newport	74.7	70.4	64.6	5.3	4.5
Torfaen	72.6	69.5	62.3	6.7	4.1
Blaenau Gwent	76.1	74.1	67.9	5.8	3.2
Powys	81.4	78.0	60.3	17.5	2.9
Wales	76.5	73.7	64.9	8.4	3.5

Source: ONS annual population survey

(1) numbers are for those aged 16 and over, % are for those of working age (16-64)

(2) numbers and % are for those aged 16 and over. % is a proportion of economically active - (Accessed 14/10/2022)

Table 8: Economically Inactive (July 2021- June 2022)

	Economically Inactive	Wanting a job	Not wanting a job
Monmouthshire	20.1	16.9	83.1
Newport	25.3	26.0	74.0
Torfaen	27.4	22.2	77.8
Blaenau Gwent	23.9	13.1	86.9
Powys	18.6	16.7	83.3
Wales	23.5	17.9	82.1

Source: ONS annual population survey

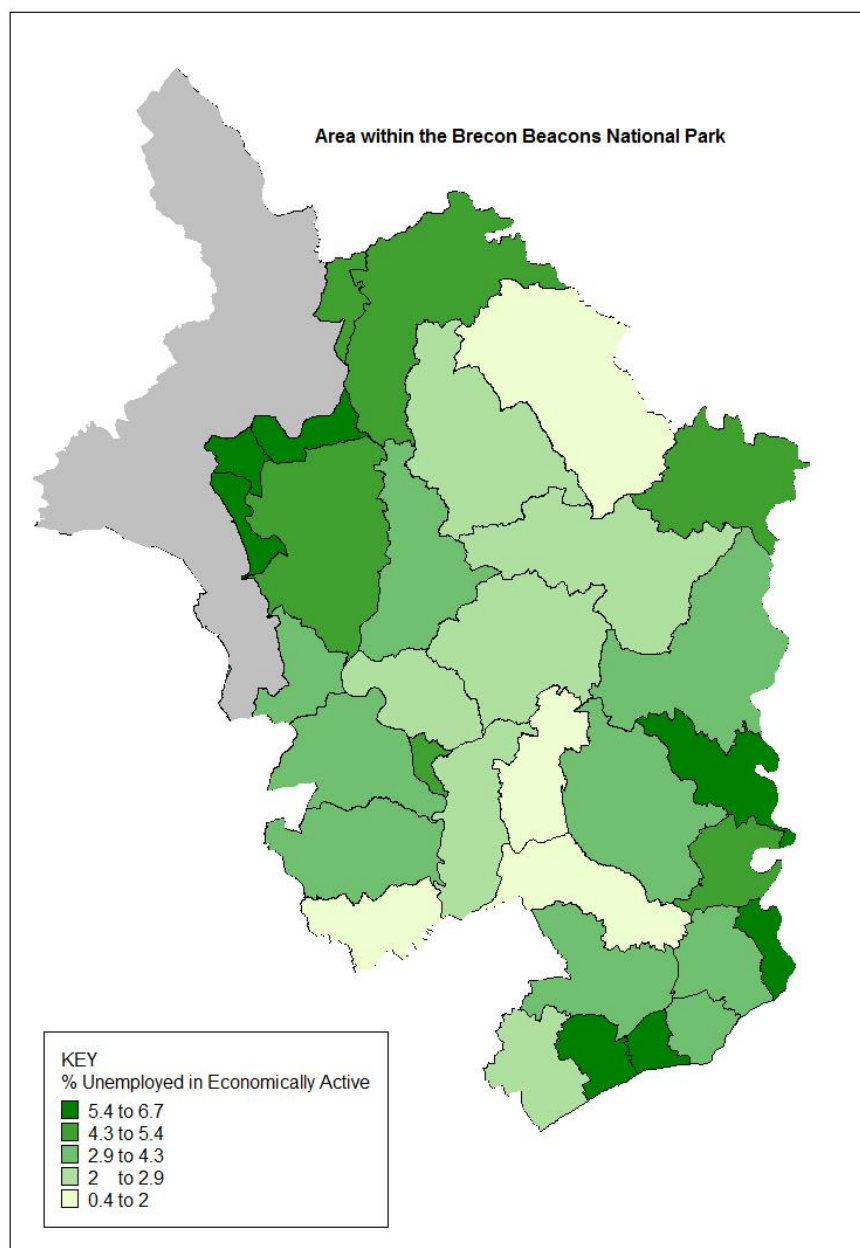
(1) numbers are for those aged 16 and over, % are for those of working age (16-64)

(2) numbers and % are for those aged 16 and over. % is a proportion of economically active - (Accessed 14/10/2022)

Monmouthshire has a higher percentage of the working age population economically active than in all the surrounding authorities, with the exception of Powys, and in Wales as a whole. The County also has, with the exception of Powys, a higher percentage of the economically active who are self-employed. There are also higher levels of those who are in employment who work at home, 35% at the time of the 2011 Census, compared to a Welsh average of 11.9%.

Despite these higher levels of economic activity there are pockets of higher unemployment within the County. At the time of the 2001 Census 4.4% of the working age population were unemployed this compares to 5.1% in 2011 and 2.7% in 2022. The highest levels of unemployment amongst the economically active in 2011 were recorded in the towns of Abergavenny, Caldicot, Chepstow and in the Community Council areas of Llanfoist and Llantilio Pertholey who all recorded levels of unemployment in the economically active of above 6% (Map 1).

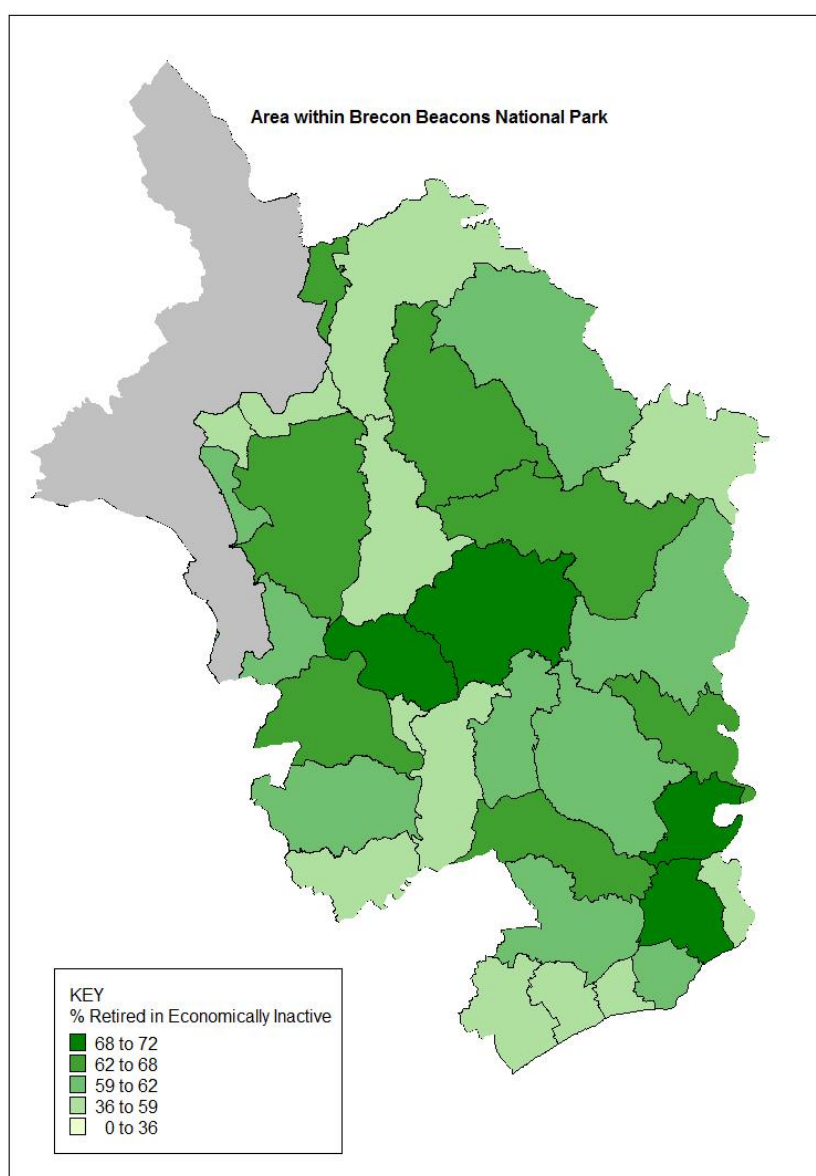
Map 1: % of Economically Active Population Unemployed by Town and Community Council Area (2011)



Source: ONS Census 2011

The economically inactive are made up of a number of different groups, including the retired, students, permanently sick/disabled and those looking after the home and family. At the time of the 2011 Census Monmouthshire had a higher percentage of retired in this group than any other group, and also had a higher proportion than Blaenau Gwent, Merthyr Tydfil and Torfaen. Map 2 shows the distribution, by Community Council area, of the economically inactive who were retired at the time of the 2011 Census. Of those areas Mathern, Raglan and Gwehelog Fawr record the highest levels with at least 70% of their inactive population retired.

Map 2: % of Economically Inactive Population who are Retired (2011)



Source: ONS Census 2011

The most recent information shows that in Monmouthshire in the year to June 2022 28.7% of those who were economically inactive were retired. This is a much higher percentage than in the surrounding local authorities or for Wales as a whole

Table 9: % Economically Inactive by Reason (July 2021- June 2022)

%	Monmouthshire	Torfaen	Blaenau Gwent	Newport	Powys	Wales
Student	17.9	15.0	13.9	25.0	27.4	27.1
Looking after family/home	13.5	22.3	23.9	22.0	15.0	19.7
Temporary sick	_*	_*	_*	_*	_*	2.2

%	Monmouthshire	Torfaen	Blaenau Gwent	Newport	Powys	Wales
Long-term sick	22.9	48.3	48.0	37.5	22.4	25.4
Discouraged	_*	_*	_*	_*	_*	0.2
Retired	28.7	9.4	9.4	8.0	20.6	13.7
Other	12.7	_*	_*	4.8	12.6	11.6

*Sample size too small for reliable estimate

Source: Nomis (Accessed 14/10/2022)

2.2.6 WIMD Employment Domain

The purpose of the WIMD 2019 Employment domain is to capture lack of employment and is based upon 1 indicator, namely, employment related benefits. The ranks reflect a count of individuals who claim Employment and Support Allowance (ESA), Job Seekers Allowance (JSA), Incapacity Benefit and Universal credit claimants not in employment. Those who claim a combination of benefits are only counted once. More information on benefit claimants in Monmouthshire can be found in Table 9 above.

Table 10: WIMD 2019 – Monmouthshire Employment Domain Summary (Number)

Total LSOAs	Most deprived 10% LSOAs in Wales (ranks 1-191)	Most deprived 20% LSOAs in Wales (ranks 1-382)	Most deprived 30% LSOAs in Wales (ranks 1-573)	Most deprived 50% LSOAs in Wales (ranks 1-955)
56	0	1	5	13

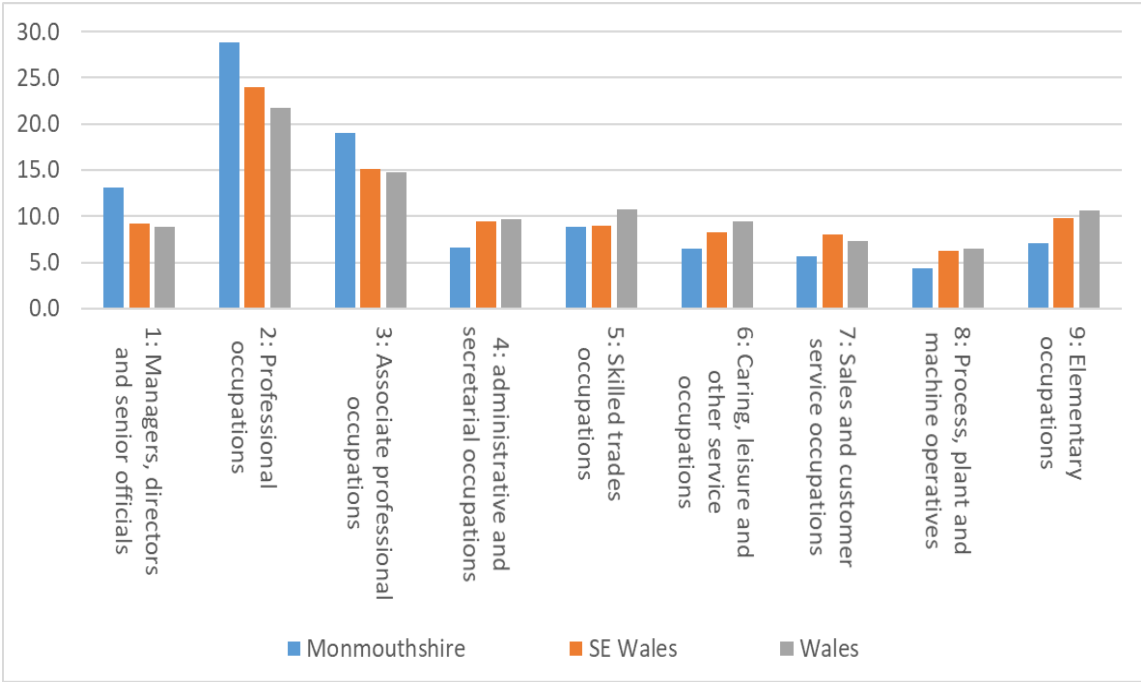
Source: WIMD 2019

According to the Welsh Index of Multiple Deprivation (WIMD) 2019 employment domain (Table 10), Monmouthshire had no LSOAs in the most deprived 10%. Of the 56 output areas within Monmouthshire 13 are within the 50% most deprived, of these, 5 are within the 30% most deprived and 1 within the 20% most deprived. The LSOAs with the lowest ranks were Overmonnow 2 (357) in Monmouth, Llanover 1 (406) and Cantref 2 (439), Lansdown (464) and Croesonen (519) in Abergavenny all of which fall in the 30% most deprived.

2.2.7 Employment by Standard Occupation Classification

Monmouthshire has a higher percentage of its working population in the standard occupation classifications 1 and 2, i.e. managers (13.1%) and professional occupations (28.8%) than the South East Wales area; 9.2% and 24.0% or Wales as a whole; 8.8% and 21.7%. The smallest proportion in Monmouthshire is accounted for by the process, plant and machine operative occupations. This is also the case in both the SE Wales region and Wales as a whole. Chart 1 illustrates the relatively high number of those who are managers, directors and senior officials in Monmouthshire in comparison to SE Wales and Wales as a whole.

Chart 1: % Employment by SOC 2020 major group (July 2021-June 2022)

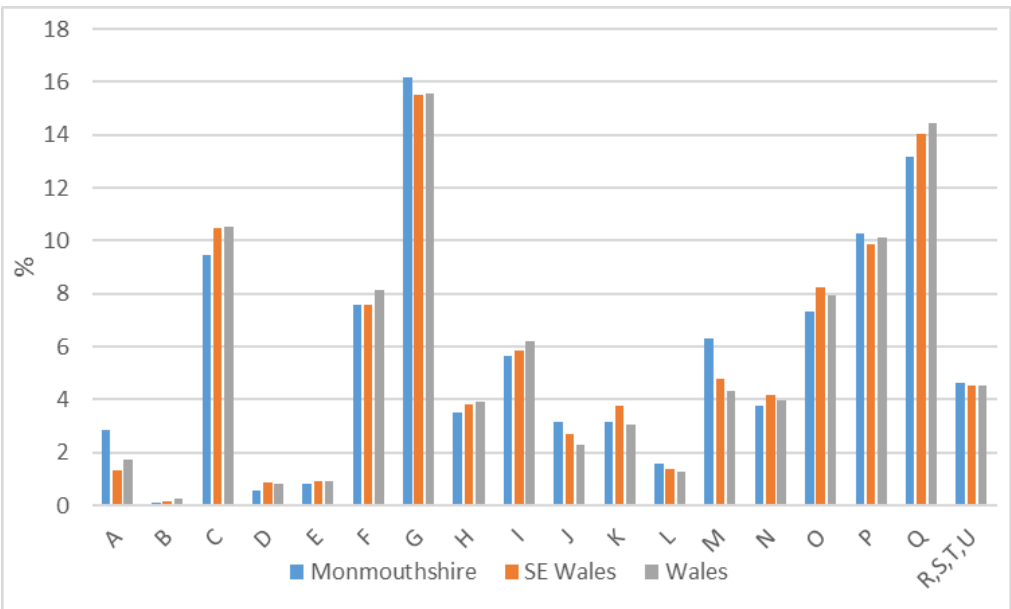


% is a proportion of all persons in employment
Source: ONS annual population survey (Accessed 14/10/2022)

2.2.8 Employment by Sector

The largest employment sector in Monmouthshire in 2011 was the wholesale and rental trade (G) accounting for 16.2% of all employment, this is followed by human health and social work activities with 13.2%. As a rural authority it is not surprising that Monmouthshire had more people employed in farming and forestry (2.8%) than either South East Wales (1.3%) or Wales as a whole (1.7%). However, this has declined, at the time of the 1991 Census 5.7% of Monmouthshire’s working population were employed in this sector, which was 4%, by 2001, and 2.8% at the time of the 2011 Census.

Chart 2: Employment by Sector 2011



A - Agriculture, forestry and fishing, B - Mining and quarrying, C – Manufacturing, D – Electricity, Gas, Steam and Air Conditioning Supply, E –Water supply; sewerage, waste management and remediation activities F – Construction, G - Wholesale and retail trade; repair of motor vehicles and motor cycles, H – Transport and storage, I – Accommodation and food service activities, J - Information and communication, K - Financial and insurance activities, L - Real estate activities M – Professional, scientific and technical activities , N - Administrative and support service activities, O - Public administration and defence; compulsory social security, P – Education, Q - Human health and social work activities, R,S,T,U - Other

Source: ONS Census 2011

2.2.9 Employee Jobs in Monmouthshire

In comparison to Wales, Monmouthshire has a marginally higher proportion of employee jobs accounted for by part-time employment. The largest proportion of jobs in Monmouthshire are accounted for by the wholesale and retail trade and human health and social work both with 17.6%, compared to 14.0% and 15.6% respectively in Wales as a whole. Human health and social work with 15.6%, is the largest sector for Wales as a whole.

Table 11: Employee Jobs (2021)

	Monmouthshire (employee jobs)	Monmouthshire %	Wales %
Total employee jobs	34,000		
Full-time	22,000	64.7	65.0
Part-time	12,000	35.3	35.0
Employee jobs by industry			
B. Mining and Quarrying	10	0.0	0.2
C. Manufacturing	3,000	8.8	10.9
D. Electricity, Gas, Steam and Air Conditioning Supply	10	0.0	0.6
E. Water Supply; Sewerage, Waste Management and Remediation Activities	175	0.5	1.0
F. Construction	2,000	5.9	4.1
G. Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	6,000	17.6	14.0
H. Transportation and Storage	1,250	3.7	3.4
I. Accommodation and Food Service Activities	3,000	8.8	8.1
J. Information and Communication	1,250	3.7	3.0
K. Financial and Insurance Activities	400	1.2	2.6
L. Real Estate Activities	700	2.1	1.4
M. Professional, Scientific and Technical Activities	2,500	7.4	5.6
N. Administrative and Support Service Activities	1,750	5.1	7.7

	Monmouthshire (employee jobs)	Monmouthshire %	Wales %
O. Public Administration and Defence; Compulsory Social Security	2,000	5.9	7.9
P. Education	2,500	7.4	9.1
Q. Human Health and Social Work	6,000	17.6	15.6
R. Arts, Entertainment and Recreation	1,000	2.9	2.5
S. Other Service Activities	600	1.8	1.8

Source: ONS Business Register and Employment Survey – (Accessed 14/10/2022)

2.2.10 WIMD Income Domain

The WIMD 2019 Income domain is based upon a single indicator, income deprivation, comprising 3 elements; those receiving Tax Credits, Income Related Benefits and Supported Asylum Seekers. The domain attempts to highlight the proportion of people below a defined level. More information on income and earnings can be found in Tables 13 and 14.

Table 12: WIMD Income Domain 2019 (Number)

Total LSOAs	Most deprived 10% LSOAs in Wales (ranks 1-191)	Most deprived 20% LSOAs in Wales (ranks 1-382)	Most deprived 30% LSOAs in Wales (ranks 1-573)	Most deprived 50% LSOAs in Wales (ranks 1-955)
56	0	2	3	15

Source: WIMD 2019

According to the Welsh Index of Multiple Deprivation (WIMD) 2019 income domain (Table 12), Monmouthshire had no LSOAs in the most deprived 10%. Of the 56 output areas within Monmouthshire 15 are within the 50% most deprived, of these 2 are within the 20% most deprived. The LSOAs with the lowest ranks were Cantref 2 in Abergavenny (238) and Thornwell 1 in Chepstow (349), both within the 20% most deprived.

2.2.11 Average Earnings

The average (mean) gross annual wage for a full-time worker living in Monmouthshire in 2021 was £39,320, compared to £36,531 in 2011, this compares to £32,693 in Wales for 2021. The median wage at £34,012 is 86.5% of the mean, compared to nearly 88.3% for Wales, this appears to indicate a degree of income inequality in Monmouthshire (there are a small number of high earners with the majority of workers earning less than average). There is also a large degree of inequality between the gross annual wage for a full time worker working in Monmouthshire and a full time worker living in Monmouthshire, with those living in the County earning on average

nearly 25% more than those who work in the County, this compares to 2.6% for Wales as a whole.

Average gross earnings in Monmouthshire for full time employment decreased by 4.8% between 2020 and 2021 against a Welsh increase of 0.8%. Average earnings for part time employment in Monmouthshire decreased as well at a faster rate of 2.4% compared to a decrease of 1.5% for Wales as a whole. Monmouthshire is not alone in seeing a fall in the gross annual income of its residents. With the exception of Powys, all of the authorities in table 13 saw a decrease in their average gross annual income over the past year.

From Tables 13 and 14 it can be seen that the average gross annual earnings of those living in Monmouthshire continue to exceed those of surrounding local authorities.

Table 13: Gross Annual Pay for full time employment 2021 (by place of residence)

	No of Jobs (Thousand)	Median income £	Annual % change	Mean income £	Annual % change
Wales	783	28,861	1.2	32,693	0.8
Monmouthshire	24	34,012	-1.2	39,320	-4.8
Newport	41	29,017	-1.8	31,603	-1.8
Torfaen	25	26,454	-9.2	31,749	-5.0
Powys	25	27,414	-3.3	30,675	1.1
Blaenau Gwent	16	27,747	5.9	28,490	-0.1
S Gloucs.	84	31,714	-0.8	35,870	-5.1
Gloucs.	168	31,260	-1.7	36,333	-0.6
Herefordshire	44	29,258	2.8	32,985	0.1

Source: 2021 Annual Survey of Hours and Earnings (ASHE) Nomis (Accessed 14/10/2022)

Table 14: Gross annual earnings for part time employment 2021 (by place of residence)

	No of Jobs (Thousand)	Median income £	Annual % change	Mean income £	Annual % change
Wales	317	11,541	0.4	13,158	-1.5
Monmouthshire	7	No Data	No Data	13,698	-2.4
Newport	16	12,265	15.0	14,384	5.5
Torfaen	7	No Data	No Data	12,518	-12.1
Powys	12	11,659	3.7	13,071	0.4
Blaenau Gwent	6	No Data	No Data	11,201	-9.8
S Gloucs.	32	11,082	-0.9	13,435	-1.5
Gloucs.	61	10,220	-6.7	13,469	-3.8
Herefordshire	23	10,519	-1.1	12,601	5.3

Source: 2021 Annual Survey of Hours and Earnings (ASHE) Nomis (Accessed 14/10/2022)

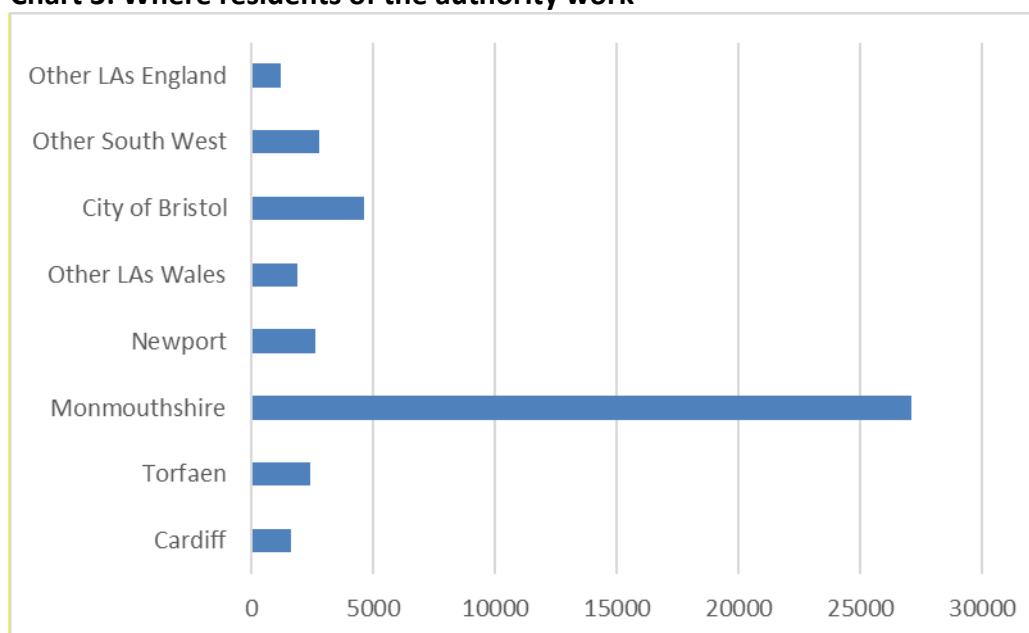
2.2.12 Commuting

Table 15: Summary Commuting Statistics 2021

Local Area	Authority	Out-Commuters (No.)	In-Commuters (No.)	Live and Work in Area (No.)	Percentage who Live and Work in area as a Percentage of the Total Employed, percent
	Blaenau Gwent	14,100	6,000	16,500	53.9
	Monmouthshire	17,100	14,300	27,100	61.1
	Newport	27,500	31,000	42,000	60.4
	Torfaen	18,000	16,600	21,300	54.2

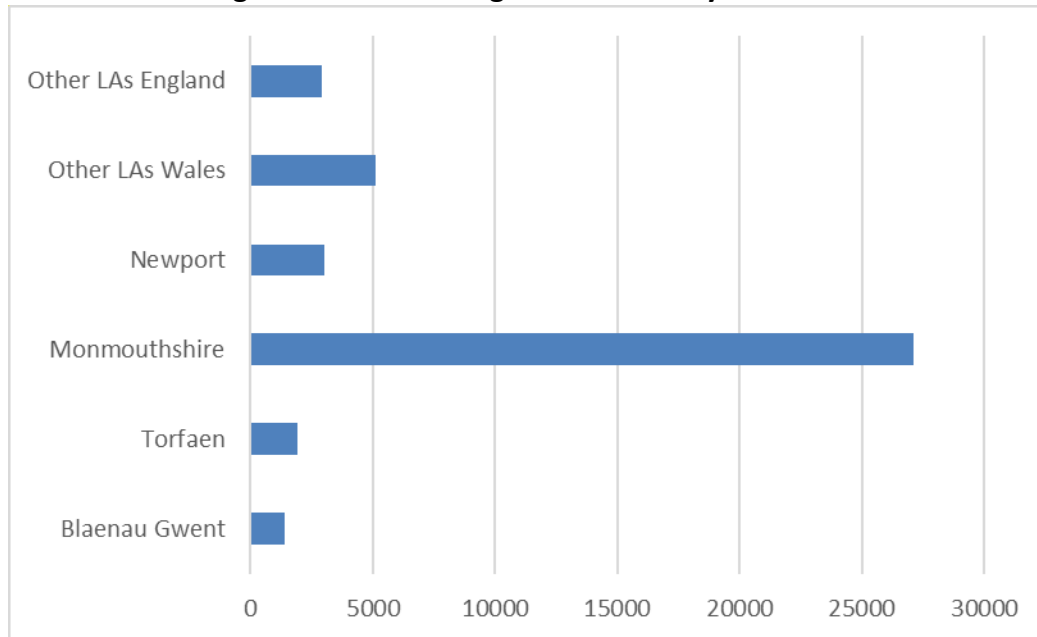
Source: Source: StatsWales (Accessed 14/10/2022)

Chart 3: Where residents of the authority work



Source: StatsWales (Accessed 17/10/2022)

Chart 4: Origin of those working in the authority



Source: : StatsWales (Accessed 17/10/2022)

Hometrack have produced travel to work areas (TTWAs) based on the 2011 Census. The 243 current TTWAs were defined in 2007 using 2001 Census information on home and work addresses. From this data it can be seen that there has been a reduction in the number of TTWAs in the UK as a whole as the trend in more and longer distance commuting increases: in 1991 there were 314 TTWAs and in 1981, 334, there are now 228 (2011 TTWAs). The extract in Map 3 shows the TTWAs for the South East Wales region and Monmouthshire, from this the extent of the cross border and inter-authority commuting is shown.

Map 3: Travel to Work Areas



Source: Hometrack (24/09/2018)

2.2.13 Digital Connectivity

Digital connectivity has become increasingly important over the current LDP period. Ofcom suggest that there are differences in digital connectivity throughout the UK. In Quarter 2 of 2022, the mean download speed (Mbit/s) was 58.7 in Monmouthshire compared to 73.3 in Wales and 97.4 in England. Equally, Monmouthshire has a higher proportion of coverage below 15mbps with 8.01% compared to 2.38% in Wales and 1.15% in England .

Table 16: Digital Connectivity Quarter 3 of 2022

Area	Superfast UK (>24 Mbps) (1)	Superfast EU (>30 Mbps) (1)	Ultrafast (>100 Mbps) (1)	Mean Upload Speed (Mbps)	Mean Download Speed (Mbps)
Monmouthshire	90.67%	90.02%	40.77%	14.8	58.7
Torfaen	98.22%	98.03%	49.78%	24	94.6
Newport	98.43%	98.29%	78.15%	16.3	123.5
Powys	87.68%	87.08%	31.81%	10.9	38.9
Blaenau Gwent	99.14%	98.43%	8.22%	9.1	36.3
Wales	96.81%	96.49%	56.92%	15.7	73.3
England	97.96%	97.72%	74.19%	23	97.4

Source: ThinkBroadband (Accessed 17/10/2022)

(1) Coverage percentages include both residential and business premises and is based around postcode level data.

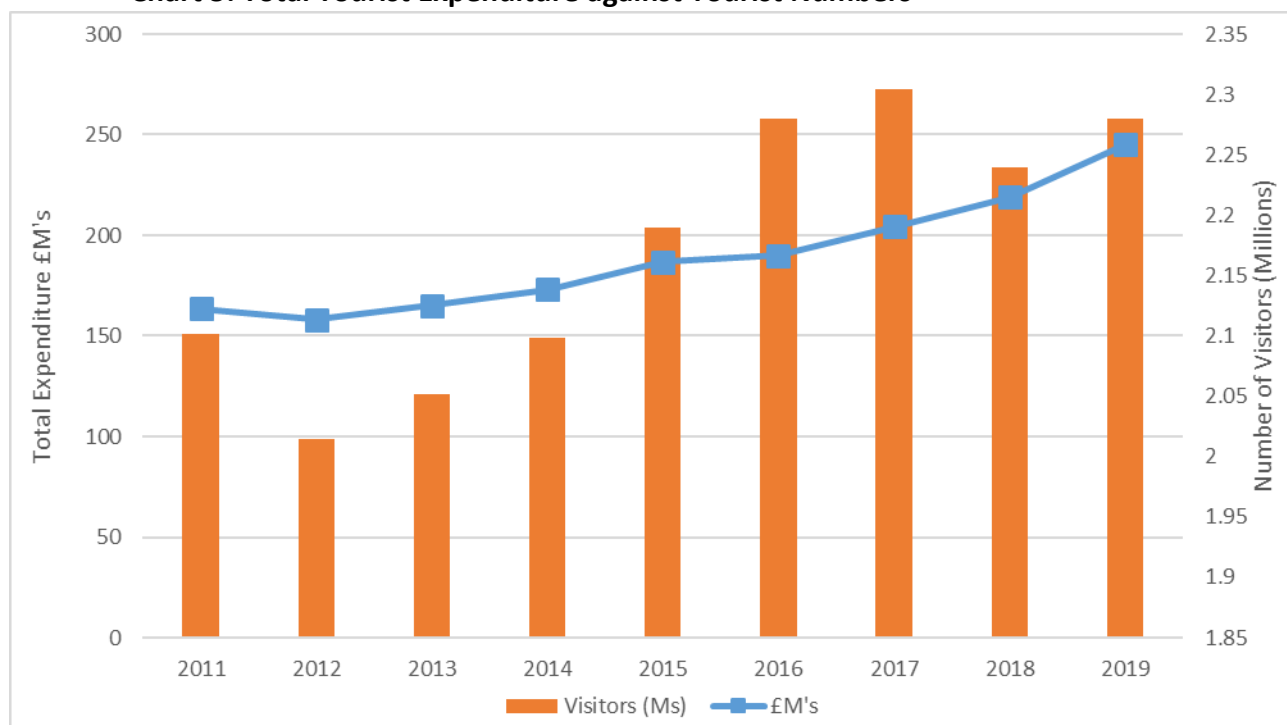
Table 16 indicates that Monmouthshire, with the exception of Powys, has the lowest proportion of properties with Superfast UK broadband, and has the lowest proportion, again with the exception of Powys, of properties with Superfast EU broadband. Both download and upload speeds in Monmouthshire are more in keeping with those for the surrounding authorities and both England and Wales, however, the County has the third lowest upload and download speeds. This reflects the largely rural nature of the County.

2.3 Tourism

2.3.1 Tourism Expenditure

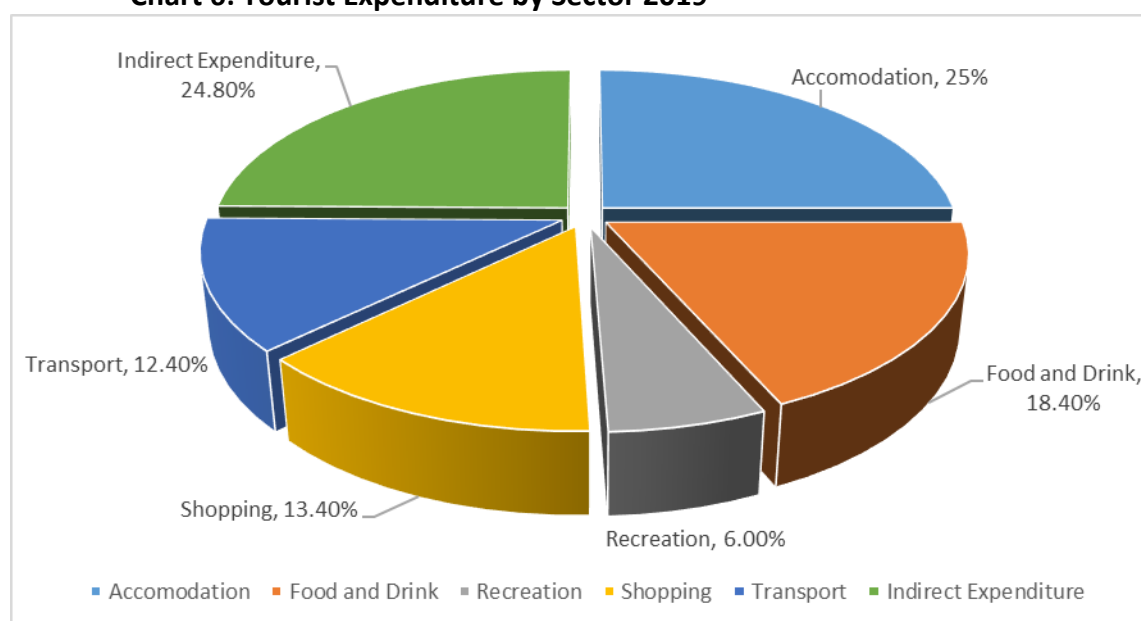
Tourism is an important sector of the economy for Monmouthshire. In 2019, there were 2.28m visitors to the County generating £244.99 million for the local economy in an industry which supports 3,119 jobs (STEAM Report 2019). From the yearly STEAM Report, it can be seen that tourist expenditure has shown an upward trend over the past 6 years. (Chart 5). However, visitor numbers reached a peak in 2017 before falling in 2018 and rising again in 2019 to levels similar to 2016. The majority of direct tourist expenditure in Monmouthshire in 2019 was accounted for by accommodation followed by food and drink, then shopping followed by transport. (Chart 6).

Chart 5: Total Tourist Expenditure against Tourist Numbers



Source: Monmouthshire County Council STEAM Report

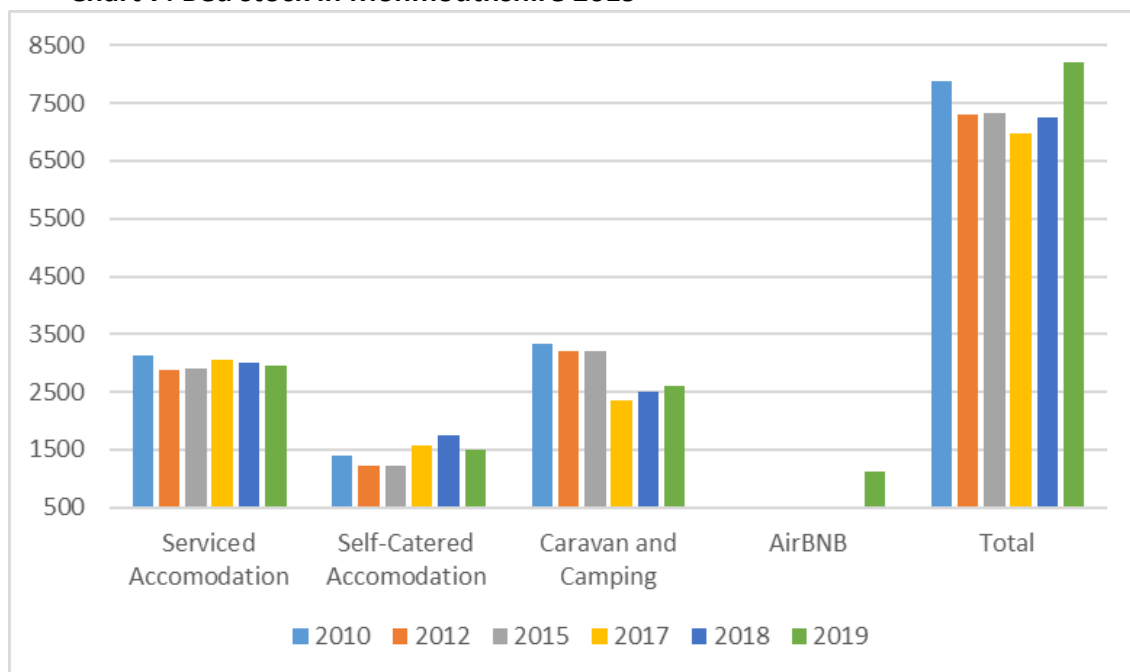
Chart 6: Tourist Expenditure by Sector 2019



Source: Monmouthshire County Council STEAM Report

2.3.2 Tourist Accommodation

Chart 7: Bed stock in Monmouthshire 2019



Source: Monmouthshire County Council STEAM Report

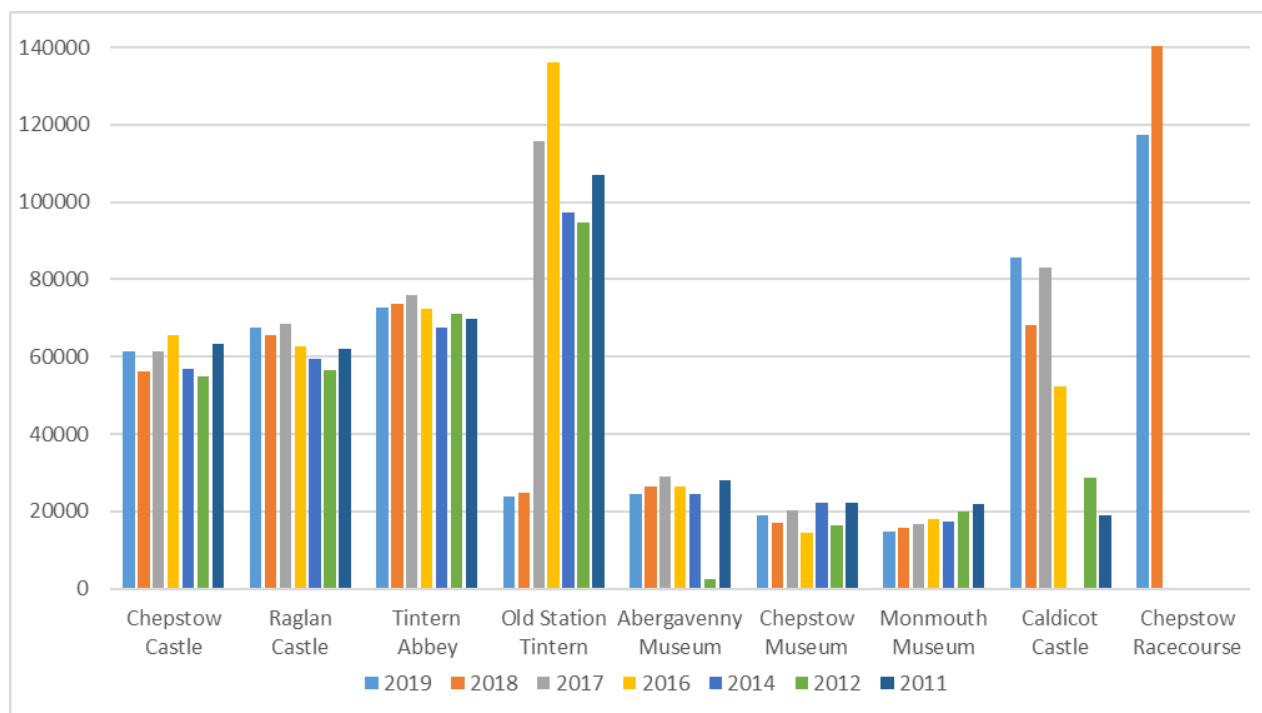
In total, the bedstock for Monmouthshire is 8,208 bedspaces. Over one third (36%) of these are serviced bedspaces, 18% are self-catered with 32% being caravan and camping bedspaces. In 2019, AirBNB bedspaces were also recorded which accounted for nearly 14% of bedspaces.. The total number of bedspaces has increased since a decline in 2017. Caravan and camping bedspaces have increased since 2017, whilst serviced accommodation bedspaces have fallen marginally in 2019.

2.3.3 Tourist Information Centres (TIC)

Monmouthshire has two Tourist Information Centres (TICs), one in the main market town of Abergavenny, and one in Chepstow. There are also additional 'Tourist Information Outlets' in Tintern and Usk, which open on a seasonal basis. Unlike in 2010, where the TIC situated in Abergavenny received the most visitors overall, the 2019 Monmouthshire County Council STEAM report suggests that the Abergavenny TIC received 12,966 visitors whereas the Chepstow TIC received 32,909 visitors, making it the more popular TIC.

2.3.4 Visitor Attractions

Chart 8: Visitor Figures



Source: Monmouthshire County Council STEAM Report

The most popular attraction in Monmouthshire with over 117,000 visitors in 2019 was Chepstow Racecourse, followed by Caldicot Castle with over 85,500 and then Tintern Abbey with over 72,500 visitors.

2.4 Retail

2.4.1 Retail Hierarchy

The Retail Hierarchy for Monmouthshire is defined by the Local Development Plan as follows:

COUNTY TOWNS:

Abergavenny
Caldicot
Chepstow
Monmouth

LOCAL CENTRES:

Magor
Raglan
Usk

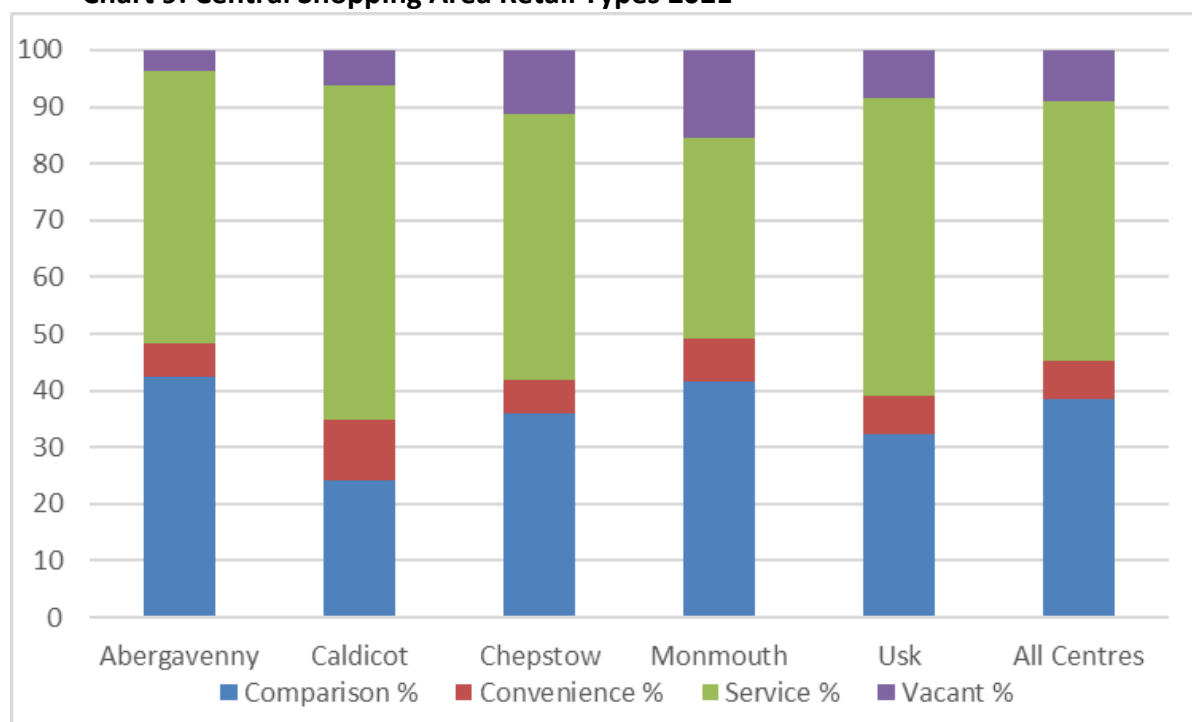
NEIGHBOURHOOD CENTRES:

Hillcrest Road, Abergavenny
Rother Avenue, Abergavenny
The Mardy, Abergavenny
West End, Caldicot
Bulwark, Chepstow
Thornwell, Chepstow
The Albion, Monmouth
Overmonnow, Monmouth
Wyesham, Monmouth

2.4.2 Retail uses in town centres

The 2021 Monmouthshire County Council Annual Retail Background Paper recorded a range of uses within the County's CSAs and reflects a wider trend of a decline in the proportion of convenience outlets and an increase in the proportion of service outlets.

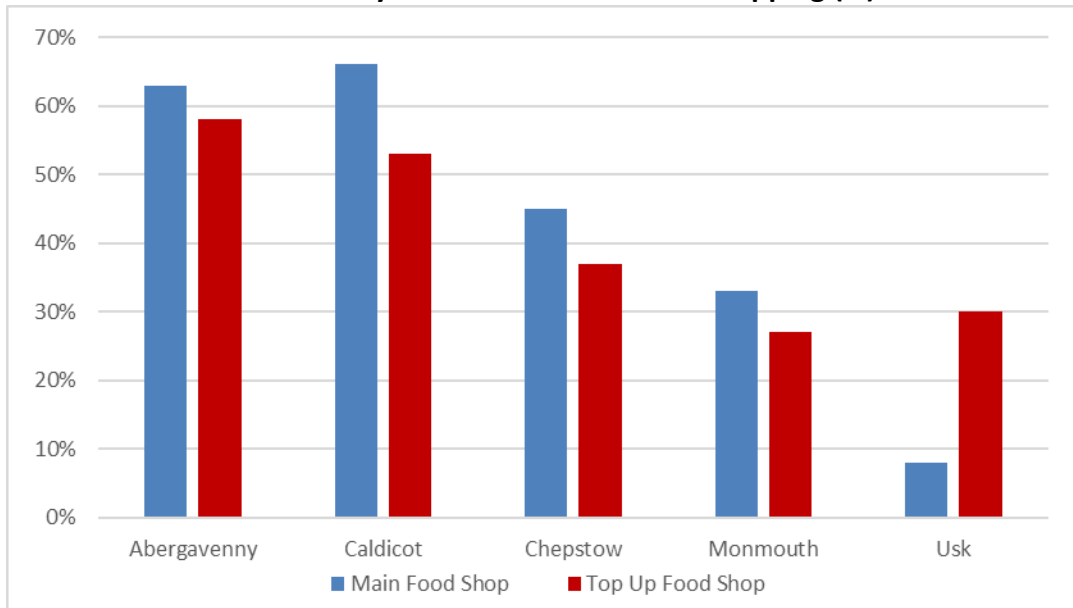
Chart 9: Central Shopping Area Retail Types 2021



Source: Monmouthshire County Council Annual Retail Background Paper 2021

A Consumer Shopping Habits Survey was conducted in 2022, which asked a sample of residents in the county about their shopping habits. Of the County towns Caldicot has the highest level of self-containment with 66% of respondents doing their main food shop in the town, for Abergavenny the figure is 64%, this falls to 45% for Chepstow and 33% for Monmouth.

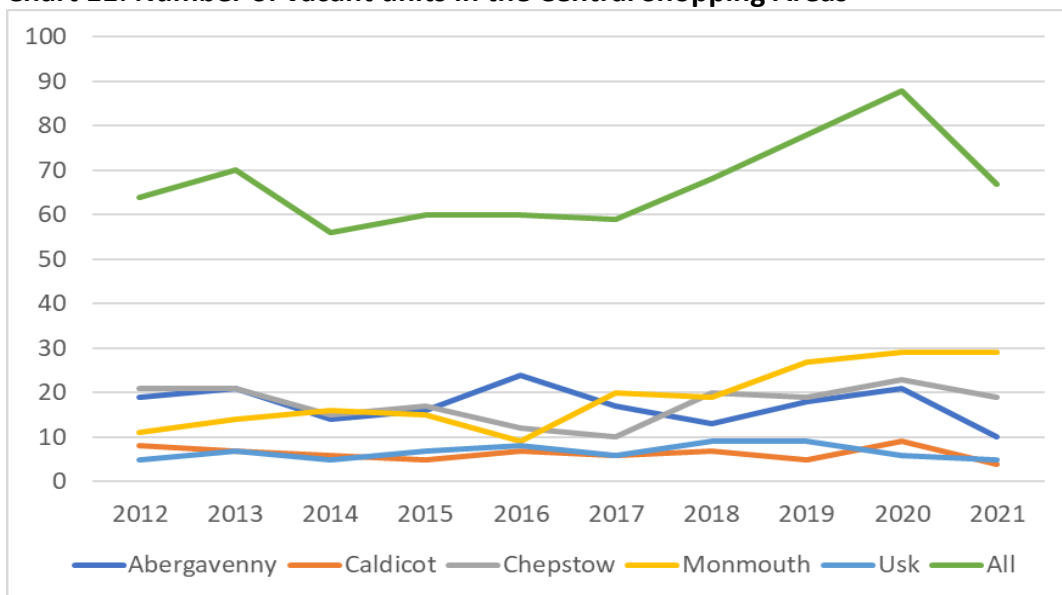
Chart 10: Trade Retention by Town for Convenience Shopping (%)



Source: Monmouthshire Retail Study 2021

2.4.3 Vacancies

Chart 11: Number of vacant units in the Central Shopping Areas



Source: Monmouthshire County Council Retail Background Paper 2021

The number of vacant units in the Central Shopping Areas of the County's retail centres has been relatively stable overall since 2012, however, since 2017 Chepstow and Monmouth have seen increases in the number of vacant units. Since 2017, Abergavenny has seen a net loss of 7 vacant units, whilst both Chepstow and Monmouth have seen a net gain of 9 vacant units each. In 2021, however all centres saw a decrease in the number of vacant units apart from Monmouth, where the number remained stable (Table 17).

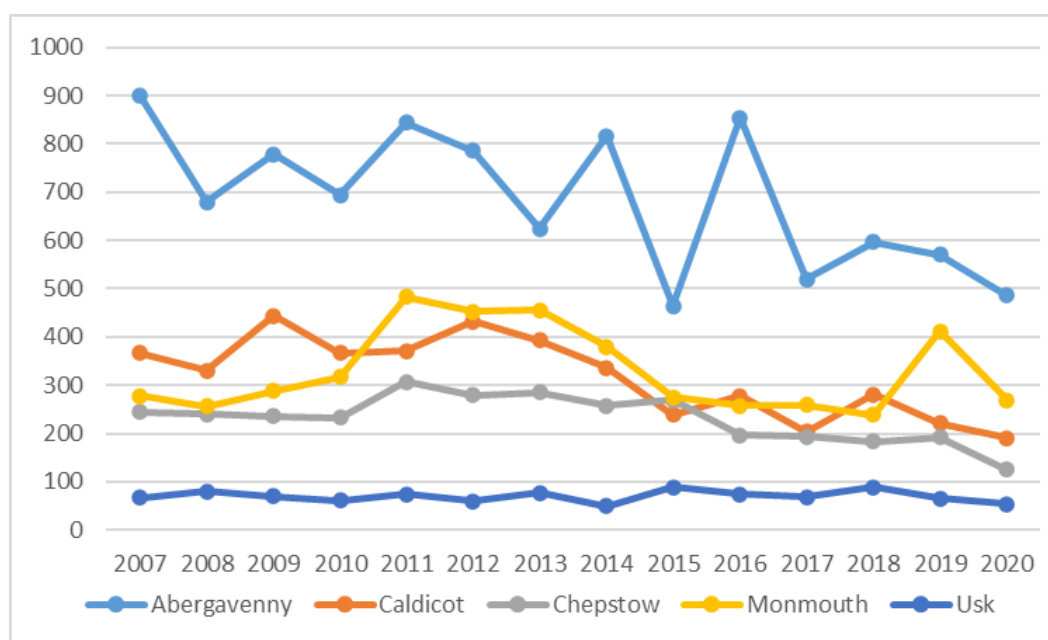
Table 17: Retail centre vacancy rates (% units)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Abergavenny	7.3	7.7	5.1	5.8	8.7	6.3	4.7	6.6	7.6	3.6
Caldicot	11.9	10.1	9.2	7.6	10.4	9.1	10.6	7.5	13.4	6.1
Chepstow	12.4	12	8.8	10	7.1	5.9	11.8	11.2	13.5	11.2
Monmouth	6.2	7.4	8.3	8.1	4.9	10.7	10.1	14.4	15.4	15.5
Usk	8.5	10.9	7.8	11.1	13.1	10.5	15.8	15.3	9.8	8.5
All	8.7	9.1	7.3	7.9	7.9	7.9	9	10.3	11.6	8.8

Source: Monmouthshire County Council Retail Background Paper 2021

2.4.4 Footfall

As part of an annual retail survey carried out by the Council the average footfall in each of the retail centres is recorded. From the chart below it can be seen that whilst average footfall in Usk has remained relatively steady over the past 10 years, other centres have seen a lot more fluctuation and decline in recent years.

Chart 12: Average footfall by retail centre

Source: Monmouthshire County Council Retail Background Paper 2020

2.5 Education

2.5.1 Education Infrastructure

There are a total of 30 primary schools in Monmouthshire, spread throughout the County. There are 8 in and surrounding Abergavenny of which one is a Welsh medium school, 8 in Severnside of which one is a Welsh medium school, serving Caldicot, Magor, Undy, Portskewett and beyond, 4 in Chepstow and 3 in Monmouth. The remaining 7 primary schools are located in settlements such as Raglan, Usk,

Trellech, Llandogo Penperlleni, Shirenewton and Cross Ash. There are 4 secondary schools in the county, in Chepstow, Caldicot, Abergavenny and Monmouth.

Monmouthshire has only one higher educational establishment within its boundary, Coleg Gwent at Usk, which runs courses in farming, horticulture, equestrianism, rural activities and animal care.

2.5.2 WIMD Education Domain

The WIMD 2019 Education domain comprises six indicators all with different weightings. The indicators include; Key Stage 2 average point score (11.7%), repeat absenteeism (21.7%), number of adults aged 25-64 with no qualifications (16%), proportion of Key Stage 4 leavers entering higher education (13.2%), Key Stage 4 average point score for core subjects (27.6%) and Foundation phase average point score (9.9%). The domain attempts to highlight deprivation in relation to education, aptitudes and training and to reflect educational disadvantage within an area. More information on qualifications and level of skill and attainment within Monmouthshire can be found below.

Table 18: WIMD Education Domain (Number)

Total LSOAs	Most deprived 10% LSOAs in Wales (ranks 1-191)	Most deprived 20% LSOAs in Wales (ranks 1-382)	Most deprived 30% LSOAs in Wales (ranks 1-573)	Most deprived 50% LSOAs in Wales (ranks 1-955)
56	0	1	4	12

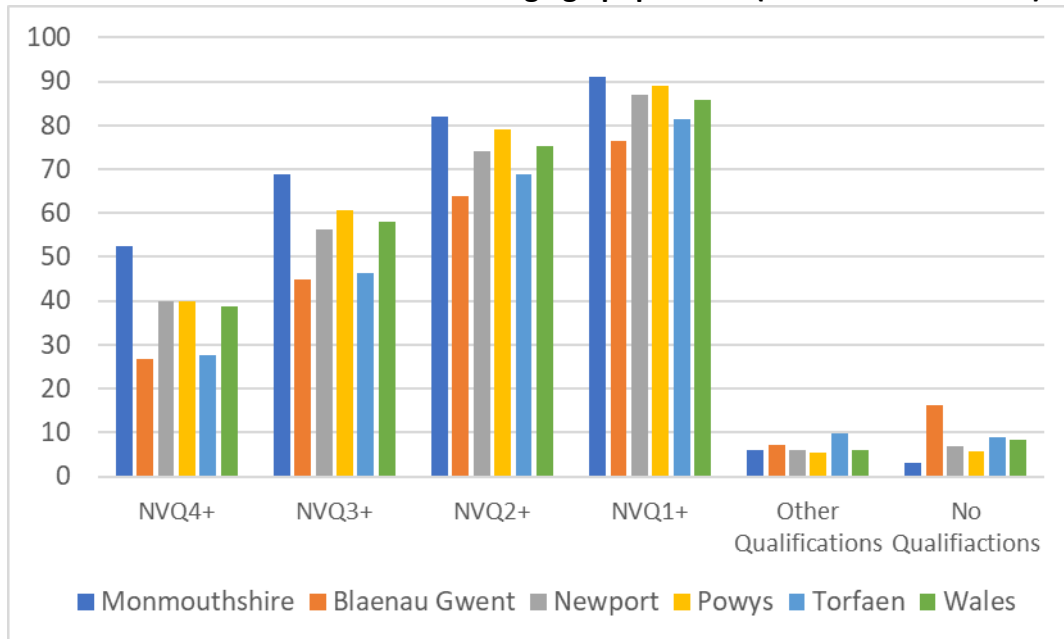
Source: WIMD 2019

According to the Welsh Index of Multiple Deprivation (WIMD) 2019 education domain (Table 18), Monmouthshire had no LSOAs in the most deprived 10%. Of the 56 output areas within Monmouthshire 13 are within the 50% most deprived, of these, 1 was within the 20% most deprived. The LSOAs with the lowest ranks were Overmonnow 2 in Monmouth (360), Thornwell 1 in Chepstow (413) and West End in Caldicot (419).

2.5.3 Qualifications

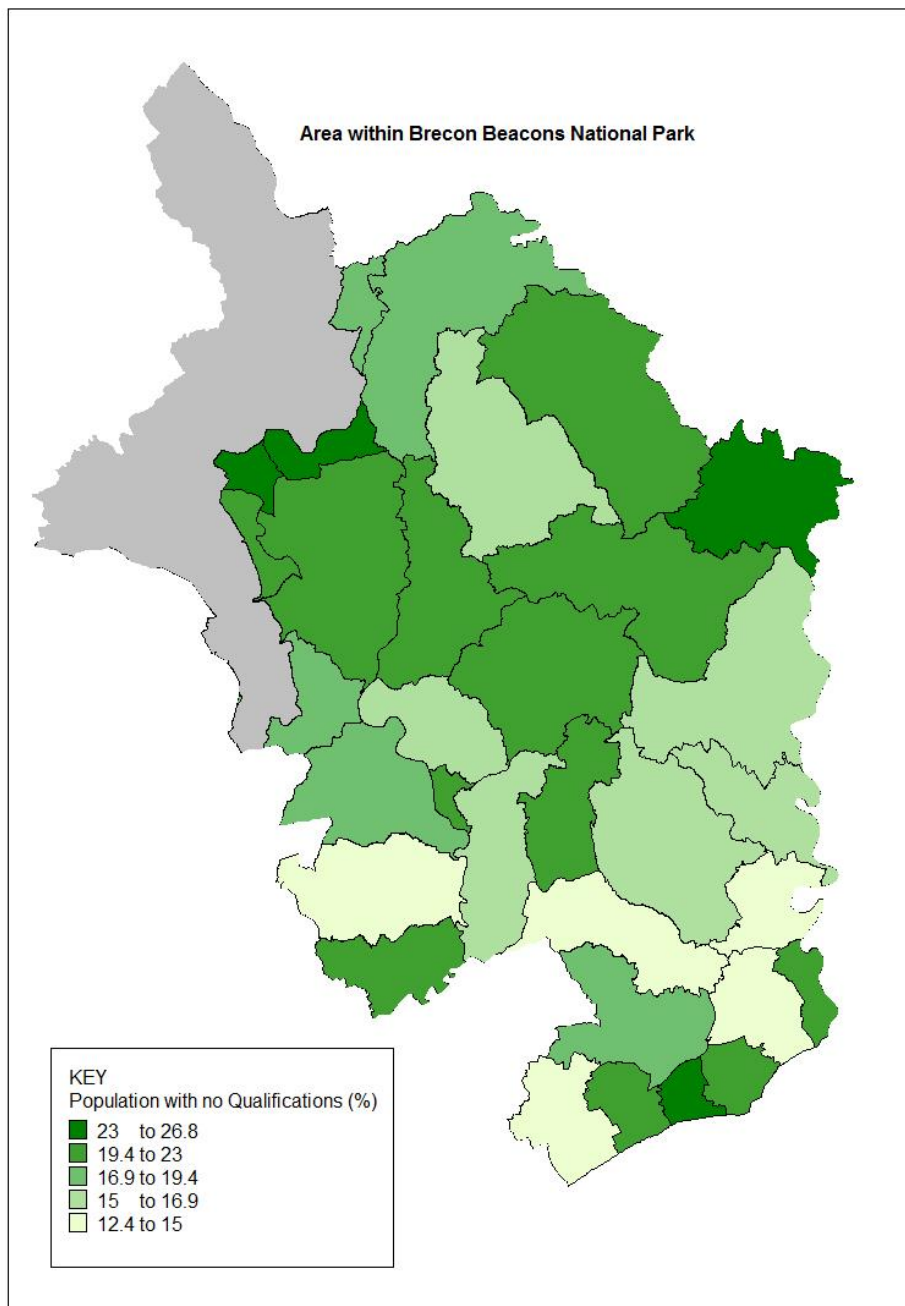
Monmouthshire has a higher percentage of its working age population qualified to NVQ4 and above than in surrounding authorities or for Wales as a whole. It also has a lower percentage of its working age population with no qualifications. Whilst Monmouthshire does have a lower percentage of its working age population with other or no qualifications there are town and community councils within the authority with higher concentrations, noticeably within the towns. The areas with the highest percentage of their working age population without qualifications are largely concentrated around the main settlements, more particularly Abergavenny and Monmouth

Chart 13: Qualifications as % of working age population (Jan 2021 – Dec 2021)



Source: ONS annual population survey (Accessed 18/10/2022)

Map 4: % of working age population with no qualifications or where the qualification level is unknown



Source: 2011 Census

2.6 Key Issues arising from a review of the Economic Baseline Characteristics

A strong local economy is vitally important for securing people's wealth, jobs and incomes. It makes a significant contribution to the quality of life and the economic, social, cultural and environmental well-being of people and communities in Monmouthshire. The following are the key issues to arise from a review of the economic baseline characteristics of the County:

- There has been a slow uptake of employment land in the County that has led to pressure for it to be used for other purposes such as housing and retail. There is a need to deliver sufficient good quality and appropriately located employment land to promote economic growth and increased employment opportunities in the County. There is also a need to consider the impact on the future demand for employment land given the impact the Covid-19 pandemic has had on levels of home working, the removal of the Severn Bridge tolls and the ambitions and opportunities associated with the Cardiff Capital Region City Deal.
- There are both opportunities and issues associated with Monmouthshire's location as a border county. Opportunities with regard to its location between Bristol and Newport and Cardiff (Great Western Cities) and issues with regard to the possible impacts of the economic growth of the Bristol/South West region.
- The ageing resident population of the County has implications for its economic base and future economic growth prospects.
- Generally, employment rates are good in Monmouthshire with 78.4% of the economically active in employment, higher than the Welsh average (73.7%).
- As a result of the 'dual economy' experienced by the County whilst gross weekly pay for those who live in the County is higher than the Welsh average, jobs within Monmouthshire are characterised by low average wages. Evidence continues to suggest that the income for economically active women who both live and work within the County is also significantly lower than that of men within the same category.
- There are high levels of out commuting from the County with distances travelled also relatively high.
- The County has high levels of educational attainment with the majority of people employed in higher paid/more skilled jobs, albeit that these are typically located outside of the County.
- Traditional industries such as agriculture are in decline impacting on the County's rural economy. Currently the largest proportion of jobs in the County are accounted for by the wholesale and retail trade and human health and social work.
- Tourism plays a significant part in Monmouthshire's economy particularly in assisting in the diversification of the rural economy.
- The County's town centres are generally performing well but there is a need to protect them from out of town developments and consider their evolving role/function.

- Higher levels of those in employment work at home (35%) compared to the Welsh average of 11.9%. An efficient digital infrastructure is needed to support home working and the general connectivity of the County's rural areas.

3. A Resilient Wales

3.1 Introduction

This section provides baseline data relating to the following well-being goal:

‘A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).’

The data relates primarily to:

- Air Quality;
- Light Pollution;
- Biodiversity, Flora and Fauna;
- Geology and Soils;
- Water Environment; and
- Minerals and Waste.

3.2 Air Quality and Light Pollution

There are two Air Quality Management Areas (AQMA) within Monmouthshire, one in Chepstow and one in Usk. For several years Monmouthshire County Council has carried out the monitoring of pollutants liable to affect air quality to determine whether objective levels are being or likely to be exceeded. A Progress Report was completed in 2021 and concluded that there have been improvements in the AQMA in Chepstow over the last five years, but that one location continues to exceed although there have been significant improvements since 2017. There have also been improvements in air quality in the Usk AQMA over the last seven years. There have been no exceedances for 6 years and under 10% of the objective level for three years. It is noticeable that for all monitoring points in the county there was a marked decline in NO₂ levels in 2020, this is no doubt an impact of the Covid-19 pandemic lock-down when traffic levels were noticeably lower.

The Air Quality Management Area in Usk was declared in November 2005 due to the level of NO₂ exceeding the objective level. Map 5 shows the location and boundary of the Usk AQMA.

Map 5: Usk Air Quality Management Area



Source: 2021 Air Quality Progress Report (Accessed 18/10/2022)

Table 19: Measured Annual Mean Concentrations at each Diffusion Tube Monitoring Site in Usk ($\mu\text{g}/\text{m}^3$)

Location	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White Hart, Bridge Street	39.7	41.9	40.3	37.6	32.8	35.1	36.6	32.1	33.3	20.6
35 Bridge Street	40.7	43.5	42.0	40.4	34.1	35.2	35.1	30.4	31.3	19.6
Opposite 16 Bridge Street	39.7	44.6	43.1	40.9	38.2	37.8	35.2	30.0	30.8	24.3
4 Usk Bridge Street Mews	20.7	22.6	22.2	20.6	19.2	20.8	20.8	19.6	19.3	14.2
Castle Court	37.0	38.3	37.2	37.3	34.1	34.4	34.7	31.3	31.4	23.5
14A Castle Parade	32.9	33.0	33.5	34.3	30.1	30.5	31.7	27.2	28.5	19.2

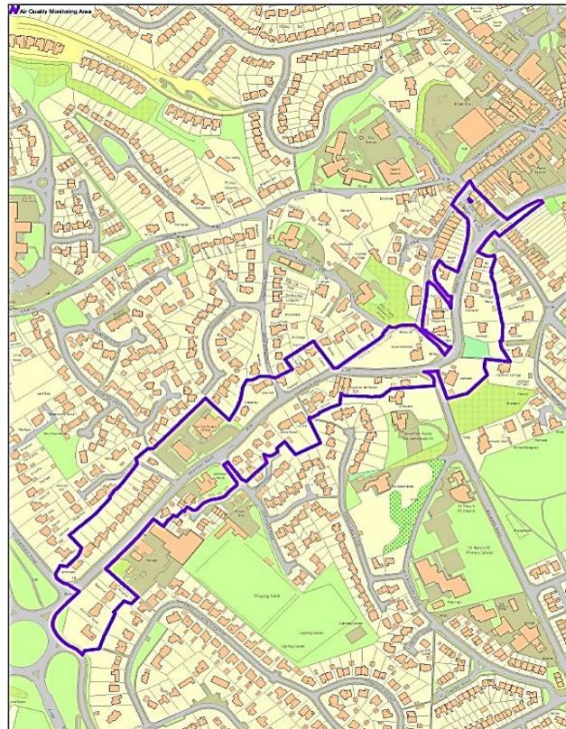
Source: 2021 Air Quality Progress Report (Accessed 18/10/2022)

<http://www.monmouthshire.gov.uk/>

Table 19 shows the annual mean concentrations at each of the monitoring sites in Usk, the figures in bold show where the level has exceeded the objective. The results show that there is a year-on-year variation at most of the locations within Usk. The monitoring location at 35 Bridge Street, was consistently high up to 2014, however

NO₂ Annual Mean Concentration has decrease considerably since and was at its lowest on record in 2020. Conversely, the site with the highest concentration in 2017 to 2019 was at The White Heart. This monitoring site is adjacent to a relatively narrow part of Bridge Street and is located at the junction with Porthycarne Street and Maryport Street. All monitoring points recorded significantly lower concentrations in 2020, which is no doubt the impact of the Covid-19 on traffic levels in the settlement.

Map 6: Chepstow Air Quality Management Area



Source: 2021 Air Quality Progress Report (Accessed 18/10/2022)

The Air Quality Management Area in Chepstow was declared in April 2007 due to the level of NO₂ exceeding the objective level. Map 6 shows the location and boundary of the Chepstow AQMA. Table 20 shows the annual mean concentrations at each of the monitoring sites in Chepstow, the figures in bold show where the level has exceeded the objective. The results show that there is also a year-on-year variation at the locations monitored within Chepstow. The highest measured concentration in 2019 was 42.3 µg/m³ at 2 Hardwick Hill, which is representative of relevant exposure and is higher than the objective of 40 µg/m³. However, this figure had decreased from a 60.3 µg/m³ high in 2012. As with Usk all monitoring points recorded significantly lower concentrations in 2020, which is no doubt the impact of the Covid-19 on traffic levels in the settlement.

Table 20: Measured Annual Mean Concentrations at a selection of the Diffusion Tube Monitoring Sites in Chepstow (µg/m3)

Location	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
38 Larkfield Park	22.6	25.3	22.4	21.8	22.5	22.9	22.2	19.1	20.1	13.6
High Beeches at Larkfield School, Newport Road	30.7	32.0	30.4	33.1	30.9	31.0	27.9	27.8	28.4	22.6
Wayside, Hardwick Hill	32.8	35.5	32.7	32.5	29.8	31.1	29.9	26.5	28.8	20.4
Rainwater Pipe, Hill House, Hardwick Hill	40.7	42.6	41.7	40.0	36.8	37.6	37.1	34.3	34.7	27.4
2 Hardwick Hill	60.1	60.3	56.0	57.7	51.4	53.2	51.1	42.5	42.3	31.6
1 Ashfield Hs. Mt. Pleasant	30.4	33.2	28.4	26.1	25.9	26.7	26.8	23.5	26.0	19.1
2 Hardwick Terrace	30.4	33.7	30.6	28.4	26.9	27.9	25.9	25.1	25.5	18.1
Lamp Post, Moor Street	32.9	35.5	31.1	31.8	28.1	27.7	27.1	26.4	26.3	18.3
Garden City Way	30.5	30.7	28.1	27.8	25.5	27.2	26.8	23.6	24.2	17.4
AQMS Hardwick Hill	40.0	39.1	34.5	38.6	37	35	35	36	39	26

Source: 2021 Air Quality Progress Report (Accessed 18/10/2022)

In 2005, data available from InfoBase Cymru suggest that there were 10.0 tonnes of CO² emissions per resident of Monmouthshire. In 2010 this figure was 8.5 tonnes and in 2015 was 6.9 tonnes per resident. The latest data available (2020) suggests that there were 5.3 tonnes of CO² emissions per resident of Monmouthshire compared to the Welsh figure of 6.6 tonnes in 2020.

Of the 501.4 kilotonnes of CO₂ emissions in 2020 in Monmouthshire, 260.4 were from road transport, accounting for 51.9% of CO₂ emissions. At the same time, the domestic environment accounted for 30.1%. In 2020, emissions from road transport in Monmouthshire accounted for 1.2% of total carbon emissions in Wales. In 2020, Monmouthshire accounted for 2.4% of CO₂ emissions in Wales and was 9th lowest out of the 22 Local Authorities.

In December 2020 Natural Resources Wales (NRW) commissioned LUC (Land Use Consultants) to develop a new 'Tranquility & Place – Dark Skies' map that 'identifies the strategic and local resource in remote, rural, peri-urban and urban areas for use as an evidence base'. The report and study were undertaken in recognition that night skies free of light pollution are important to both human, wildlife and ecosystem wellbeing. The key findings from the report identified that more than two thirds of Wales are within the darkest skies (<0.5) category, as defined by the report and that Mid-Wales was the darkest region with more than 90% within the darkest category.

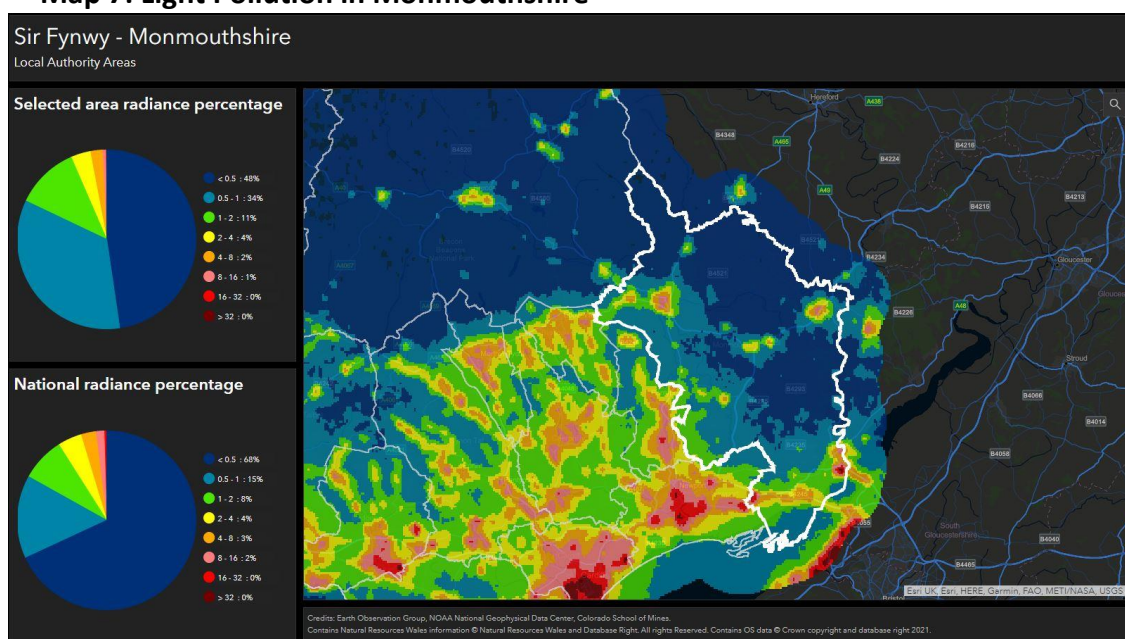
Table 21 below illustrates the results for Monmouthshire in comparison to neighbouring authorities and Wales as a whole.

Table 21: Light Pollution in Monmouthshire and surrounding authorities (%)

	<0.5	0.5 - 1	1 - 2	2 - 4	4 - 8	8 - 16	16-32	>32
Wales	68.1	15.0	7.9	4.3	2.7	1.5	0.4	0.1
Monmouthshire	47.7	34.4	11.4	3.5	2.2	0.6	0.2	0
Torfaen	0	28.1	31.1	19.7	13	7.8	0.4	0
Blaenau Gwent	0	17.4	37.8	25.2	18.1	1.5	0	0
Powys	93.1	5.1	1.2	0.5	0.2	0	0	0
Newport	0	11.8	25.6	24.0	18.3	13.2	6.8	0.3
SE Wales	17.2	23.9	26.5	15.4	9.4	5.7	1.5	0.5

Light pollution is measured in brightness values (nw/cm²/sr) whereby the lower the value the lower the light pollution and the higher the value the greater the light pollution. In the darkest sky category (<0.5), Powys had the highest proportion in Wales with 93.1%. Conversely, in the brightest sky category (>32), Cardiff had the highest proportion with 7%. Monmouthshire had 47.7% in the darkest sky category and 0% in the brightest, in comparison to 68.1% and 0.1% for Wales respectively. Map 7 below illustrates the levels of light pollution in Monmouthshire and the wider South East Wales area. As expected, light pollution in Monmouthshire is concentrated around the larger settlements within the County, where relatively large areas to the north of Raglan and between Abergavenny and Monmouth and south of Monmouth in the Wye Valley Area of Outstanding Natural Beauty (AONB) have less light pollution. There is also a concentration of light pollution, in the Severnside area and around the M4 corridor.

Map 7: Light Pollution in Monmouthshire

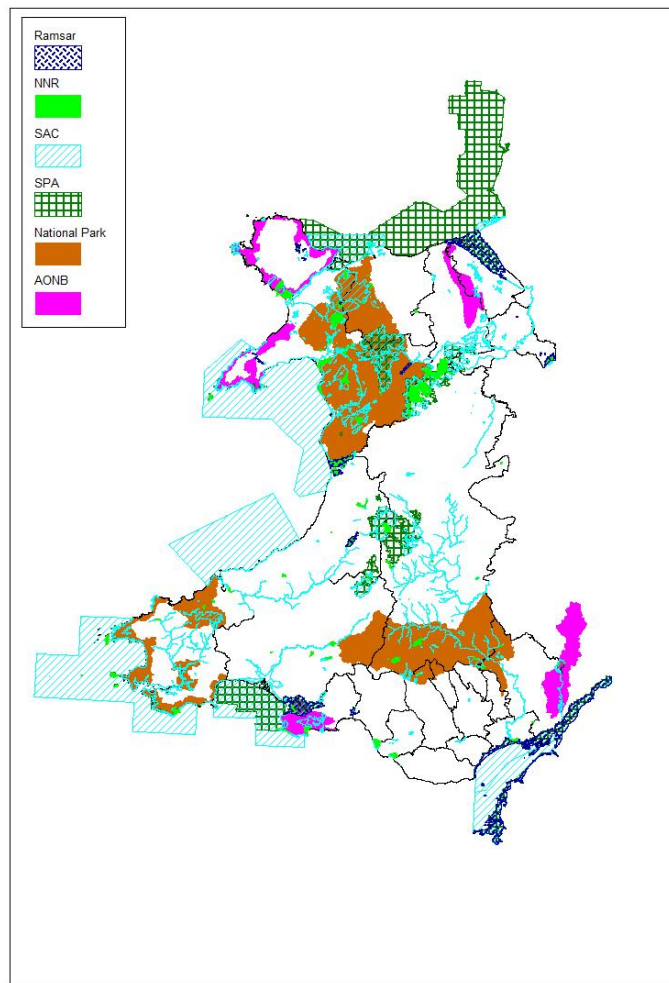


Source: NRW and LUC Dark Skies and Light Pollution in Wales Map - <https://luc.maps.arcgis.com/apps/opsdashboard/index.html#/1cd6ba8a1d7d4a62aff635cfcba4a9c> (accessed 18/05/2021) Contains Natural Resources Wales Information © Natural Resources Wales and Database Right. All rights reserved. Contains OS data © Crown copyright and database rights 2021.

3.3 Biodiversity, Flora & Fauna

Monmouthshire has a broad biodiversity interest extending from the lowlands in the south of the County to the hills and uplands in the north. Map 8 identifies international and national designations of biodiversity value in Wales and illustrates the extent of the designations both within and adjacent to Monmouthshire. The primary locations for nature conservation resources within the County are the Severn Estuary, the three main rivers, the Gwent Levels, and the grasslands and woodlands in the Wye Valley. Maps 8 and 9, however, show that there is generally a wide distribution across the County of important areas of interest. Monmouthshire has a number of designated sites of international importance, designated under the EU Birds Directive (Directive 2009/147/EC/ on the conservation of wild birds) as Special Protection Areas or under the European Habitats Directive (Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna) as Special Areas of Conservation. The Severn Estuary is also a Ramsar site. The County has a range of areas designated as Sites of Special Scientific Interest under the Wildlife and Countryside Act 1981. There is one Local Nature Reserve that is also a SSSI. The County is also important for a range of Habitats and Species of Principle Importance for Conservation in Wales (Section 7, Environment Wales Act 2016) and Monmouthshire County Council must seek to maintain and enhance these and ecosystem resilience through the exercise of their functions (Section 6, Environment Wales Act 2016). Local Wildlife Sites and Sites of Importance for Nature Conservation have also been designated across the County including a range of habitat types from Ancient Woodland to Open Mosaic (brownfield) sites.

Map 8: International and National Designations of Biodiversity Value in Wales



Source: Countryside Council for Wales (2011)

3.3.1 The Severn Estuary

The Severn Estuary is the only area within Monmouthshire identified as a Special Protection Area (SPA); it is also designated as a Special Area for Conservation (SAC) owing to its importance for bird conservation, supporting a wide range of nationally and internationally important habitats and species. The Severn Estuary SPA covers approximately 6846 hectares in Wales (the full extent of which is shown in Map 9, of which some 3664 hectares are within the Monmouthshire area. The Severn Estuary consists of intertidal mudflats and sandflats, sandbanks, sabellaria reefs, saltmarsh, shingle and rocky shore, coastal grazing marsh and ditches. The estuary is an important habitat for migratory fish and has the second highest tidal range in the world. The Severn Estuary is also designated as a Ramsar Site - a Wetland of International Importance; it is an important wintering ground for a range of migratory wildfowl and waders (approximately 60,000) including the key species of the European white-fronted goose, bewick's swan, shelduck, dunlin and redshank. The Severn Estuary is also a Site of Special Scientific Interest (SSSI).

3.3.2 Special Areas for Conservation

There are 4 other Special Areas for Conservation (SAC) within the Monmouthshire Planning Area; the River Wye, the River Usk, the Wye Valley woodlands and the Wye Valley bat sites. The Usk Bat Sites SAC and the Sugar Loaf Woodlands SAC are located within the Brecon Beacons National Park but are close enough to the boundary to need consideration. As bats are particularly mobile they rely on other sites for feeding, passage and roosting including the town of Abergavenny and its surrounding area. The Sugar Loaf woodlands are vulnerable to changes in air quality with one unit of the SAC sitting close to the town of Abergavenny. SACs along with SPAs are collectively known as European sites and (post Brexit) as National Site Network sites (replacing the term Natura 2000 sites) and have the highest possible protection for a nature conservation site in planning law.

The part of the River Usk SAC that runs through the Monmouthshire Planning area measures approximately 253.2 hectares and the part of the River Wye SAC running through the County measures approximately 220.4 hectares. Both rivers provide valuable wildlife corridors and connectivity between habitats that are important for many species. The total area of SAC's within the Monmouthshire area however measures approximately 871.6 hectares showing that it is not only the rivers within the County that are of European Importance.

3.3.3 Sites of Special Scientific Interest

There are 50 nationally designated Sites of Special Scientific Interest (SSSIs) within the Monmouthshire planning area. Most are woodland or grassland sites, with others designated for their wetland or geological interest, there are also a few designated for bat interest. The total area covered by SSSIs within Monmouthshire (excluding the Severn Estuary) measures some 2,147 hectares.

3.3.4 National Nature Reserves

National Nature Reserves (NNR) represent the very best examples of our wildlife habitats and geographical features. There are two NNRs within Monmouthshire; Fiddler's Elbow (woodland) and Lady Park Wood. Lady Park Wood is partly in England, although 39.22 hectares are located within Monmouthshire. The National Nature Reserves within Monmouthshire cover approximately 82.52 hectares in total, the locations of which are shown on Maps 8 and 9.

3.3.5 Local Nature Reserves

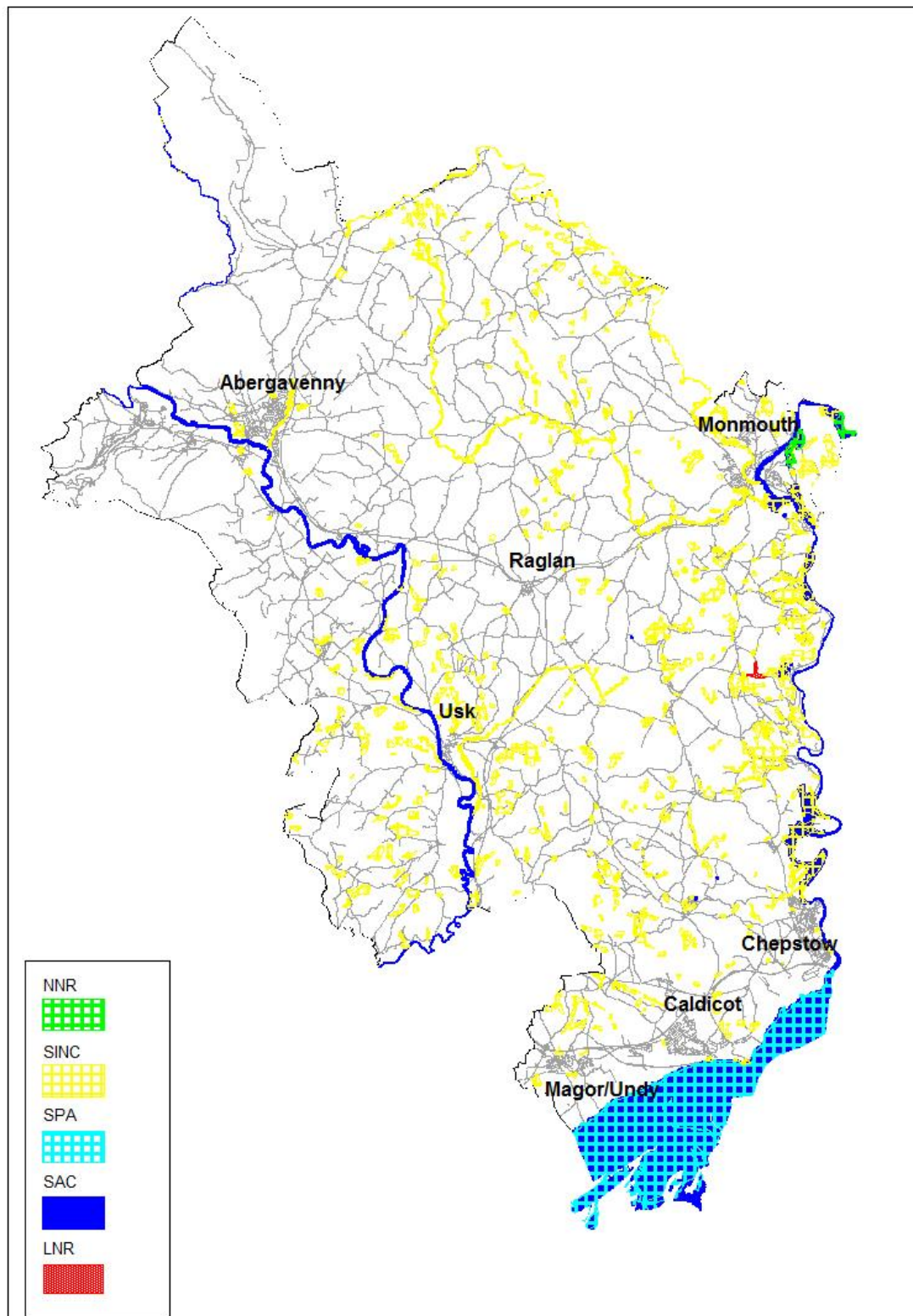
Many local authorities in Wales have set up Local Nature Reserves (LNRs) which have natural features of special interest to their local area. LNRs can help protect habitats and species whilst making people more aware of local wildlife and offer an ideal place for children to learn about nature. Cleddon Bog is currently the only local authority designated LNR within Monmouthshire, measuring approximately 14.12 hectares. This

nature reserve is also wholly designated as a SSSI, Cleddon Bog can be identified on Map 10.

3.3.6 Sites of Importance for Nature Conservation

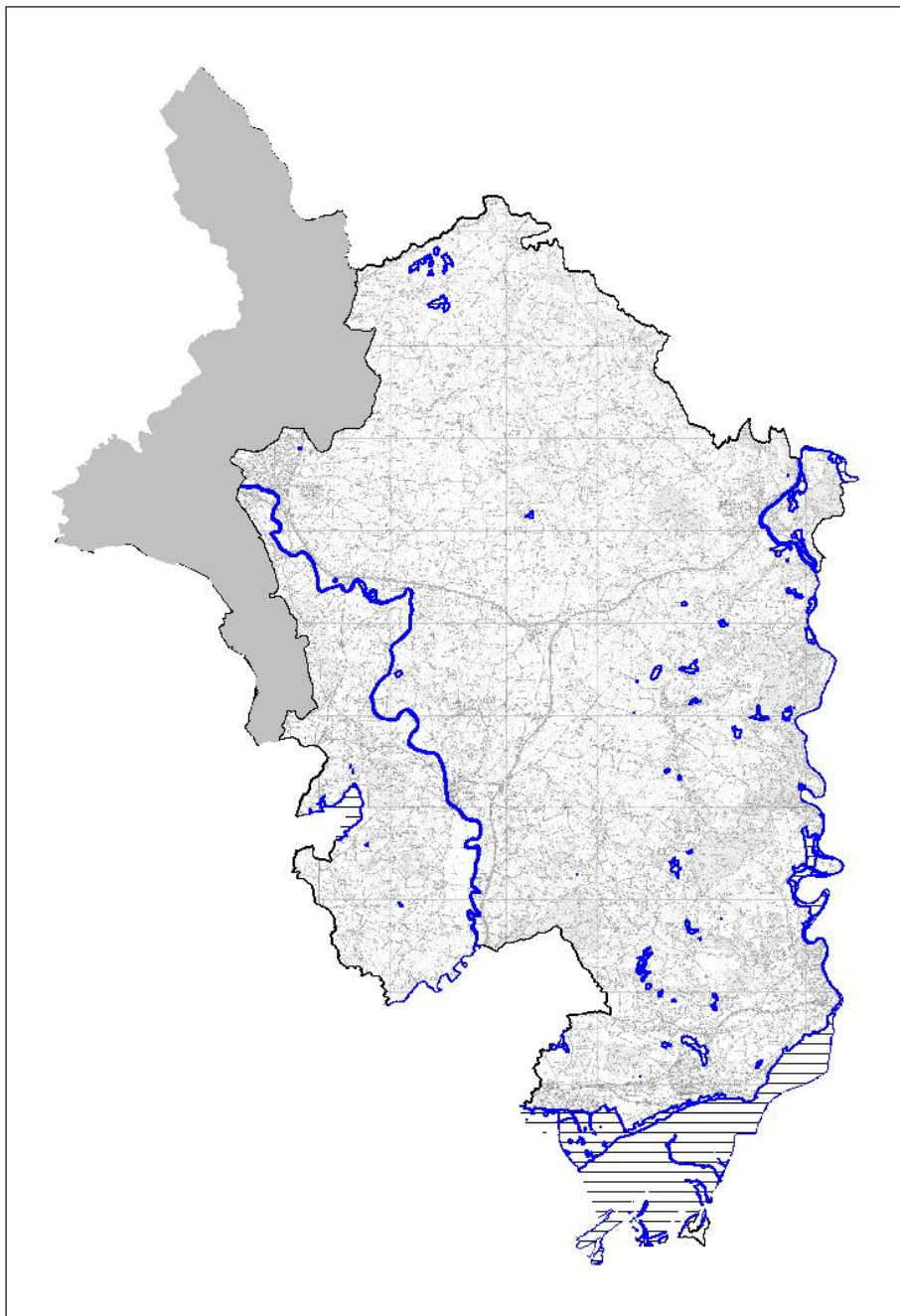
Sites of Importance for Nature Conservation (SINCs) are also known as Local Wildlife Sites. SINCs are locally valued non-statutory sites for biodiversity. They are defined areas identified and selected for their substantive nature conservation value. Their selection takes into consideration the most important, distinctive and threatened habitats within a national, regional and local context. They are sites that do not have the statutory protection of European or Nationally important sites but are often of a very high quality and important for maintaining biodiversity. There are approximately 680 SINCs identified in the County predominantly in relation to grassland and ancient and semi-natural woodland areas. Four watercourse SINCs have been designated covering approximately 88km, the River Gavenny, River Trothy, River Monnow and the Olway Brook.

Map 9: Location of International, National and Locally Designated Sites for Biodiversity Value.



Source: CCW 2011/Monmouthshire County Council

Map 10: Location of Sites of Special Scientific Interest within Monmouthshire.



Source: Monmouthshire County Council

3.3.7 Conservation Objectives

Each of the National Site Network sites within the Monmouthshire Planning Area has a core management plan which includes a set of conservation objectives for each of the site interest features. There is no trend data available in relation to the status of conservation objectives, which is considered to be a data gap.

3.3.8 Protected and Rare Species

The Conservation of Habitats and Species Regulations 2017 set out the European protected species and the Wildlife & Countryside Act 1981 sets out those that are Nationally protected. A large number of protected species are located within Monmouthshire among which are; bats, dormouse, great crested newt, otter, barn owl, Peregrine falcon, goshawk, adder, slow worm, among others. A number of species listed on Schedule 4 of the Conservation of Habitats and Species Regulations 2017 which may not be taken or killed in certain ways, are also found in Monmouthshire, often on protected sites, such as the River Wye SAC. The following fish within this schedule are identified within Monmouthshire; allis shad, twaite shad, river lamprey, Atlantic salmon and grayling. This list is not exhaustive.

Monmouthshire supports many important habitats and species. Over 470 species are identified so far that are important in Monmouthshire. Over 225 of these species are listed on Section 7 of the Environment Wales Act 2016 as living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales including 16 Mammals, 44 Birds and 113 Invertebrate species. The Local Planning Authority has a duty to maintain and enhance these species in accordance with the Section 6 duty of the Act

Among the nationally scarce and declining habitats, perhaps the most important and most threatened in Monmouthshire is the scattering of remnant species-rich grassland many of which have been designated as Local Wildlife Sites. Other Section 7 habitats important in Monmouthshire include woodlands and those habitats associated with the coast and marine habitats.

3.3.9 Invasive Plants

The issue of invasive plants is an on-going problem within Monmouthshire, there is a duty in terms of development not to spread any more invasive species. Some site specific project work has been undertaken in the AONB and adjacent the river Usk, there is however a considerable data gap in relation to invasive species.

3.3.10 Biodiversity Loss

Species extinction is a process that occurs naturally. However, the natural rate of extinction has rapidly accelerated as a direct result of the expansion and development of human society. The primary cause of species extinction globally is habitat loss. Any

loss of habitat in Monmouthshire is picked up as part of the annual monitoring of the LDP.

3.3.11 Habitat Fragmentation

Habitat fragmentation involves the breaking up of large areas of habitat into small, unconnected 'islands'. These habitat fragments are often too small to support viable populations of many plant and animal species, leaving them vulnerable to extinction. As a result, species that have taken tens or hundreds of thousands of years to evolve naturally can be lost very quickly and cannot be recreated. Examples of habitat fragmentation within Monmouthshire include fragmentation of hedgerow caused by development and canalised streams and rivers. There is however a data gap in relation to habitat fragmentation in Monmouthshire.

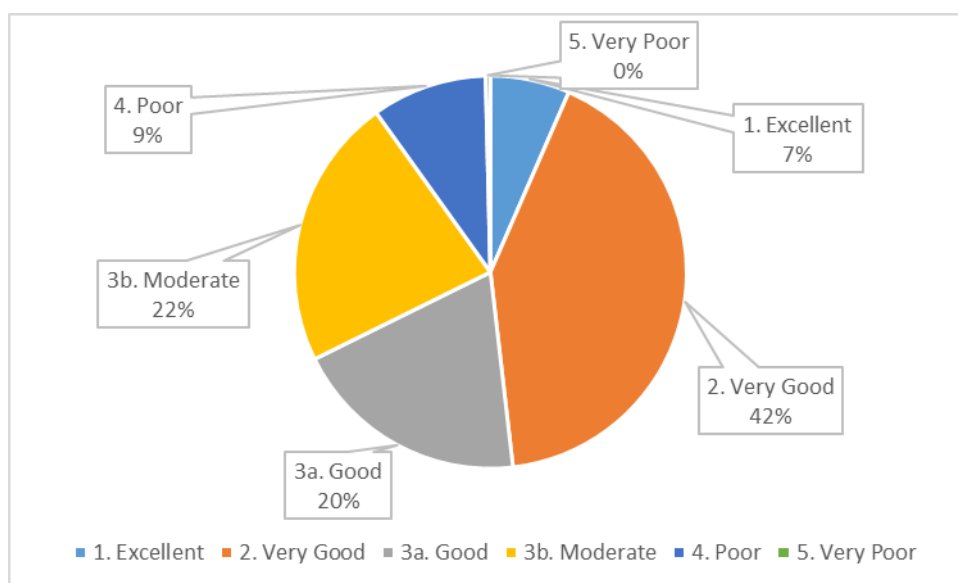
3.4 Geology & Soils

3.4.1 Soil types

The soil type for the majority of the County has been identified as 'brown earths' with some 'ground water gleys' to the South of the County in the Gwent levels Site of Special Scientific Interest (SSSI). Approximately 30.22% of soils in the UK are identified as brown earths and are characteristically deep, well-drained fertile soils suitable for agricultural use. There are significantly less ground water gleys within the UK, approximately 3.26%, these soils are best described as permeable, seasonally waterlogged soils affected by the groundwater table. (Source: 'Soils in the Welsh Landscape' Royal Agricultural College accessed 15/10/07)

3.4.2 Agricultural Land

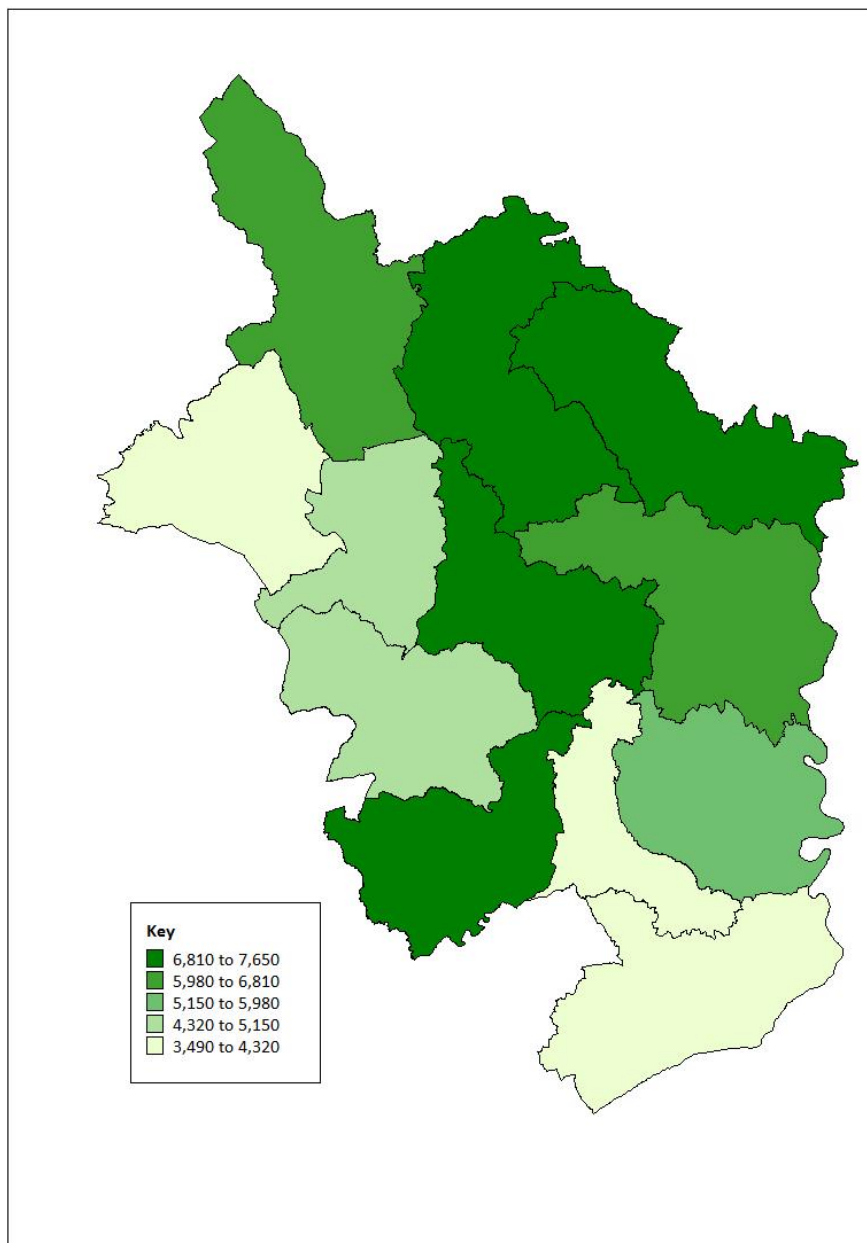
Chart 14: Agricultural Land Classification, proportion by grade



Source: Welsh Government – Agricultural Land Classification Maps

Agricultural land is classified by the Agricultural Land Classification (ALC) system which helps identify the quality of farmland in both England and Wales. The system classifies land into five grades, where 1 is the best and 5 the worst. Grade 3 is subdivided into subgrades 3a and 3b. Chart 14 shows that the largest proportion of agricultural land (42%) in Monmouthshire falls under grade 2, 'very good' agricultural land. This land is mainly identified near Caerwent, Llanvair Discoed, Caldicot and Mathern in the South of the County. A further 7% of the land is classified as grade 1 (excellent). The proportion of 'good to moderate' (grade 3) agricultural land within the County also represents 42%. The percentage of 'poor' (grade 4) quality agricultural land in Monmouthshire is 9%.

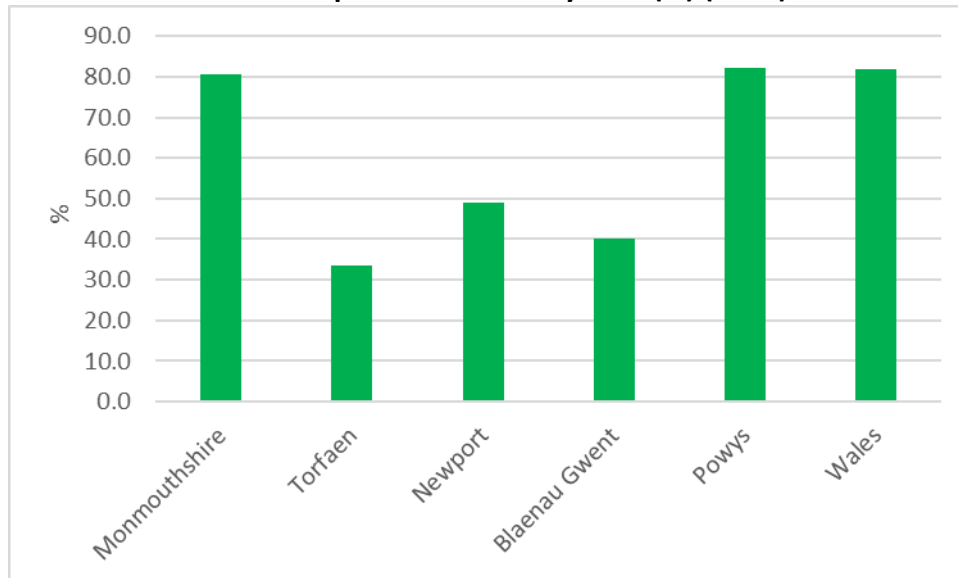
Map 11: Total area farmed within Monmouthshire in hectares (2020)



Source: SFR 304/2021: Agricultural Small Area Statistics for Wales, Welsh Government

Map 12 shows the total area farmed within Monmouthshire as of 2020. The areas with the highest proportion of farming land in 2020 were in the centre and north east of the County. Chart 15 shows that whilst the percentage of farming land within Monmouthshire is in line with the Welsh average, it is considerably higher than Torfaen, Blaenau Gwent and Newport. Powys, however, has a marginally higher proportion of farming land within its local authority area.

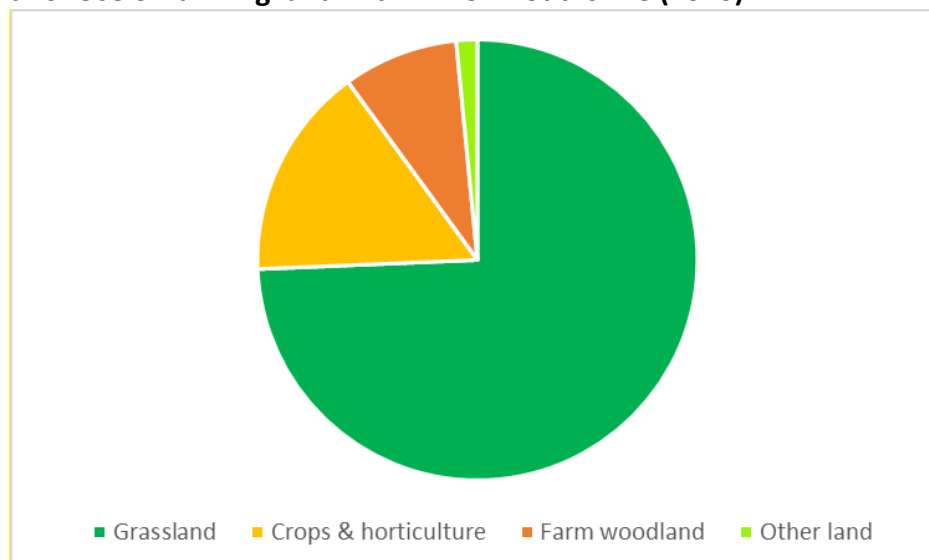
Chart 15: Total area farmed per local authority area (%) (2020)



Source: SFR 304/2021: Agricultural Small Area Statistics for Wales, Welsh Government

3.4.3 Use of Farming Land

Chart 16: Use of farming land within Monmouthshire (2020)



Source: SFR 304/2021: Agricultural Small Area Statistics for Wales, Welsh Government

Chart 16 breaks down the use of farming land within Monmouthshire, approximately three quarters of land (74.3%) is identified as grassland compared to a Welsh average of approximately 86.6%. A further 15.6% is being used for crops and horticulture which

compares to a 4.9% average in Wales, there is also a small proportion of farm woodland (8.5%) within Monmouthshire which compares to a Welsh average of 7.1%. The majority of farmland in Monmouthshire is used as grassland, and the proportion is lower than the Welsh proportion. The proportion of farming land in use for crops and horticulture is significantly higher than the Welsh average. The grassland classification has been broken down further, indicating that within the County, there is a considerably larger percentage of Permanent Pasture, totalling approximately 83.91%; approximately 3.5% is identified as Rough Grazing land; and approximately 12.6% is identified as New Grassland.

3.4.4 Land quality- contaminated land

Monmouthshire has 330 separate areas of contaminated land, excluding the Brecon Beacons National Park (BBNP). These 330 sites represent a total area of approximately 520 hectares.

3.4.5 Use of brownfield sites- previously developed land

Chart 17: Number of housing completions on greenfield/brownfield land.



Source: Monmouthshire Housing Land Availability Surveys 2012-2022

The figures for the percentage of housing completions on greenfield/brownfield land have been determined using the Monmouthshire County Council housing monitoring Surveys, which are conducted on an annual basis. The average percentage of housing completions on brownfield land over the past 10 years totals approximately 49%. The limited supply of brownfield land is a significant issue in the Monmouthshire County.

3.5 Water

3.5.1 Water Framework Directive

The Water Framework Directive (WFD) establishes a framework for the protection of surface waters (rivers, lakes, estuaries and coastal waters) and groundwaters. Its purpose is to prevent deterioration and improve the status of aquatic ecosystems, promote sustainable water use, reduce pollution of groundwater and contribute to mitigating the effects of floods and droughts. The WFD originates from the European Union (EU) but has been retained in UK law despite the UK's departure from the EU. The WFD requires member states to strive to meet the objective of at least good water status by defining and putting in place measures whilst accounting for community requirements. This means that we must protect and improve the quality of our water bodies so that they can support natural biological communities and are free from pollution and where there is an increase in pollution, this should be identified and reversed.

The characterisation of water bodies has been part of a two-stage assessment under the WFD. Stage 1 identified water bodies and described their natural characteristics. Stage 2 assessed the pressures and impacts on them from human activities. The assessment identified those water bodies that are at risk of not achieving the environmental objectives set out in the WFD. The cycle 2 interim classification on the status of freshwater WFD water bodies in Wales has now been published. This is an update of the WFD second cycle 2015 classification and is named the WFD Cycle 2 Interim Classification 2018. It enables NRW to review progress mid-point in the WFD cycle.

There are 45 water bodies within Monmouthshire, 38 surface waters, such as rivers, lakes, canals and reens, and 7 groundwaters. 37 of these water bodies have been designated as protected areas, these are areas requiring special protection under other EC directives and waters used for the abstraction of drinking water.

3.5.2 Water Quality Targets

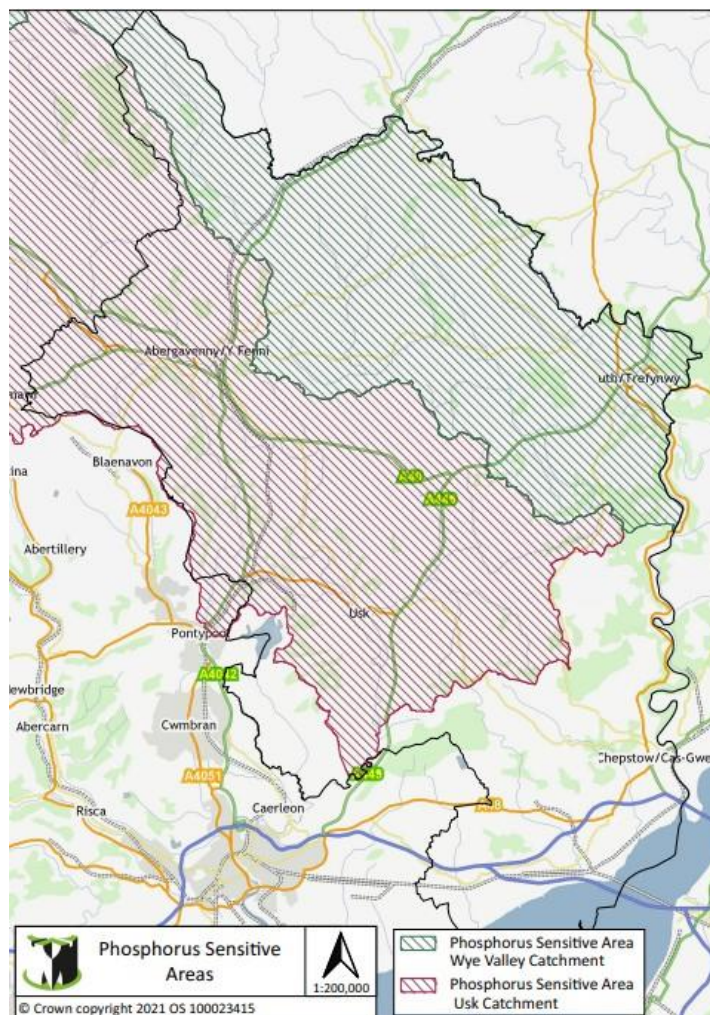
The Water Framework Directive phosphorus standards in rivers are set in legislation by Welsh Government and follow the most recent and stringent phosphorus limits recommended by the UK's Technical Advisory Group for the EU Water Framework Directive (WFD). There are no more stringent limits under the WFD that could be used. These limits were set and have been followed since 2015. The Habitats Directive phosphorus targets were updated in 2017 to reflect the latest Joint Nature Conservation Committee guidance. These targets are generally more stringent than WFD limits and apply to rivers which are designated as Special Areas of Conservation or SACs. The Rivers Wye and Usk are both SACs and so these tighter targets for Phosphorous apply here.

The ecological river quality is a measure of the present ecological condition of a surface water body and is based on biological quality, general chemical and physico-

chemical quality, water quality with respect to specific pollutants both synthetic and non-synthetic and hydromorphological quality. There are five classes of ecological status of surface waters (high, good, moderate, poor or bad). The chemical quality is a measure of the present chemical condition of a water body (also called Chemical Status). This is assessed by compliance with the environmental standards for chemicals that are listed in the Environmental Quality Standards Directive 2008/105/EC and include priority substances, priority hazardous substances and 8 other pollutants. There are two classes of chemical status of a water body good or fail.

Natural Resources Wales (NRW) have outlined unacceptably high levels of phosphate in both the River Wye and Usk River and have issued Planning Guidance relating to the output of phosphate from development proposals. The planning guidance impacts on a number of Local Planning Authorities in Wales in relation to their Special Area of Conservation (SAC) watercourses and it is therefore an issue to solve on both a national and local basis. NRW have advised Monmouthshire County Council that, in light of the unfavourable condition of the Rivers Wye and Usk before determining a planning application that may give rise to additional phosphates within the catchment it must be clearly evidenced that the development results in neutrality or betterment in relation to phosphates discharge into the watercourses.

Map 12: Phosphorus Sensitive Areas in Monmouthshire



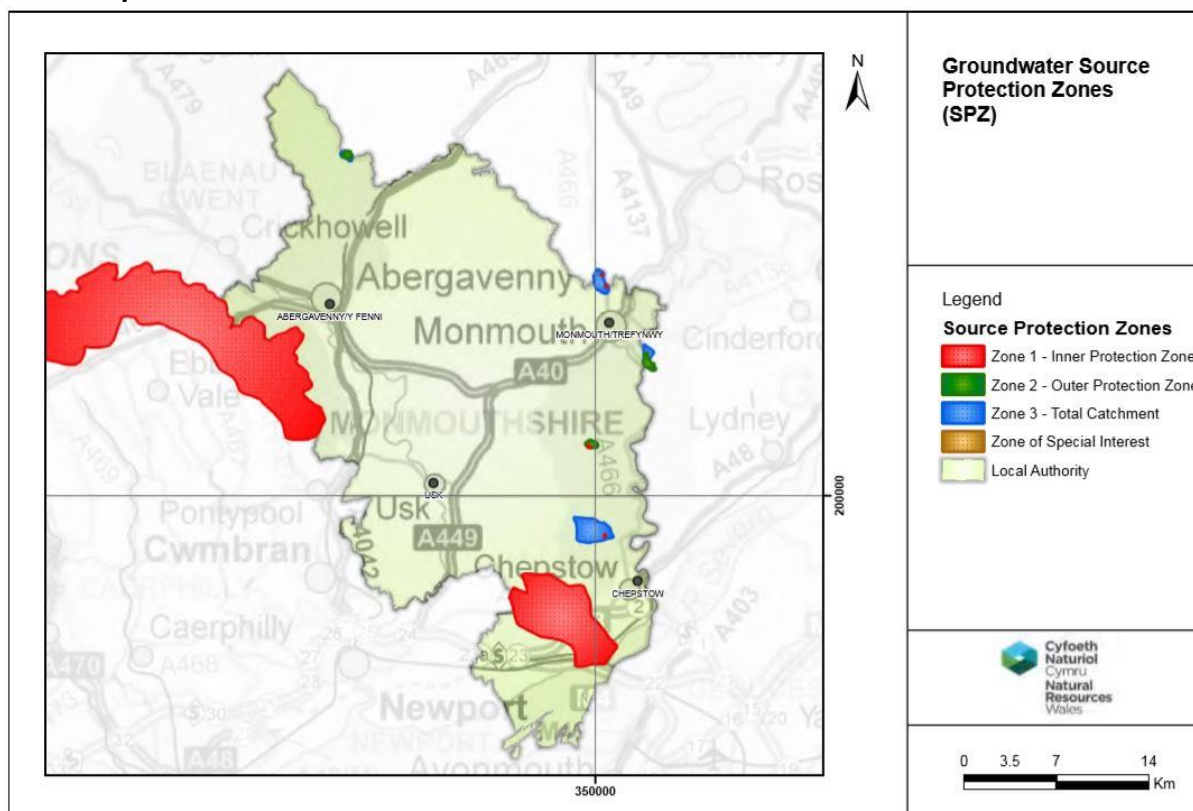
3.5.3 Groundwater sources

Source Protection Zones (S.P.Z.s) are defined by the Environment Agency for groundwater sources such as wells, boreholes and springs used for public drinking water supply. These zones monitor the risk of contamination from any activities that might cause pollution in the area. Groundwater supplies about 10% of drinking water in Wales and is a key resource. Groundwater also helps to maintain the flow in many of our rivers and wetland ecosystems.

Map 13 shows the location of the Source Protections Zones (S.P.Z.) in the Monmouthshire planning administrative area. These zones show the risk of contamination from any activities that might cause pollution in the area. The closer the activity, the greater the risk. The maps show three main zones (inner, outer and total catchment) and a fourth zone of special interest, which occasionally apply, to a groundwater source.

- Zone 1 (Inner protection zone) Defined as the 50 day travel time from any point below the water table to the source. This zone has a minimum radius of 50 metres.
- Zone 2 (Outer protection zone) Defined by the 400-day travel time from a point below the water table. Additionally this zone has a minimum radius of 250 or 500 metres, depending on the size of the abstraction.
- Zone 3 (Total catchment) this zone is defined as the total area needed to support the abstraction or discharge from the protected groundwater source.
- Zone of special interest a fourth zone SPZ4 or 'Zone of Special Interest' was previously defined for some groundwater sources. These zones highlighted areas (mainly on non-aquifers) where known local conditions meant that potentially polluting activities could impact on a groundwater source even though the area is outside the normal catchment of that source. In future this zone will be incorporated into one of the other zones (1, 2 or 3), whichever is appropriate in the particular case.

Map 13: Groundwater Source Protection Zones within Monmouthshire



© Crown Copyright and database right 2013. Ordnance Survey licence number 100019741. © Hawlfraint a hawliau cronfa ddata'r Goron 2013. Rhif Trwydded yr Arolwg Ordnans 100019741
© Natural Resources Wales copyright and/or database right 2013. All rights reserved © Hawlfraint a/neu hawl cronfa wybodaeth Cyfoeth Naturiol Cymru 2013. Cedwir pob hawl.

Page 46

Source: Natural Resources Wales

3.6 Minerals

3.6.1 Marine Aggregates

Compared with other regions of England and Wales, South Wales ranks third (after South East and London) in terms of the volume of marine sand and gravel landed. The region is dependent to a far greater extent than any other upon marine sources for sand. All of the marine aggregate landed in the South Wales region comprises sand and this fulfils a demand for the fine component in concrete and building sand. There is a shortage of suitable concreting sand from land-based resources. This situation has driven the continuation of aggregate dredging activities and enables large volumes of bulk material to be transported and delivered into coastal ports, very close to the point of end use in most of the main markets. This, together with the high quality and the need for only minimal processing mean that it is particularly energy efficient and an environmentally highly sustainable source of supply, especially when compared to other aggregates. The principle deposits are in the Bristol Channel and Severn Estuary, estimates of the marine aggregate resources of the Severn Estuary / Bristol Channel vary greatly but are considerable. Demand is expected to grow in line with construction trends.

A number of different pre - Carboniferous sandstones exist in Monmouthshire but most are not suitable for aggregates. There are extensive potential resources of river

valley sand and gravel deposits along the Usk, but the quality and quantity is unknown in detail. Almost all of this material has low environmental capacity. There are no permitted land-based sand and gravel sites in Monmouthshire, and there is only one marine sand-dredging site at Bedwin sands, which is landed at North Dock in Newport.

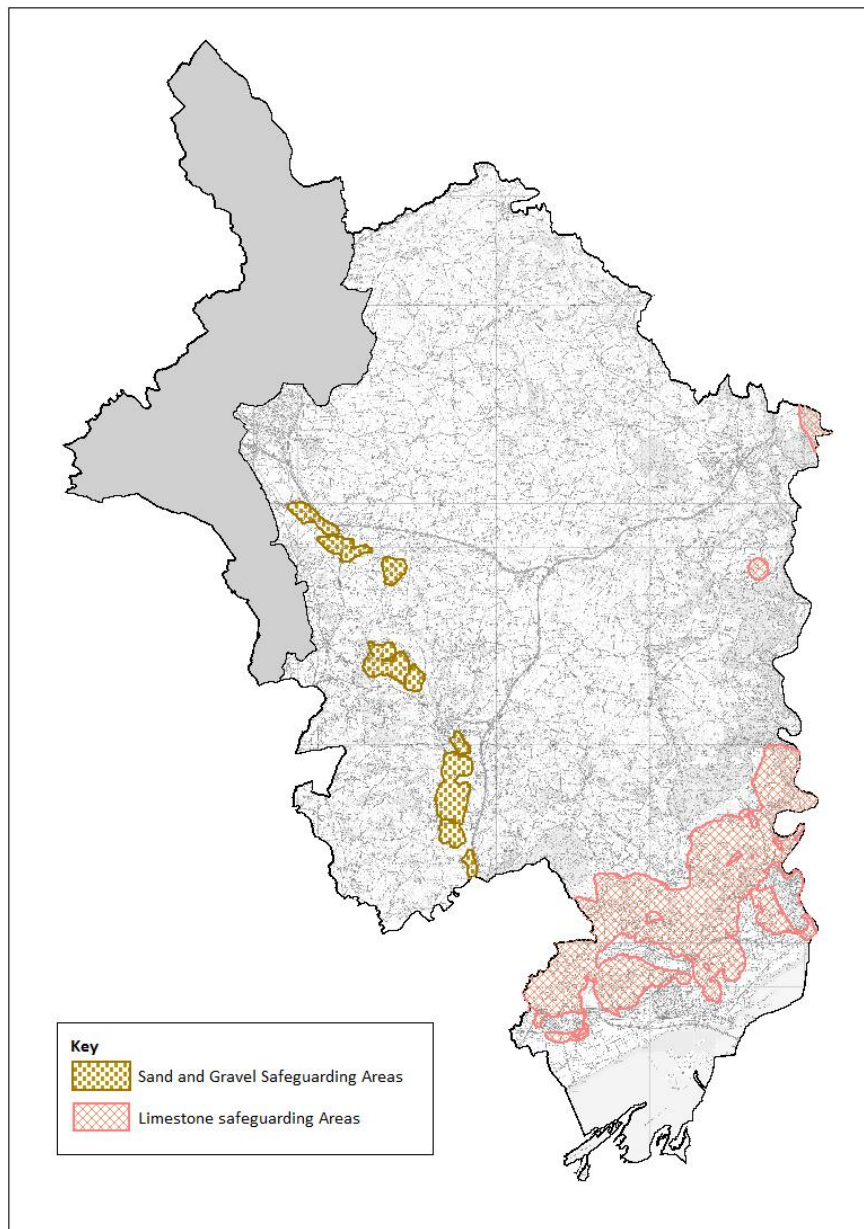
3.6.2 Crushed Rock Aggregates

South Wales is well-endowed with aggregate resources and it has inherited over time a substantial volume of permitted reserves, although the reserves are often variable in terms of quality and location. Most primary aggregate is a finite resource. This is the sector of the minerals industry where there is a greater direct engagement with the planning system and which exhibits the most contentious issues – not only in operational terms, but in respect of transport, exports, specialist requirements and its environmental implications are those most readily apparent to the public. There is one limestone quarry within Monmouthshire, the Ifton Quarry which whilst not currently worked could be worked in the future. Additional limestone resources exist in the southern part of the County, but in general, the area is sensitive in terms of environmental capacity. Furthermore, some parts of the limestone resource lie within the Wye Valley AONB; MTAN1 (paragraph 49) indicates that no allocations should be made in respect of such areas. There are no significant sources of secondary aggregates in the area. Based either on the existing situation or a per capita approach reserves in Monmouthshire exceed a 10 year requirement.

3.6.3 Minerals Safeguarding

Under the Adopted Monmouthshire Local Development Plan Policy M2 Minerals Safeguarding Areas, safeguarding zones are identified for sand and gravel and limestone resources within the County. A substantial part of the south of the County is affected by the limestone safeguarding area. Much of the area is environmentally sensitive, including some of the Wye Valley Area of Outstanding Natural Beauty. The sand and gravel deposits are predominantly located in the Usk Valley. Policy M2 is a general safeguarding policy that proposals in both safeguarding areas – limestone and sand and gravel are expected to comply with. The location of resources are shown on Map 14.

Map 14: Minerals Safeguarding Areas



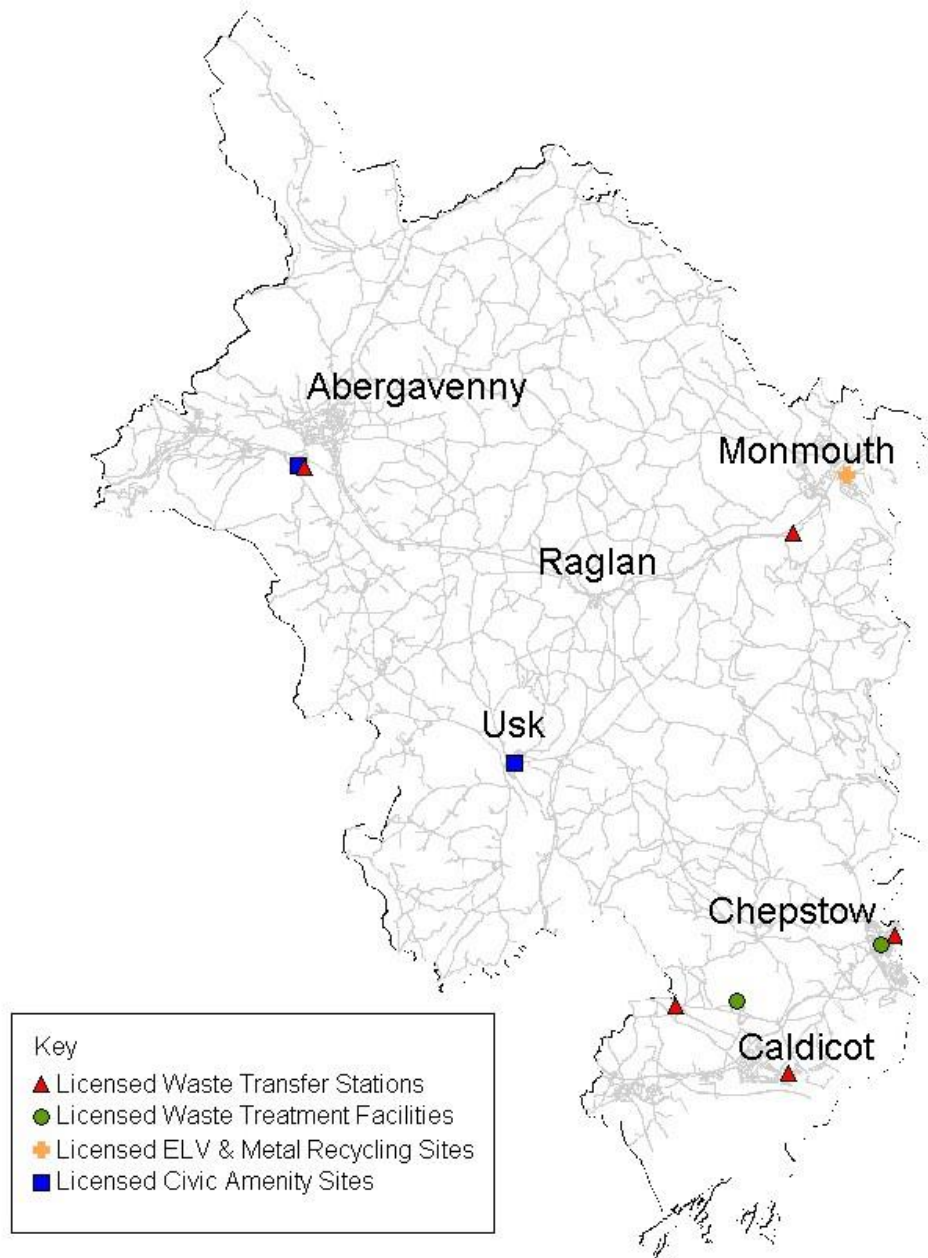
Source: Monmouthshire Local Development Plan

3.7 Waste

3.7.1 Licensed Waste Facilities in Monmouthshire.

There are nine licensed non-landfill sites in Monmouthshire which together have a capacity of more than 221,000 tonnes of waste. The location of these sites is shown in Map 16 below. The council derived residual waste goes to energy from waste.

Map 15: Licensed Non-landfill Waste Facilities in Monmouthshire



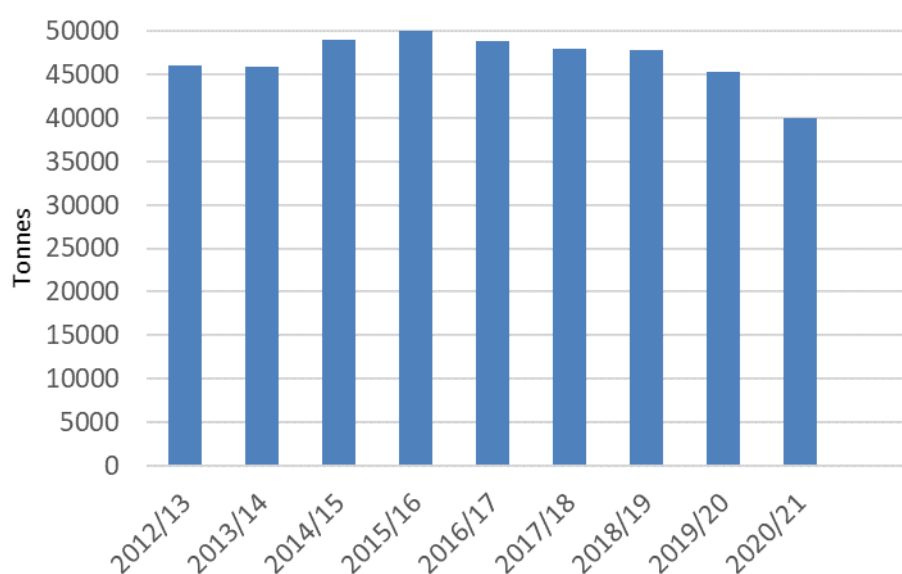
Source: South East Wales Regional Waste Group Draft Annual Monitoring Report

3.7.2 Waste Arisings

The Welsh Government's overarching waste plan 'Towards Zero Waste 2010 - 2050' (TZW) sets targets for the management of waste in Wales. The targets for the disposal and management of municipal waste, include:

- **The total quantity of Local Authority municipal waste arisings**, this indicator does not relate to a specific target in TZW but illustrates progress towards the broad aim of reducing waste arisings.

Chart 18: Municipal Waste Arisings in Monmouthshire (Tonnes)

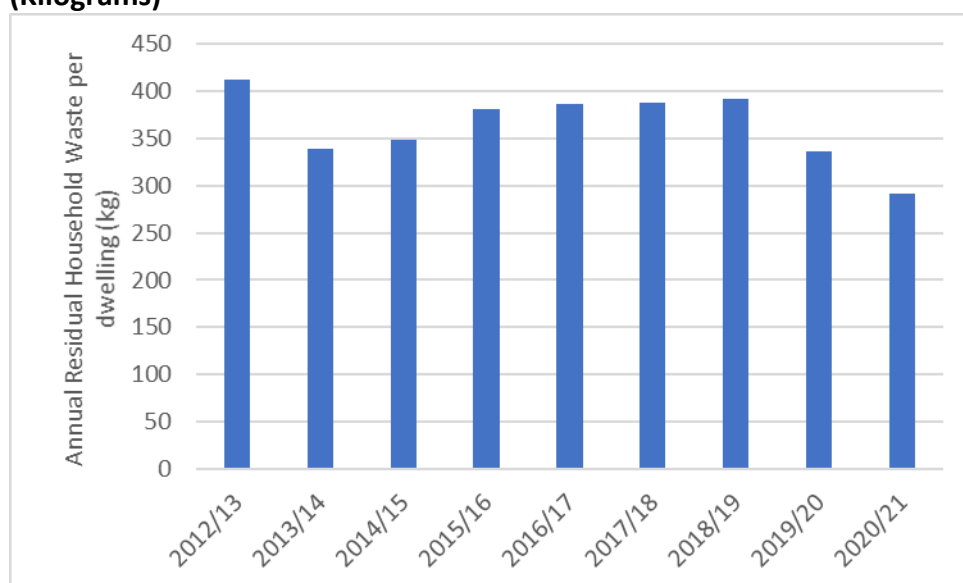


Source: Stats Wales

Municipal waste includes household waste as well as other waste collected by a waste collection authority or its contractors, such as municipal parks and gardens waste, beach cleansing waste and any commercial waste and industrial waste for which the collection authority takes responsibility.

- **The quantity of household waste arisings**, this indicator refers to the total household waste generated. It is a better indicator for describing people's behaviour and their waste generation than local authority municipal waste because it focuses on waste generated by households, whilst local authority municipal waste includes waste from businesses.

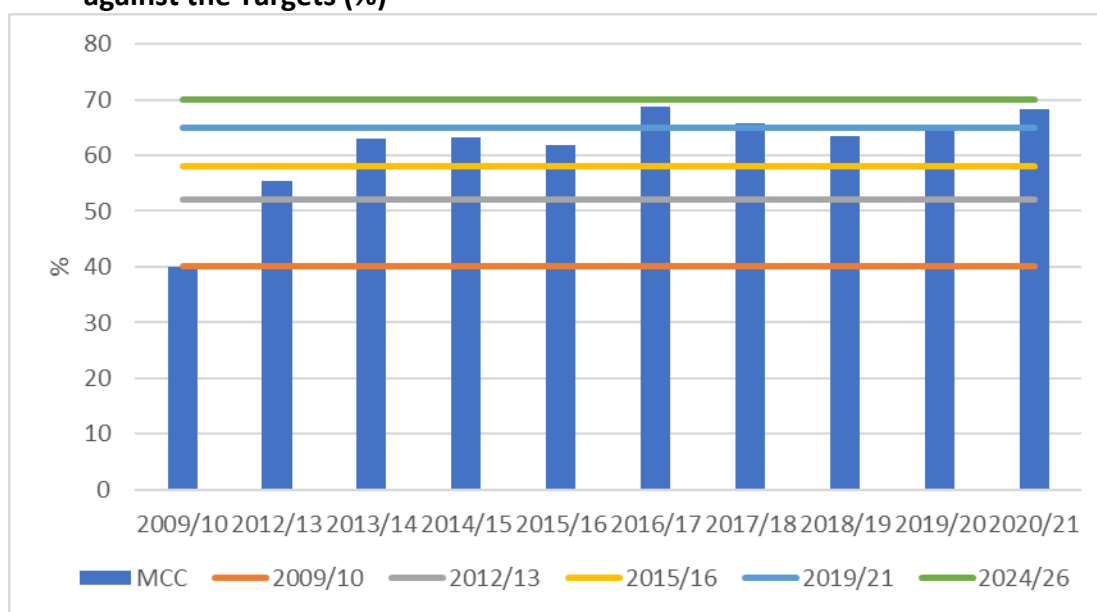
Chart 19: Residual Household Waste produced per dwelling in Monmouthshire (Kilograms)



Source: Stats Wales

- Reuse, recycling and composting of Local Authority Municipal Waste.** Increasing the reuse, recycling and composting of waste is a key aim of TZW. This indicator demonstrates the quantity of local authority municipal waste arisings that are reused, recycled or composted.

Chart 20: Reuse, recycling and composting rates of Monmouthshire Municipal Waste against the Targets (%)



Source: Stats Wales

Monmouthshire is making good progress against this indicator. By 2012/13 at least 52% of municipal waste was to be reused, recycled or composted, Monmouthshire achieved 55.5%. By 2015/16 at least 58% of waste was to be recycled and composted,

Monmouthshire achieved 61.9%. Monmouthshire has yet to meet the target set for 2024/26, however the rate in 2020/21 came close at 68.4%.

- **Landfill will be eliminated as far as possible** - to reduce greenhouse gas emissions and make the most of valuable resources, there is a need to eliminate waste from landfill (especially food waste) and manage the emissions from existing landfill sites. Welsh Government has set threshold limits for the amount that Monmouthshire can take to landfill, 29,202 tonnes in 2005/06 reducing annually to 9,500 tonnes in 2020. In 2012/13 Monmouthshire landfilled 19,697 tonnes this has reduced to 123 tonnes in 2020/21 and thus are well on the way to eliminating waste to landfill.

3.8 WIMD Physical Environment Domain

This includes amongst its indicators air quality, proximity to accessible natural green space, flood risk, and ambient green space score. There are pockets of deprivation in Monmouthshire against this domain. These are predominately in the urban areas.

Table 22: WIMD 2019 – Monmouthshire Physical Environment Domain Summary (Number)

Total LSOAs	Most deprived 10% LSOAs in Wales (ranks 1-191)	Most deprived 20% LSOAs in Wales (ranks 1-382)	Most deprived 30% LSOAs in Wales (ranks 1-573)	Most deprived 50% LSOAs in Wales (ranks 1-955)
56	3	17	24	38

Source: WIMD 2019

According to the Welsh Index of Multiple Deprivation (WIMD) 2019 physical environment domain (Table 21), Monmouthshire had 3 LSOAs in the most deprived 10%. These were Usk 1 (122) West End in Caldicot (160) and Overmonnow 1 (175). Of the 56 LSOAs in Monmouthshire, 28 (67.9%) are in the 50% most deprived LSOAs in his domain.

3.9 Key Issues arising from a review of the Baseline Characteristics

Clean air, water quality and quantity and the protection of biodiversity will have benefits to the economic and social health of the County. The geology of the area not only underpins the county's biodiversity and landscape but also provides important mineral resources. Waste can also be viewed as a resource, both in terms of recycling and re-use for other purposes or as a source of energy. The following are the key issues to arise from a review of the baseline characteristics of the County:

Air

- Whilst air pollution is not a significant problem in Monmouthshire air quality across the County varies with two Air Quality Management Areas in the County at Usk and Chepstow.

- As in the rest of the country carbon emissions are continuing to rise, with emissions from road transport the main contributing factor. There is a need to minimise the emissions of air pollutants.

Biodiversity, Flora & Fauna

- Monmouthshire is a largely rural county and has major biodiversity resources, a number of which are internationally recognised. The Severn Estuary in particular is a RAMSAR site, European Special Protection Area and Special Area of Conservation. The Rivers Usk and Wye are also significant internationally recognised sites, being Special Areas of Conservation as well as Sites of Special Scientific Interest.
- Within the LDP area there are some 680 Special Areas of Importance for Nature Conservation as well as numerous European protected species. These natural assets need to be conserved, enhanced and protected from the potential effects of new development.
- There is a need to safeguard and enhance the green infrastructure in the LDP area and the connectivity of the local environment.

Water

- Water quantity is generally good in Monmouthshire although there are ground water protection zones that need to be safeguarded from pollution. The Rivers Wye and Usk are both SACs and so tighter targets for Phosphorous apply to them. Any development that may give rise to additional phosphates within the catchment areas of the Rivers must clearly evidence that it will result in neutrality or betterment in relation to phosphates discharge into the watercourses.

Soil

- Monmouthshire has a high percentage of agricultural land that is best and most versatile (i.e. Grade 3a and above) (69%). There is a need to safeguard these important soil resources, whilst at the same time recognising that there are limited opportunities for brownfield development in the County.
- The average percentage of housing completions on brownfield land has been around 50% over the past 10 years and whilst there is a limited supply of brownfield land in the County there is a need to prioritise development on previously developed land and maximise the efficient use of the land that is available.

Minerals and Waste

- Monmouthshire has made good progress in the promotion of the recycling and composting of waste, and the elimination of waste to landfill. Monmouthshire also has to make an appropriate contribution to the regional requirement for waste management.
- Minerals extraction plays a limited role in Monmouthshire's economy but there is a need to safeguard the County's resources in order to make an appropriate contribution to the sustainable supply of aggregates to the South Wales economy as a whole.

4. A Healthier Wales

4.1 Introduction

This section provides data relating to the following well-being goal:

‘A society in which people’s physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood.’

The data relates primarily to:

- Human Health; and
- Access to Services and Well-Being.

4.2 Access to Services.

The WIMD 2019 geographical access to services domain captures deprivation as a result of households inability to access services necessary for day to day living both physically and online. Both tangible (inaccessibility to a supermarket) and social deprivation (isolation from community activities) are considered. Specifically, the domain measures travel times to 8 different services using public transport and 9 using private transport. Of the 56 LSOAs in Monmouthshire, 37 fall within the 50% most deprived with 29 in the 30% most deprived and 15 in the 10% most deprived.

Table 23: WIMD 2019 – Monmouthshire Access to Services Domain Summary (Number)

Total LSOAs	Most deprived 10% LSOAs in Wales (ranks 1-191)	Most deprived 20% LSOAs in Wales (ranks 1-382)	Most deprived 30% LSOAs in Wales (ranks 1-573)	Most deprived 50% LSOAs in Wales (ranks 1-955)
56	15	22	29	37

Source: WIMD 2019

Of the 1909 LSOAs in Wales, the lowest ranks recorded in Monmouthshire were in Llantillio Croesenny (6), Crucorney (49), Llanover 1 (61), Trellech United 1 (79) and Llanover 2 (80).

4.3 Community Facilities & Recreation

Monmouthshire is a rural County with the three market towns of Abergavenny, Monmouth and Chepstow, the towns of Usk and Caldicot and a number of larger villages as well as smaller settlements. Therefore, the majority of its residents can gain access to the countryside, although the quality of this access may differ. The landscape and countryside of the County is one of its key assets and brings valuable visitors and tourism activity to the area.

There are four leisure centres in Monmouthshire all with a variety of facilities including swimming pools, fitness suites, indoor sports halls and outdoor pitches.

- Abergavenny Leisure Centre
- Caldicot Leisure Centre
- Chepstow Leisure Centre
- Monmouth Leisure Centre

The Council also owns and manages a number of parks and open spaces.

Abergavenny

Belgrave Park
Bailey Park
Swan Meadows
Linda Vista Gardens
Penyfal
Larchfield
Holywell Road
Croesonen Gardens
Glan Gavenny
Waterside
Ross Road
Underhill playing fields
Underhill Crescent
Delafield Road
Ysbytty Open Space

Llanfoist

St Faiths Close
Thomas Hill Close
Woodland Crescent

Llanover

Open space

Goytre

Park
Highfield open space
Frondeg open space

Little Mill

Melyn Bach open space
Cae melin open space

Raglan

Prince Charles Road
Ethley Drive

Monmouth

Chippenham Mead
Clay Patch
Millennium Field
Vauxhall Fields
Overmonnow
Clawdd Du
Kings Fee
Hendre Close
Rockfield Estate Open Spaces/Wildlife corridors
Riverside/Rowing Club
Westfield Road

Wyesham

Claypatch
Tudor Road
Wyesham Road
Woodland view

Trellech

Recreation ground

Llandogo

Recreation ground

Rogiet

Chestnut Drive open spaces
Station Road open spaces
Starling Close open spaces
Buzzard Close
Merlin Close
Barn Owl way

Usk

Old Cattle Market Field
Llanbadoc Island

Caestory
Sunny Vale

Chepstow

Bulwark Park
Castle Dell
Riverside
The Danes
Bayfield open spaces
Penterry Park open spaces
St Lawrence open spaces
Meadow Walk
Portwall
Garden City
Larkfield Park
Fair View
Bulwark playing field
Raglan Way
Bishops Close
Thornwell Playing Field/open space
River side

Mathern

Playing fields

Portskewett/Sudbrook

Hill Barn Way
Playing Field
Sudbrook play area/open space

Magor/Undy

Mill Common
Mill Reen
Rockfield Estate open spaces
St Annes Crescent
Manor Chase
Badgers walk

Conigar Walk
Castle Oak
Burrium Gate open spaces
Ty Brith Gardens

Caldicot

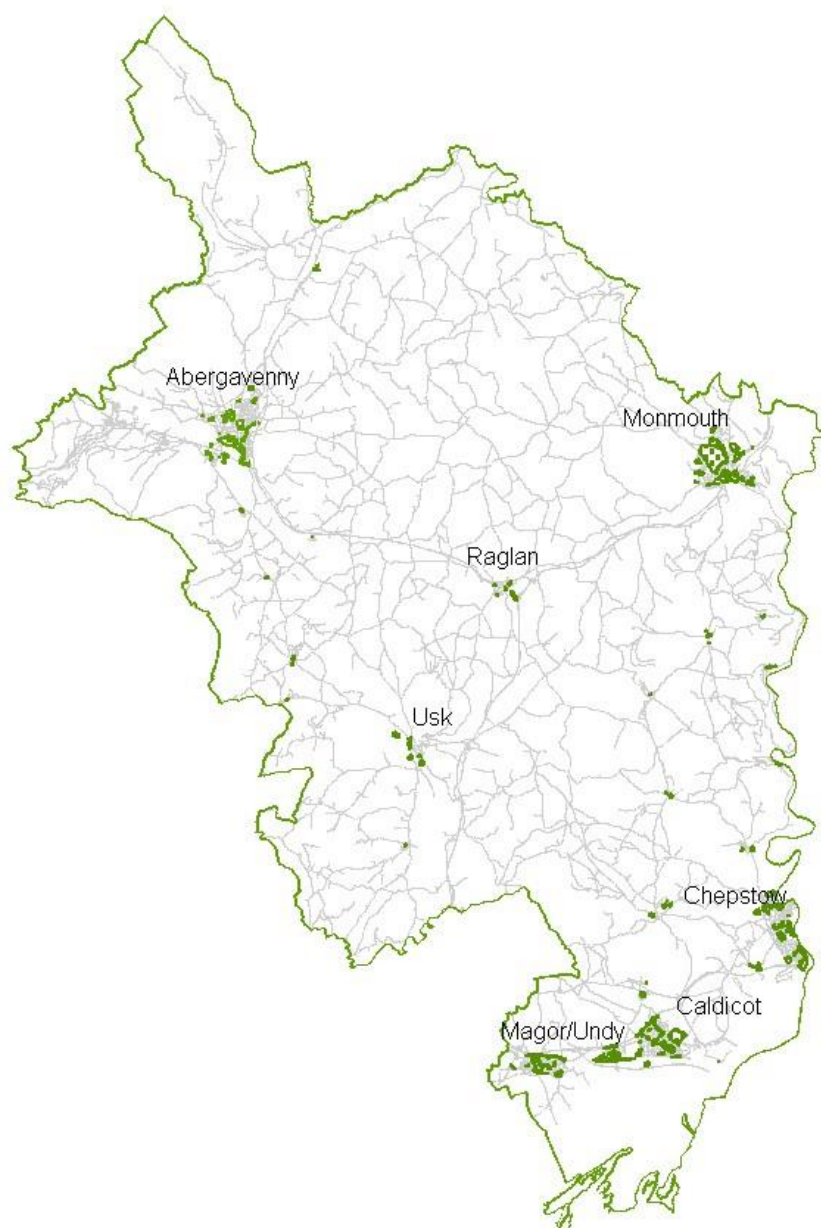
Railway View
Orchid Drive
Caldicot Castle Football pitch
Heol Tefi Open spaces
Heol Towy Open spaces
Heol Sirhowy Open spaces
Clos Llynfi
Spine Footpath
Wentwood view Open spaces
Spine footpath and Cas Troggy Open spaces
Ash Grove
Willow Close
Birbeck Park
Longfellow Road open spaces
Station Road open spaces
Durand Road
Cob Crescent
Stafford Road
Plover Crescent
Osprey Drive

Meadow Rise open spaces
Sycamore Terrace
Magor Playing fields
Blenheim Ave Open spaces
Kensington Park open spaces
Queens Gardens

4.3.1 Areas of Amenity Importance

Within the Local Development Plan under Policy DES2, areas of amenity importance have been designated. The total area of these amount to 425.6 hectares of land within the County's settlements and their distribution is shown in Map 17. The primary purpose of their designation is to protect and, where possible, improve the built environment by retaining the overall amenity value of the existing stock of green space. As such these areas include the above parks but in addition will cover general areas of open space. They will not necessarily include all play areas within the County.

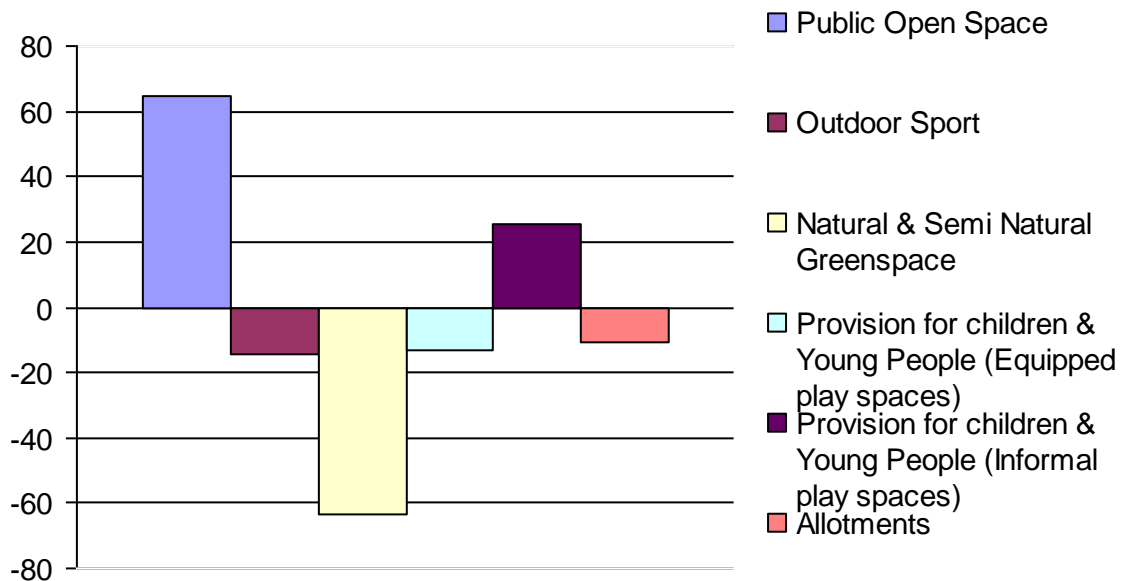
Map 17: Distribution of areas of amenity open space



Source: Monmouthshire Local Development Plan

The quality, quantity and access to all of the above facilities were assessed through an outdoor recreation and public open space survey undertaken by consultants on the Council's behalf and published in December 2008. The report set out in full the provision of open space in the main settlements in terms of both quantity and quality. Whilst no full update of this work has been undertaken it is expected that the figures will not have altered substantially since the survey was undertaken.

Chart 23: Deficiency/surplus of provision against the standards in the main settlements and villages surveyed



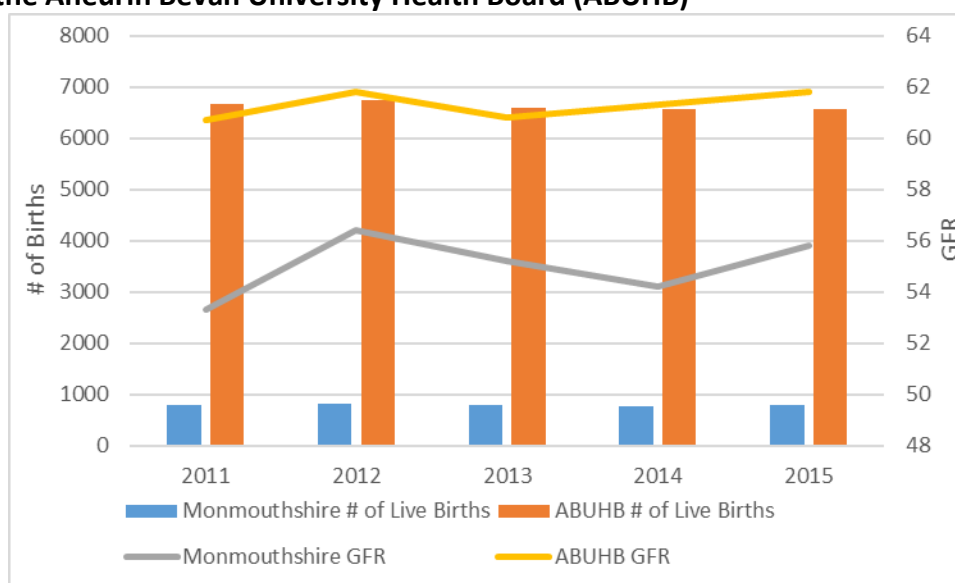
The survey found that the County's main settlements were generally well served by both public open space and informal play spaces, whilst there were deficiencies in other provision. However, this masked variations in provision between the settlements.

4.4 Human Health

4.4.1 Birth and Death Rates

In 2019, there were 683 live births, and 2 still births in Monmouthshire. The General Fertility Rate (GFR), the number of live births per 1000 women aged 15 to 44 was 49.4 compared to 53.3 for Wales. Chart 24 includes data available for up to 2015. It indicates that despite fluctuation, the general fertility rate in Monmouthshire has risen since 2011, reflecting a wider trend in the Aneurin Bevan University Health Board (ABUHB) area. However, in 2015 the GFR was 55.8 for Monmouthshire and 61.8 for the ABUHB area. As per the ONS Birth Characteristic data this had dropped to 49.4 for Monmouthshire in 2019 when the average fertility rate for authorities within the ABUHB area was 57.3 at the same time.

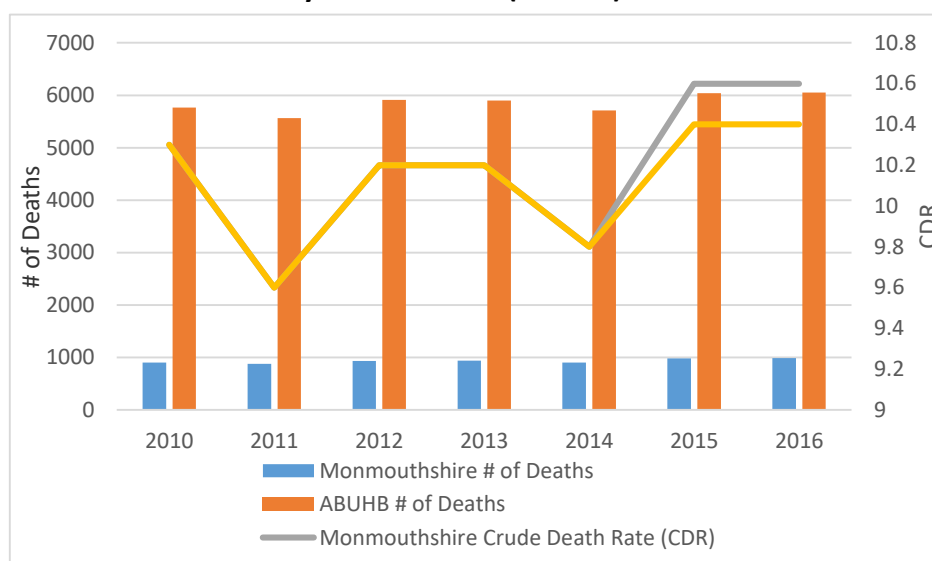
Chart 24: Number of Live Births and General Fertility Rate (GFR) in Monmouthshire and the Aneurin Bevan University Health Board (ABUHB)



Source: StatsWales - (Accessed 01/08/2018)

In 2019, there were 990 registered deaths in Monmouthshire, 476 males and 514 females. Monmouthshire accounted for 3% of all deaths in Wales in 2019 and had the fifth lowest number of registered deaths in all local authorities in Wales in 2019. The age standardised mortality rate (ASMR) in Monmouthshire in 2019 was 807.4 per 100,000 population. The ASMR in Wales in 2019 was 1000.1 and it was 1015.1 in the ABUHB area (Source: ONS). The ASMR are expressed per 100,000 population and allow comparisons between populations. Chart 25 includes data available up to 2016 and indicates that the number of deaths has remained relatively similar in Monmouthshire with more fluctuation in the wider health board area since 2010. However, in both 2015 and 2016, the crude death rate in Monmouthshire was 0.2 higher than in the Aneurin Bevan University Health Board Area, however both areas have seen an increase in the crude death rate since 2014. In 2016, there were 986 registered deaths in Monmouthshire and 6,054 in the ABUHB area. In 2019 there were 990 registered deaths in Monmouthshire and 6,045 in the ABUHB area, demonstrating relative stability over the 3-year period.

Chart 25: Number of Deaths and Crude Death Rate (CDR) in Monmouthshire and the Aneurin Bevan University Health Board (ABUHB)



Source: ONS - (Accessed 01/08/2018)

4.4.2 Teenage Conceptions

Table 24 shows the teenage conception rate per 1000 women in those aged 13-15 in Monmouthshire compared with the ABUHB area and Wales. The data is an estimate and is based on live and still births as well as terminations by legal abortion. The data below indicates that Monmouthshire has a lower teenage conception rate than the wider health board in all but one year (2016) when it also had a higher rate than Wales. The rate has fallen across all areas since 2010 and especially so in Wales.

Table 24: Teenage (Aged 16 and Under) Conception Rate (Per 1000)

Year	Monmouthshire	ABUHB	Wales
2010	4.0	7.1	7.7
2012	No data	5.8	5.6
2014	2.4	5.8	4.9
2016	4.0	3.5	3.6
2018	2.0	3.7	3.0
2020	1.9	No data	2.5

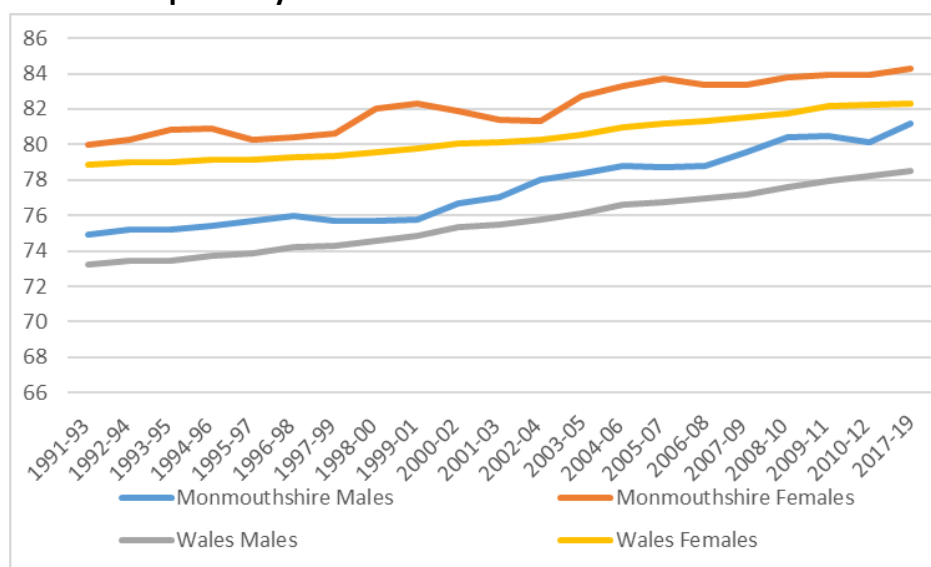
Source: ONS Conception Statistics - (Accessed 19/10/2022)

4.4.3 Life Expectancy

Estimated life expectancy at birth in Monmouthshire in 2017/19 was 81.2 years for males and 84.3 years for females (ONS) (Chart 26). In Wales the life expectancy at birth for males was 78.5 and 82.3 for females for the same period. In 2010/12, the estimated life expectancy for males in Wales was 78.2 compared to 80.1 for

Monmouthshire and 82.2 for females in Wales compared to 83.9 for Monmouthshire. Over the past decade life expectancy in both Monmouthshire and Wales has been steadily increasing. In 2017/19, life expectancy in Monmouthshire was 2.7 years higher for males and 2 years for females, than in Wales.

Chart 26: Life expectancy at birth



Source: StatsWales and ONS (Accessed 30/04/2021)

4.4.4 General Health

At the time of the latest National Survey for Wales (2021/22) 71% of Monmouthshire residents felt that they were in 'good or very good health' (Wales 72%), whilst 6% felt that they were in 'bad or very bad health' (Wales 8%). At the same time 40% of residents recorded themselves as suffering from a limiting or long-term illness (Wales 46%). (Table 24). In 2016, 10% of Monmouthshire's working age population were key benefit claimants compared to 14.4% in Wales. At the same time 0.8% of Monmouthshire's working age population were claiming disability benefits, versus 0.7% in Wales.

Table 25: Self-Assessment of General Health

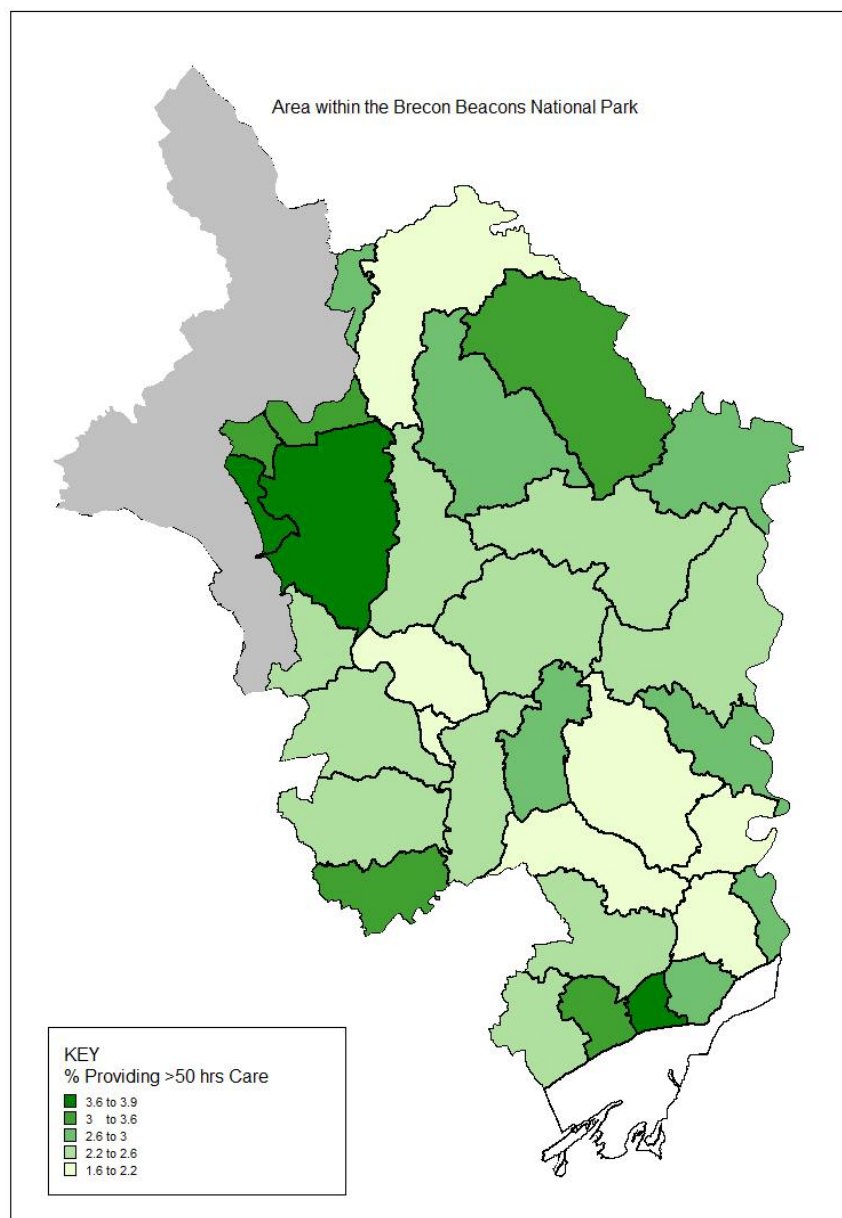
General Health	Monmouthshire (%)	Wales (%)
'Good or Very Good Health'	71	72
'Fair Health'	23	19
'Bad or Very Bad Health'	6	8
Limiting or Longstanding Illness	40	46

Source: National Survey for Wales - (Accessed 16/11/2022)

In 2011, 12.6% of the resident population were providing care with 2.8% of these providing upwards of 50 hours of care or more. At the same time, the town and community councils with the largest proportion of unpaid care providers were

Llanover with 17.3%, Llangattock Vibon Abel with 15.8% and Mitchel Troy with 15.4%. Map 18 shows the proportion of the population who provide in excess of 50 hours a week of care by town and community councils in Monmouthshire. The town and community councils with the highest proportions were Llanfoist Fawr with 3.9%, Caldicot with 3.7% and Llanover with 3.6%.

Map 18: % Providing in Excess of 50hrs a week of Unpaid Care



Source: ONS 2011 Census

4.4.5 Lifestyles

The National Survey for Wales 2020/21 records data on lifestyle and behavioural choices for adults. Indicators such as the prevalence of smoking and obesity in Monmouthshire are compared with those for the wider health board area and Wales as a whole, in table 26 below. Table 26 illustrates the 2020/21 data in line with the data available on StatsWales. Monmouthshire has a lower proportion of smokers than the wider health board area, but that is consistent with Wales as a whole. The proportion of e-cigarette users and those who are overweight and/or obese is also lower in Monmouthshire than the health board area and Wales as a whole. However, Monmouthshire has a higher percentage (23%) of those who consume more than 14 units of alcohol on a weekly basis, which was higher by 7% and 7% than in the Aneurin Bevan Health Board area and Wales respectively. The 2018/19 National Survey for Wales used the 'Warwick Edinburgh Mental Wellbeing Scale (WEMWBS)' to determine the mental health of respondents. An overall score is calculated where the maximum is 70 and the minimum 14, and where the higher the score means a better mental well-being. Monmouthshire respondents scored 51.7 as opposed to 50.5 for the wider health board and 51.4 for Wales. The highest score was recorded for Flintshire (53.5), where the lowest was 48.9 in Blaenau Gwent, Monmouthshire had the 8th highest score amongst Welsh authorities.

Table 26: Health-Related Lifestyle 2020/21

	Monmouthshire %	Aneurin Bevan Health Board %	Wales %
Smoker	9	12	13
E-Cigarette User	4	6	6
Weekly Alcohol Consumption >14 Units	23	16	16
Ate 5 Portions of Fruit & Vegetables	37	24	30
Active <30 Minutes a Week	18	33	30
Overweight or Obese	58	67	62
Obese	21	27	25

Source: National Survey for Wales (Accessed 16/11/2022)

4.4.6 Health Infrastructure

Monmouthshire has one main hospital, Nevill Hall Hospital in Abergavenny which opened in 1970, the hospital has an established A&E department. This is supported by a number of community hospitals in Chepstow, Monnow Vale in Monmouth and Maindiff Court in Abergavenny. There are 14 GP practices and 14 dental practices in Monmouthshire.

4.4.7 WIMD Health Domain

The 2019 WIMD health domain highlights deprivation relating to the lack of good health. There are 7 indicators within the domain. These include; GP recorded chronic conditions (rate per 100), limiting long-term illness (rate per 100), premature deaths (rate per 100,000), GP-recorded mental health conditions (rate per 100), cancer incidence (rate per 100,000), low birth weight (percentage of live single births that weigh less than 2.5kg) and children aged 4-5 who are obese (percentage). In Monmouthshire, there are 11 LSOAs in the 50% most deprived 4 in the 30% most deprived and 2 LSOAs in the 20% most deprived.

Table 27: WIMD 2019 – Monmouthshire Health Domain Summary (Number)

Total LSOAs	Most deprived 10% LSOAs in Wales (ranks 1-191)	Most deprived 20% LSOAs in Wales (ranks 1-382)	Most deprived 30% LSOAs in Wales (ranks 1-573)	Most deprived 50% LSOAs in Wales (ranks 1-955)
56	0	2	4	11

Source: WIMD 2019

The LSOAs with the lowest ranks in Monmouthshire were Thornwell 1 in Chepstow (252), Cantref 2 in Abergavenny (292) and Dewstow and Green Lane 2 (401).

4.5 Key Issues arising from a review of the Baseline Health Characteristics

Better health is central to well-being and also makes an important contribution to economic progress as healthy populations live longer and are more productive. The health and well-being of the population is important in helping to enable people to achieve their potential and to make Monmouthshire a more equal society. The following are the key issues to arise from a review of the baseline characteristics of the County:

- Monmouthshire generally performs well on indicators relating to such issues as deprivation, health and crime, although there are pockets of deprivation within the County.
- There is a need to address rural isolation as an ageing population and poor access to community facilities and declining local service provision is a particular issue for rural communities.
- Most of Monmouthshire's residents have good access to the countryside, which can have positive effects on health and wellbeing. There is a need to protect and enhance this access to high quality open space.
- Whilst Monmouthshire's residents have good access to public open space a recreation and open space survey established a deficiency of more formalised provision in many of the County's communities of outdoor sport, equipped children's play and allotments.

5. A More Equal Wales

5.1 Introduction

This section provides baseline data relating to the following well-being goal:

‘A society that enables people to fulfil their potential no matter what their background or circumstances.’

The data primarily relates to:

- Population

5.2 Population

5.2.1 Total Population and trends

The resident population of Monmouthshire at the time of the 2021 census was 92,961, this represented an increase of 1.8% over the level recorded at the time of the 2011 census. This compares to an increase of 1.4% for Wales as a whole.

When looking at the population growth in between the 2011 and 2021 Census in terms of the individual town and wards within the County it can be seen that inter census growth was not experienced across all areas. Table 28 shows that the main town which experienced the most growth during this period was Monmouth. Wards which experienced higher growth include; Caerwent, Llanfoist Fawr, Portskewett and Rogiet.

Table 28: Resident Population Monmouthshire Towns and Wards 2011 and 2021

Settlement	Total Population		
	2011	2021	% Change
Abergavenny	13,423	13,689	2.0
Caldicot	10,148	10,339	1.9
Chepstow	12,350	11,939	-3.3
Monmouth	10,326	10,675	3.4
Caerwent	1,791	2,154	20.3
Crucorney	2,121	2,070	-2.4
Devauden	1,480	1,388	-6.2
Goetre Fawr	2,393	2,500	4.5
Llanbadoc	1,299	1,371	5.5
Llanelly Hill	3,899	4,110	5.4
Llanfoist Fawr	1,868	2,154	15.3
Llangybi	1,861	1,814	-2.5
Llanover	2,284	2,192	-4.0
Llantilio Crossenny	1,755	1,783	1.6
Llanwenarth Ultra	1,447	1,342	-7.3

Settlement	Total Population		
	2011	2021	% Change
Magor with Undy	6,140	5,949	-3.1
Mitchel Troy	1,253	1,237	-1.3
Portskewett	1,589	1,959	23.3
Raglan	1,928	1,929	=
Rogiet	1,503	1,791	19.2
St. Arvans	1,618	1,515	-6.4
Shirenewton	2,201	2,120	-3.7
Trellech United	2,759	2,693	-2.4
Usk	2,834	2,626	-7.3

Source: ONS Census

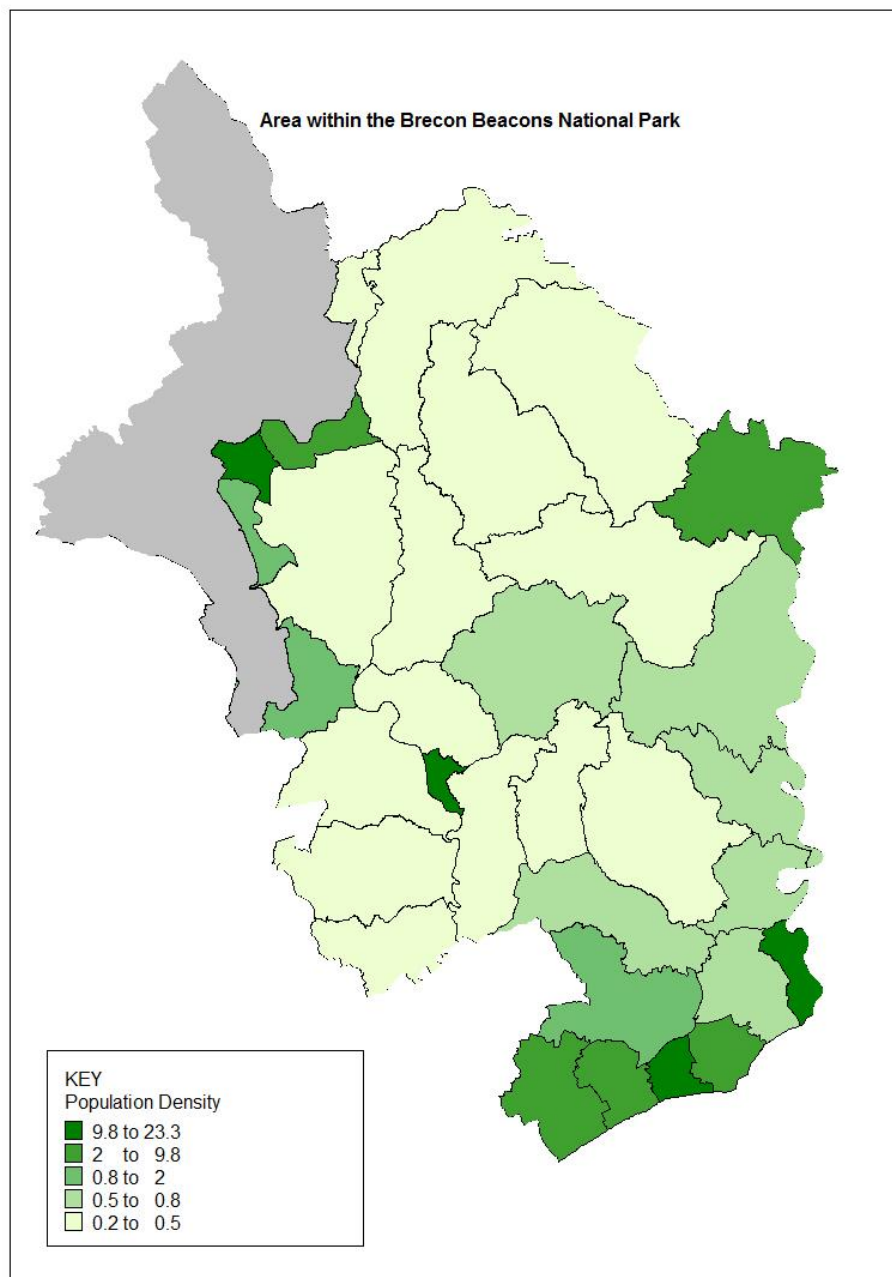


Settlements/wards which have experienced a higher rate of growth than Monmouthshire as a whole

5.2.2 Population Distribution

Monmouthshire has a population density of 1.1 person per hectare, which is lower than the Welsh average of 1.5 persons per hectare. This reflects the County's rural nature. The relative densities of population by community and town council area are shown in Map 19. Population densities are, as would be expected, highest in the towns. The majority of rural wards have low population densities when compared to national averages. Southern rural wards along the M4 corridor have slightly higher densities than rural wards in other parts of the County.

Map 19: Population density per hectare (by Town and Community Council Area)



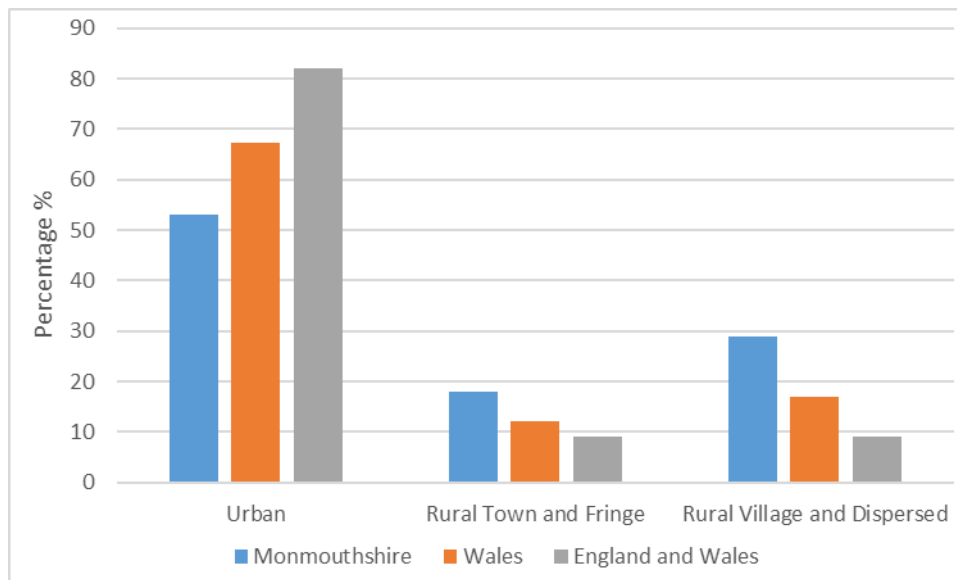
Source: ONS 2011 Census

The population density of the Monmouth Town area is noticeably lower at 3.8pph, than other main settlements within Monmouthshire such as Abergavenny Town (9.8pph), and Chepstow Town (23.2pph). As map 19 indicates, the Council areas of both Chepstow and Abergavenny Town are noticeably smaller, where Monmouth Town Council area, incorporates a relatively wide rural hinterland. The more rural nature of this hinterland is reflected in the population density of the Monmouth Town Council area.

The relatively rural nature of Monmouthshire is further emphasised by work carried out by ONS on the Urban-Rural Classification of wards at the time of the

2011 Census. The classification was based on the relative residential densities recorded within a one hectare grid. Residential densities were also recorded at specified distances from the centre of the grid in order to take into account the particular environs of settlements. In Chart 27 it can be seen that whilst the majority of the population live in more urban areas, this is lower than in both Wales and England and Wales. Equally there is a larger proportion of those living in rural towns or villages than in both Wales and England and Wales.

Chart 27: Urban-Rural distribution of population

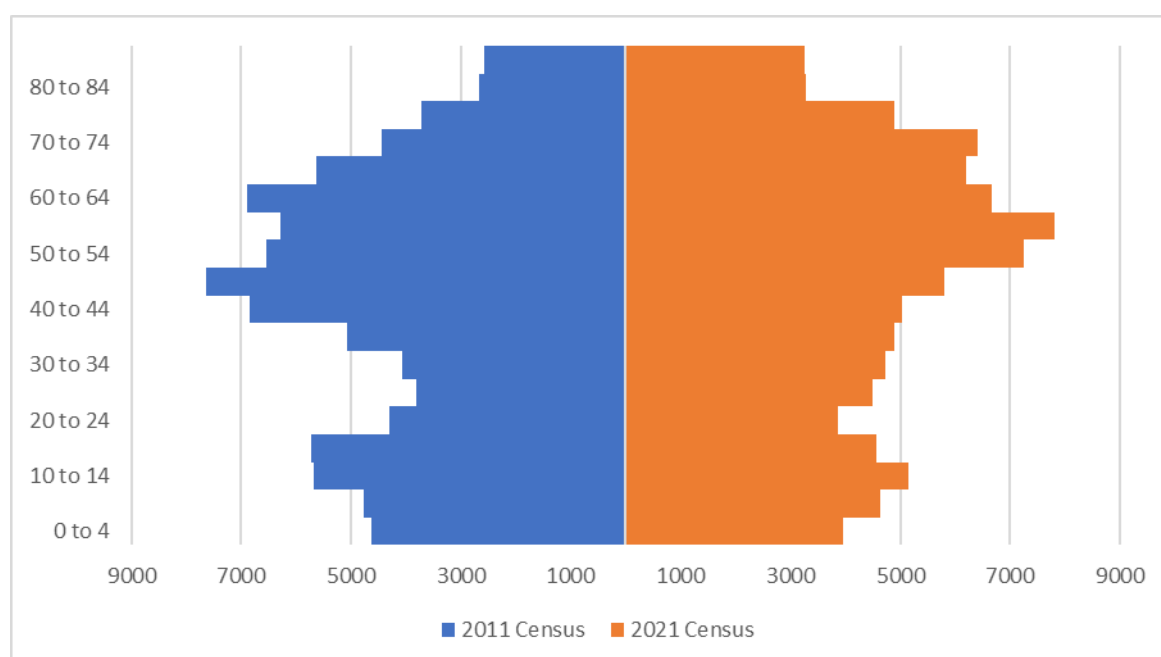


Source: ONS 2011 Census Urban-Rural Classification

5.2.3 Age Structure

In terms of population make-up, Monmouthshire has a median age of 49 years compared to 34 years in Cardiff, and has a significantly higher proportion of older age groups (65+) and a lower proportion of young adults (16-44) compared to the Welsh average. The proportion of our population aged 65+ and 85+ is increasing well in excess of the Welsh average. The 2021 Census shows that the population aged 65+ has increased by 26% this compares to a Welsh average of 18%. For the County as a whole, the 2021 Census identifies that nearly 26% of the population is over 65 (compared to 21% in Wales), with 16% under 16 (18% in Wales) and just over 58% in the working age population group (16-64) (61% in Wales). The change in the population profile of Monmouthshire in the past 10 years is shown clearly in the population pyramid below.

Chart 28: Age structure of the population 2011 compared to 2021



Source: 2011/2021 Census

Table 29: Median Age in Monmouthshire compared with Wales.

	2005	2007	2009	2011	2013	2015	2017	2019	2021
Monmouthshire	43.1	43.8	44.7	45.6	46.6	47.5	48.3	49.0	49.0
Wales	40.3	40.7	41.1	41.5	41.9	42.3	42.5	42.5	42.0

Source: ONS - (Accessed 15/11/2022)

5.2.4 Migration

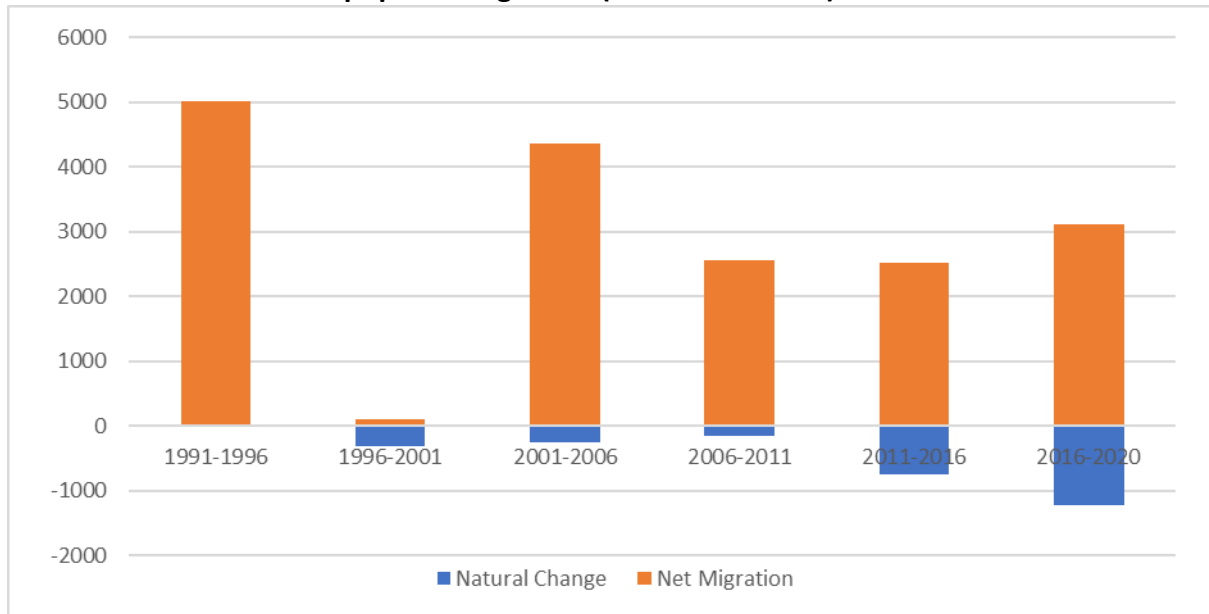
Migration data indicates a net migration inflow to Monmouthshire from the rest of the UK in 2019-2020 of nearly 900 people. Overall net migration to the County has fluctuated in recent years, between 2001 and 2005 net migration averaged nearly 690 persons per annum, this decreased to just under 250 persons per annum between 2005 and 2010. However, between 2011 and 2016 the average increased to 418. In the period since 2016, net migration has averaged 722 people, with a year on year increase. The most notable trend is the consistent negative net migration of those aged 15-29 which averaged over 320 persons per annum over the period 2011 to 2016 and rose to a high in the period in 2015/16, reaching 390. In the period since 2016, with the exception of the latest year, negative net migration of those aged 15-29 has averaged over 260.

Table 30: Migration patterns by age

	2012/2013			2013/2014			2014/2015			2015/2016		
	Inflow	Outflow	Net	Inflow	Outflow	Net	Inflow	Outflow	Net	Inflow	Outflow	Net
All Ages	4400	3820	580	4530	4110	420	4410	4050	360	4540	4090	450
0-14	730	500	230	680	520	160	680	480	200	700	470	230
15-29	1310	1640	-330	1310	1580	-270	1330	1680	-350	1310	1700	-390
30-44	1060	730	330	1080	820	260	1030	770	260	1060	750	310
45-64	880	630	250	970	750	220	900	730	170	960	740	220
65+	420	320	100	490	440	50	470	390	80	510	430	80
	2016/2017			2017/2018			2018/2019			2019/2020		
	Inflow	Outflow	Net	Inflow	Outflow	Net	Inflow	Outflow	Net	Inflow	Outflow	Net
All Ages	4728	4165	563	4998	4251	747	5017	4338	679	4426	3529	897
0-14	645	444	201	754	392	362	670	516	154	547	322	225
15-29	1437	1687	-250	1430	1810	-380	1581	1744	-163	1605	1486	119
30-44	1122	812	310	1185	792	393	1211	919	292	1023	375	648
45-64	977	784	193	1077	787	290	1049	720	329	815	625	190
65+	547	438	109	552	470	82	506	439	67	436	361	75

Source: StatsWales (Accessed 16/11/2022)

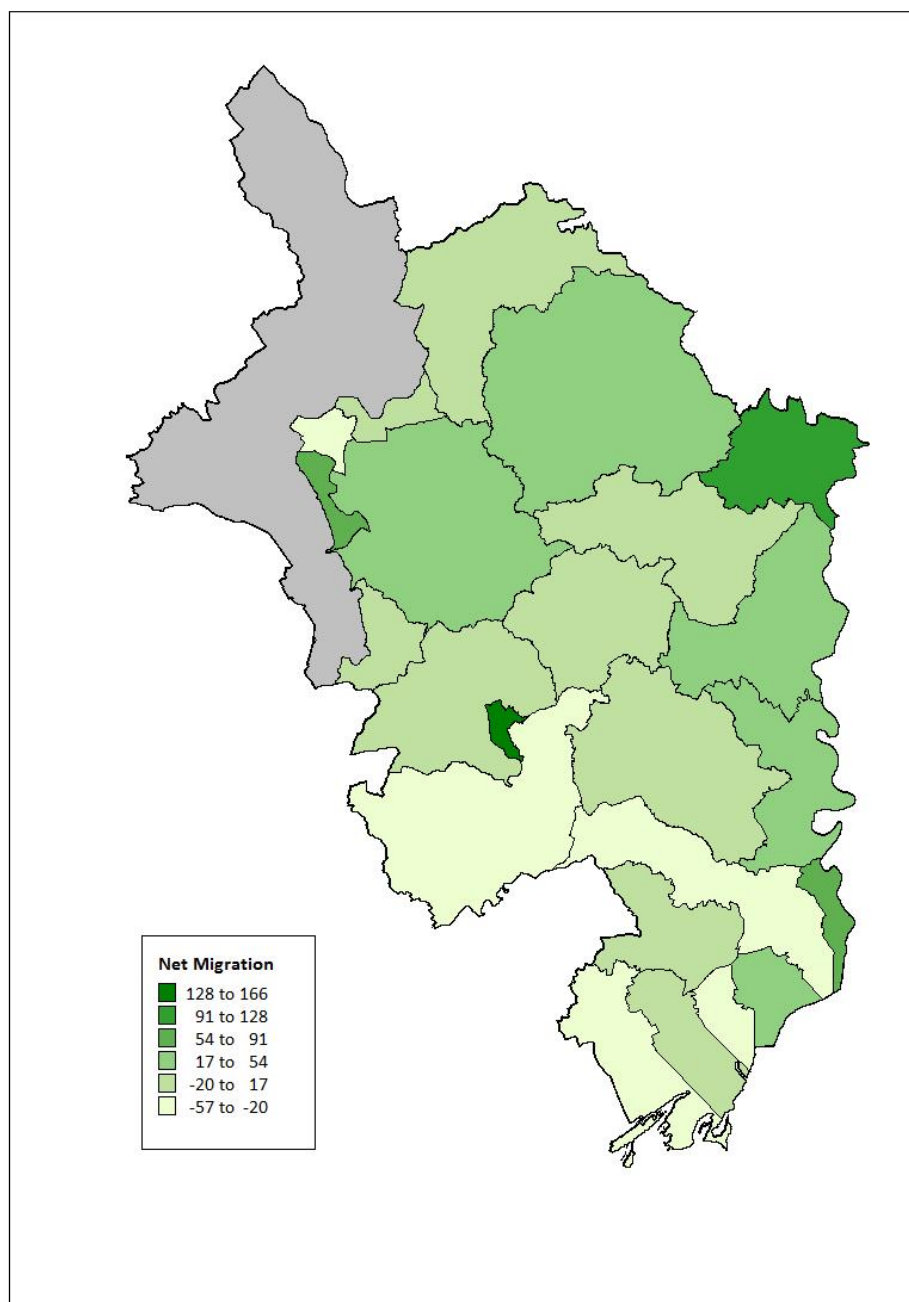
Chart 29: Drivers of population growth (Monmouthshire)



Source: StatsWales (Accessed 16/11/2022)

Chart 29 shows that over the past 30 years population growth in Monmouthshire is wholly attributable to net inward migration with natural change actually showing negative growth. Whilst in-migration is feeding Monmouthshire's total population growth this does not hold true across the whole County. Map 20 shows net migration (excluding international migration) by ward in the year up to the Census in 2011. Many of the central wards in the county experienced net out migration during this period, whilst the highest levels of in-migration were experienced by Usk, Monmouth and Chepstow.

Map 20: Spatial distribution of migration



Source: ONS 2011 Census

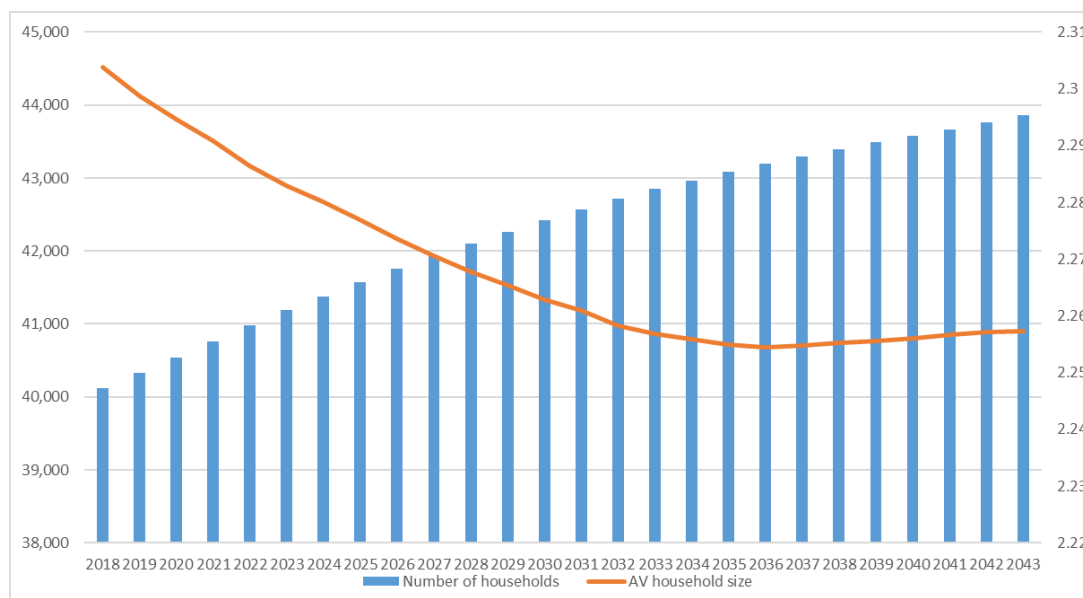
5.2.5 Number of Households

Chart 30 below illustrates the Welsh Government's 2018-based Household projections and reflects wider trends including smaller families, longer life expectancy and more single elderly living alone.

The Welsh Government's 2018-based Household projections anticipated an additional 77,400 households being formed across South East Wales between 2018 and 2043, this represented a 17.9% growth over the household level at 2011. In Monmouthshire the projections indicated an additional 3,745 households over this same period, a

growth of 14.7% over the household level at 2011. The Welsh Governments 2018-based Household Projections suggest that by 2043 there will be 43,859 households in Monmouthshire.

Chart 30: Number of households and household size



Sources: Welsh Assembly Government 2018-based Household Projections (Accessed via StatsWales 13/05/2021)

5.3 Key Issues arising from a review of the Baseline Population Characteristics

An equal society can help to ensure that public services and employment are fair and accessible to all and that communities are sustainable and resilient. The following are the key issues to arise from a review of the baseline population characteristics of the County:

- Monmouthshire is a rural county with almost half (47%) of the total population living in wards defined as being in rural areas (i.e. with a population of less than 10,000).
- The population of Monmouthshire has shown a steady, although slowing increase, up by 1.8% in the 10 years to 2021. All of this growth is being fuelled by in-migration.
- The 2021 census shows Monmouthshire as having a higher proportion of older age groups (26% over 65) and a lower proportion of young adults (25% 20 – 44) than the Welsh average. This compares to 21% for over 65 and 26% for 20 - 44 year olds at the time of the 2011 Census. This relative absence of young adults in the population has resulted in a median age in the County of 49 years compared to 42 for Wales as a whole.
- The ageing resident population of the County has implications for its economic base and future economic growth prospects.
- The latest Welsh Government population projections (2018) show a demographic profile in Monmouthshire that, if current trends continue, will have a greater

proportion of the population 65 and over by 2043 (32.6%) with the sharpest decline in the working age population. This compares to a Welsh proportion of 25.7% of the population 65 and over.

6.1 Introduction

This section provides baseline data relating to the following well-being goal:

‘Attractive, viable, safe and well-connected communities.’

The data relates primarily to:

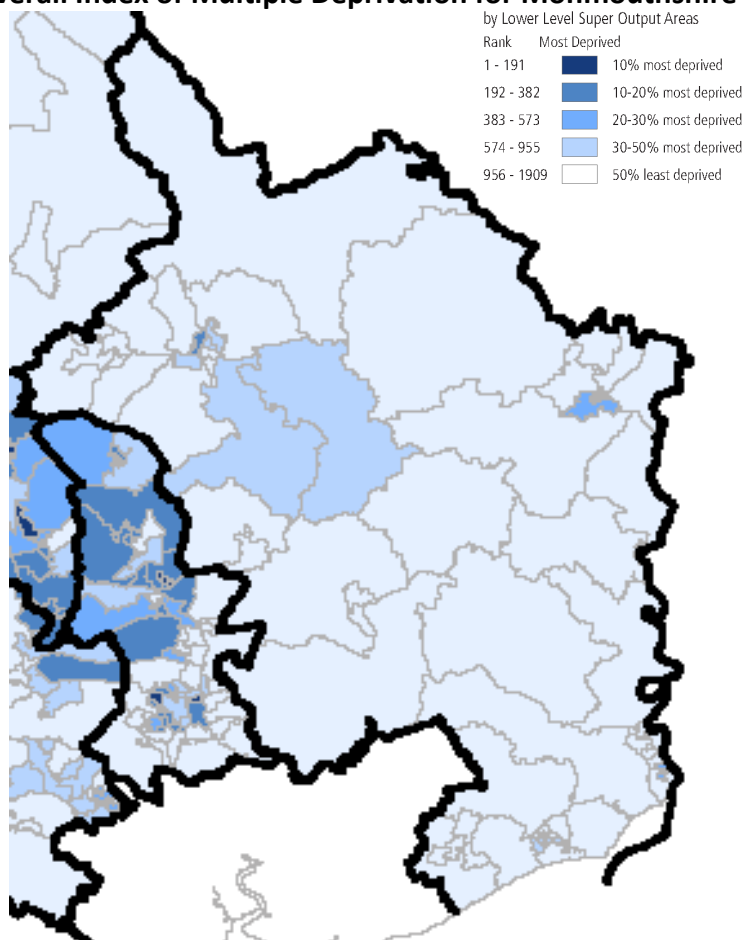
- Deprivation;
- Housing;
- Crime; and
- Transport and access.

6.2 Multiple Deprivation

At the time of the 2019 Welsh Index of Multiple Deprivation (WIMD) none of the 56 lower super output areas (LSOAs) in Monmouthshire were in the most deprived 10% (Ranks 1-191) in Wales. There was one LSOA in the most deprived 20% (Ranks 1-382) in Wales, this was Cantref 2 in Abergavenny, which ranked 377 out of all 1909 LSOAs in Wales. There were also much lower than average levels of deprivation in Monmouthshire in all of the 4 most deprived categories (most deprived 10%, 20%, 30% and 50%). Overall the five most deprived LSOAs in Monmouthshire, (Map 21) were:

- Cantref 2 with a rank of 377 out of 1909. (10%-20% most deprived category)
- Overmonnow 2 with a rank of 425 out of 1909. (20%-30% most deprived category)
- Thornwell 1 with a rank of 450 out of 1909. (20%-30% most deprived category)
- Croesonen with a rank of 653 out of 1909. (30%-50% most deprived category)
- West End with a rank of 656 out of 1909. (30% - 50% most deprived category)

Map 21: Overall Index of Multiple Deprivation for Monmouthshire



Source: <http://www.infobasecymru.net/IAS/> (Accessed 12/05/2021) – Crown Copyright and database right 2019. Ordnance Survey 100017916.

When looking at the individual domains, however, there are areas where Monmouthshire shows higher than average levels of deprivation. Across the income, employment, health, and education domains, there were no LSOAs within the 10% most deprived categories. However, in the access to services domain 15 LSOAs accounting for nearly 27% of LSOAs in Monmouthshire were in the 10% most deprived in Wales. This reflects whilst Monmouthshire remains relatively affluent the rural nature of the County can pose a challenge.

6.3 Housing

6.3.1 Household Tenure

At the time of the 2011 census 73.6% of households in Monmouthshire were living in owner occupied accommodation, compared to 67.4% in Wales. The latest data estimates that 75.5% of households are living in owner occupied accommodation in Monmouthshire compared to 69.8% for Wales as a whole. The percentage of properties rented from the Local Authority, housing associations and social landlords in 2001 was 14.7%, in 2011 this figure was 13.8%, meaning that in the intercensal period there was a 0.9% decrease. The latest estimates give a figure of 13.1% for Monmouthshire, showing a further decrease in this type of tenure.

Table 31: Dwelling Stock Estimates 2020

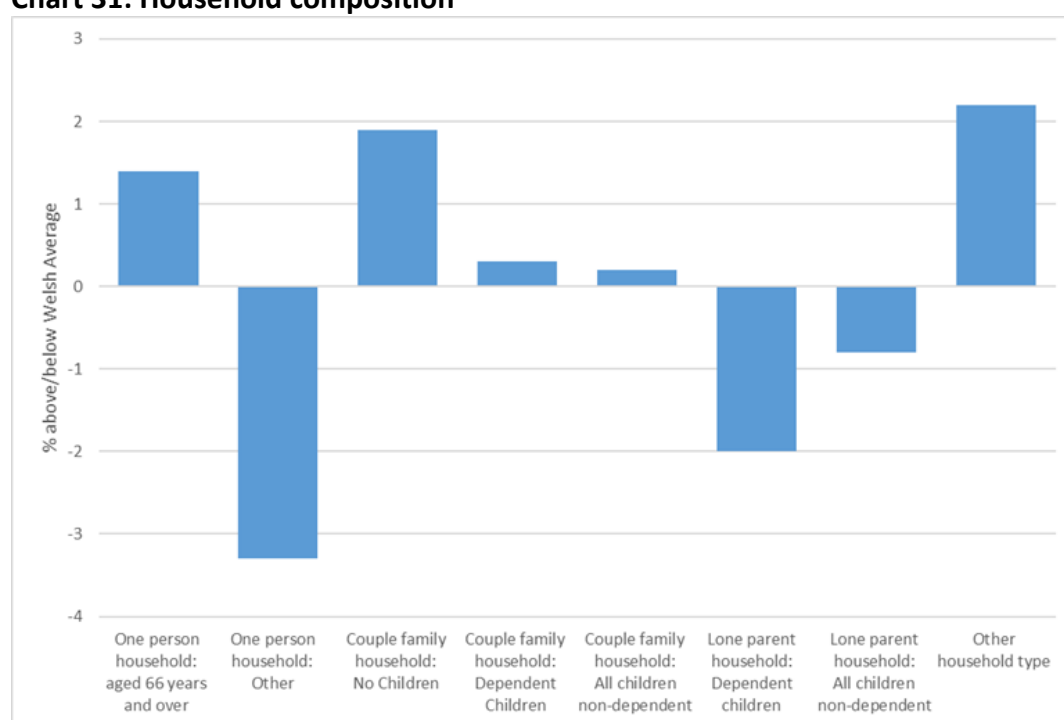
	All Households	Owner occupied (with or without a mortgage)	Local Authority	Registered Social Landlord	Privately Rented
Monmouthshire	42,348	75.5%	-*	13.1%	11.3%
SE Wales	678,764	68.0%	4.1%	12.7%	15.1%
Wales	1,437,567	69.8%	6.1%	9.9%	14.3%

Source: Stats Wales (Accessed 16/11/2022)

*LA stock transferred to Monmouthshire Housing 17/01/2008

6.3.2 Household Composition

Chart 31: Household composition



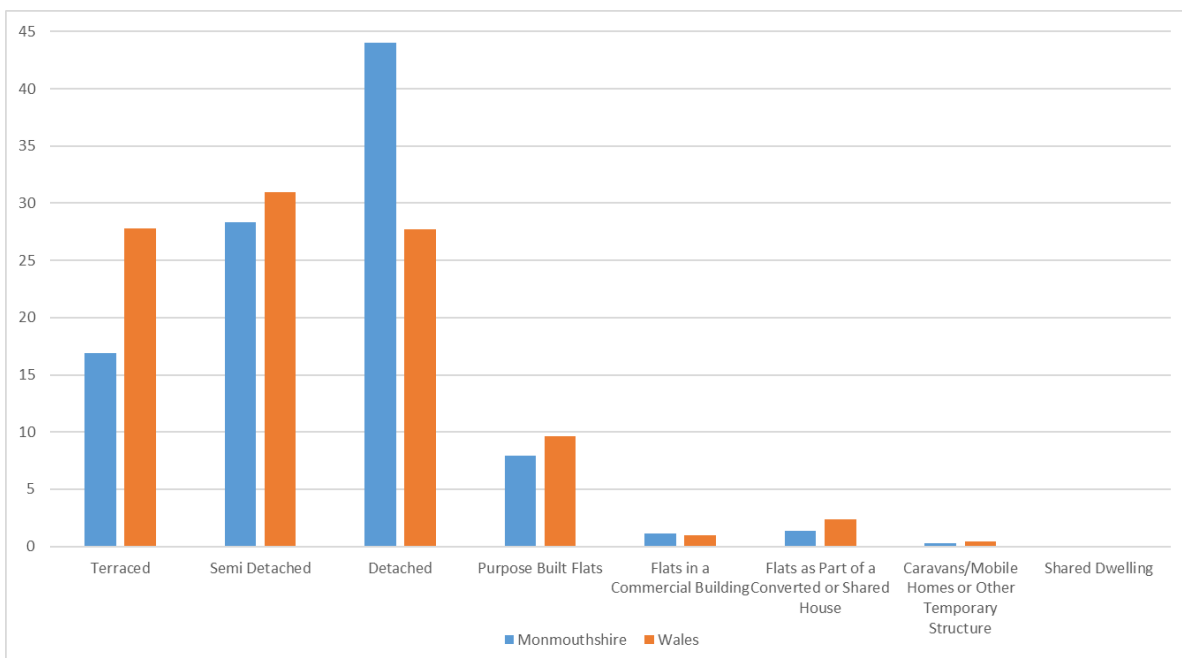
Source: ONS 2021 Census

Chart 31 summarises the composition of households resident in Monmouthshire at the time of the 2021 Census. The incidence of couples with no children and pensioner households are significantly above the Welsh average. It is important to consider the composition of households when assessing the housing need. An area with more single people requires accommodation comprised of smaller dwelling units, while an area with families will require larger houses to accommodate them.

6.3.3 Dwelling Type

44% of households in Monmouthshire live in detached properties, this compares to 27.7% for Wales as a whole. In contrast only 16.9% of households are resident in terrace properties compared to the Welsh average of 27.8% (Chart 32).

Chart 32: Dwelling type (%)



Source: ONS 2011 Census

6.3.4 Housing Completions

Table 32 shows the housing completions in the County for both private and affordable housing for the period 2012 to 2022. The level of affordable completions for the period stood at 19.8% of all completions. There is a policy framework in place through the Adopted Local Development Plan for securing at least 35% affordable housing on developments of 5 or more dwellings in the main towns of Abergavenny, Chepstow and Monmouth and in the Rural Secondary Settlements of Usk, Raglan, Penperlleni and Llanfoist. The current policy framework also aims to secure 25% affordability on new sites in Severnside, 60% on rural allocations in main villages and 35% on large windfall sites.

Table 32: Housing completions

Sector	2012 -13	2013 -14	2014 -15	2015 -16	2016 - 17	2017 -18	2018 -19	2019 -20	2020 -21	2021 -22
Private	293	194	188	171	191	195	312	274	348	326
Affordable	49	36	17	63	47	84	131	82	71	35

Source: Monmouthshire Housing Land Survey

6.3.5 Housing Need

The December 2020 Monmouthshire County Council Local Housing Market Assessment, estimated 468 units of affordable housing would be required each year for the period up to 2025. However, this figure should not be taken as an annual delivery target, as new build homes are not the total solution to the supply of affordable homes in the county. The Affordable housing need can be further broken down to 319.6 social rented properties, 115.2 low cost home ownership properties and 33 intermediate rented properties. The Council is working with private landlords to increase the supply of private rented homes and also to bring empty properties back into use. The figure of 468 is simply an indication of current and projected need for affordable housing within the County and sets a benchmark which the Council can work towards within the scope of the Council's Local Development Plan. The affordable housing waiting list for the County (Bands 3 and above) currently stands at over 2,100 households (July 2022).

6.3.6 Housing Association Stock

Table 33: Housing Association (HA) Stock by Type (2021)

	MHA	Melin	Charter	Other	Totals
Bedsit	3	20	0	0	23
Bungalow 1	441	17	0	0	458
Bungalow 2	250	42	21	0	313
Bungalow 3	10	4	1	0	15
Bungalow 4	1	0	0	0	1
Flat1	818	398	218	57	1491
Flat2	570	70	37	3	680
Flat3	22	2	0	0	24
Flat4	1	0	0	0	1
House 1	2	0	29	0	31
House2	398	298	235	20	951
House3	1156	329	316	26	1827
House4	69	51	35	0	155
House4 HMO	0	0	0	1	1
House5	2	1	0	0	3
House6	1	1	1	0	3
House6 HMO	1	0	0	0	1
House8	1	0	0	0	1
Mews1	4	0	0	0	4

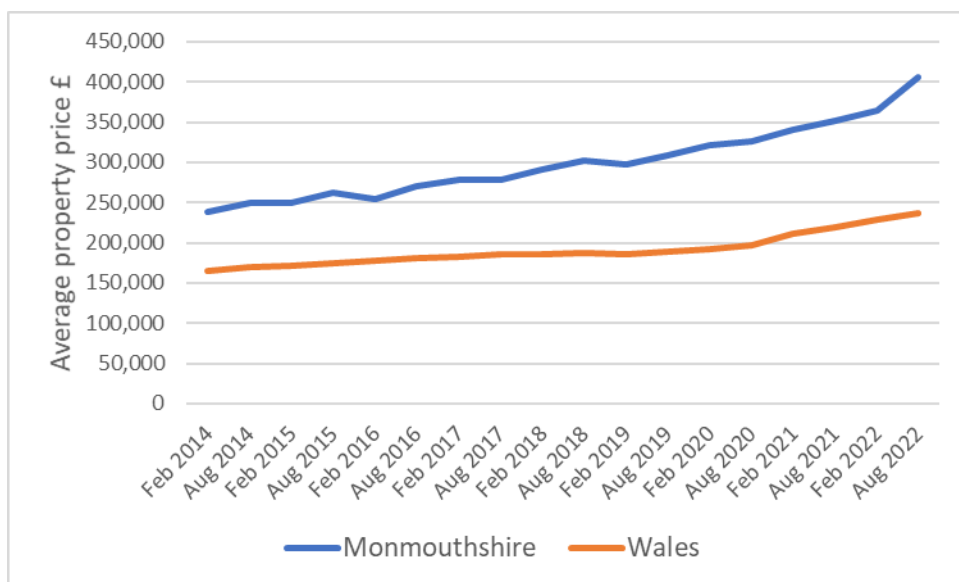
	MHA	Melin	Charter	Other	Totals
Maisonette 3	20	0	0	0	20
Maisonette 2	3	0	0	0	3
Parlour 2	1	0	0	0	1
Parlour 3	29	0	0	0	29
Parlour 4	2	0	0		2
Rooms	4	5	0		9
Totals	3809	1238	893	107	6047

Source: Monmouthshire County Council (2021)

Table 33 shows the housing stock available in Monmouthshire provided by the Housing Associations, with the housing stock standing at 6,047 dwellings in April 2021. There is a mix of accommodation available ranging from 1 bed flats to family houses.

6.3.7 Average Property Prices

Chart 33: Average property prices (February 2014 – August 2022)



Source: Hometrack (Accessed 09/11/2022)

Chart 33 shows the average house price in six month intervals of each respective year between 2014 and 2022. The average house price in Monmouthshire has been significantly above that in Wales throughout this period.

Table 34 illustrates the average price of different types of property within Monmouthshire and the surrounding areas. The average property prices relate to the period March 2022 to August 2022. Monmouthshire has the second highest average house price in the period, where the largest proportion of property sales were accounted for by detached houses. The average overall property price in Monmouthshire was 40.73% higher than that for Wales for the period.

Table 34: Average property prices based on sales (March 2022 – August 2022)

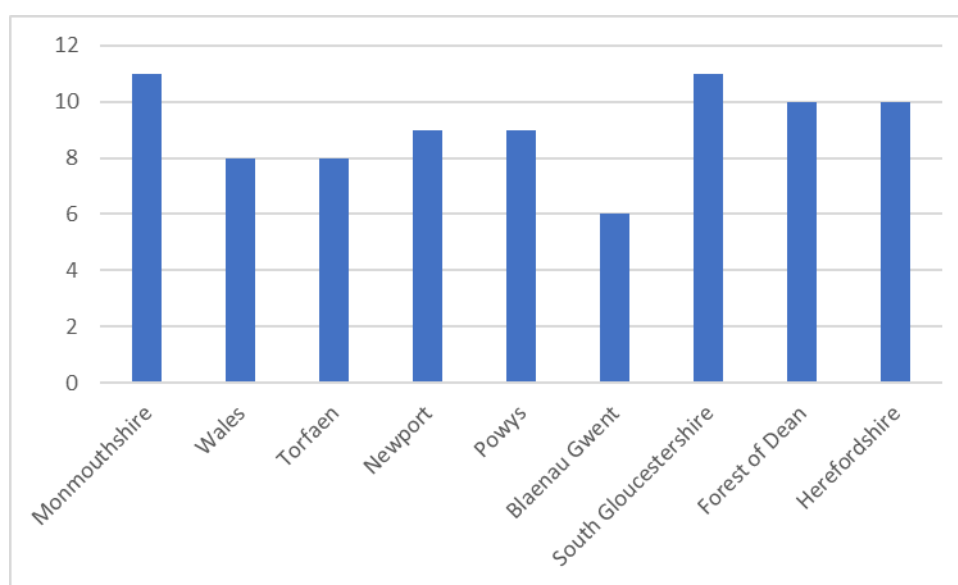
	Detached	Semi-detached	Terraced	Flat/Maisonette	Overall
Wales Av £	380,798	223,184	167,376	141,739	236,439
% Sales	25	31	37	7	
Monmouthshire Av £	535,137	302,725	261,839	160,902	398,859
% Sales	48	28	19	5	
Torfaen Av £	351,160	208,420	156,295	105,759	207,823
% Sales	20	27	49	4	
Newport Av £	409,135	248,774	180,530	122,232	241,960
% Sales	20	31	40	9	
Powys Av £	368,008	216,770	176,930	97,384	271,190
% Sales	40	30	27	3	
Blaenau Gwent Av £	295,039	167,361	116,842	68,637	143,433
% Sales	10	19	67	4	
S Gloucs Av £	550,699	366,021	302,831	199,455	368,708
% Sales	23	34	30	13	
Forest of Dean Av £	468,589	280,264	230,503	130,617	346,376
% Sales	44	32	19	5	
Herefordshire Av £	486,419	280,159	223,576	139,859	338,187
% Sales	39	32	21	8	

Source: Hometrack - (Accessed 09/11/2022)

6.3.8 Affordability

Chart 34 shows the relative lack of affordability of housing in Monmouthshire compared to Wales and surrounding local authorities in both Wales and England. The chart provides the property price as a multiple of the annual income of the resident population. The graph is similar to that from February 2021, however the lower quartile ratio between house prices and income for Monmouthshire has increased from 10:1 to 11:1 over this period. Powys and South Gloucestershire have both also increased over the same period.

Chart 34: Ratio of house prices to income (lower quartile) November 2022



Source: Hometrack - (Accessed 09/11/22)

Table 35 shows the diversity in affordability between the respective wards in Monmouthshire. The ratio is greater in the rural wards, however it is likely some may have been skewed by high value house sales over the period such as Llangybi Fawr. In contrast the ratio is smaller in the more urban wards.

Table 35: Lower Quartile House Price to Income Ratio in Monmouthshire Wards (November 2022)

Area	Lower Quartile House Price to Income Ratio	Area	Lower Quartile House Price to Income Ratio
Monmouthshire	11:1	Llangybi Fawr	21:1
Caerwent	9:1	Llanover	16:1
Caldicot Castle	10:1	Llantilio Crossenny	13:1
Cantref	9:1	Mardy	13:1
Castle	8:1	Mill	12:1
Croesonen	12:1	Mitchel Troy	17:1
Crucorney	11:1	Overmonnow	12:1
Devauden	17:1	Portskewett	10:1
Dewstow	12:1	Priory	14:1
Dixton with Osbaston	12:1	Raglan	14:1
Drybridge	10:1	Rogiet	10:1
Goytre Fawr	10:1	Severn	12:1
Green Lane	12:1	Shirenewton	15:1
Grofield	11:1	St Arvans	11:1
Lansdown	13:1	St Christophers	11:1
Larkfield	11:1	St Kingsmark	10:1
Llanbadoc	10:1	St Mary's	12:1

Area	Lower Quartile House Price to Income Ratio	Area	Lower Quartile House Price to Income Ratio
Llanfoist Fawr	12:1	The Elms	8:1
Thornwell	11:1	West End	12:1
Trellech United	15:1	Wyesham	11:1
Usk	13:1		

Source: Hometrack - (Accessed 09/11/22)

6.4 Crime

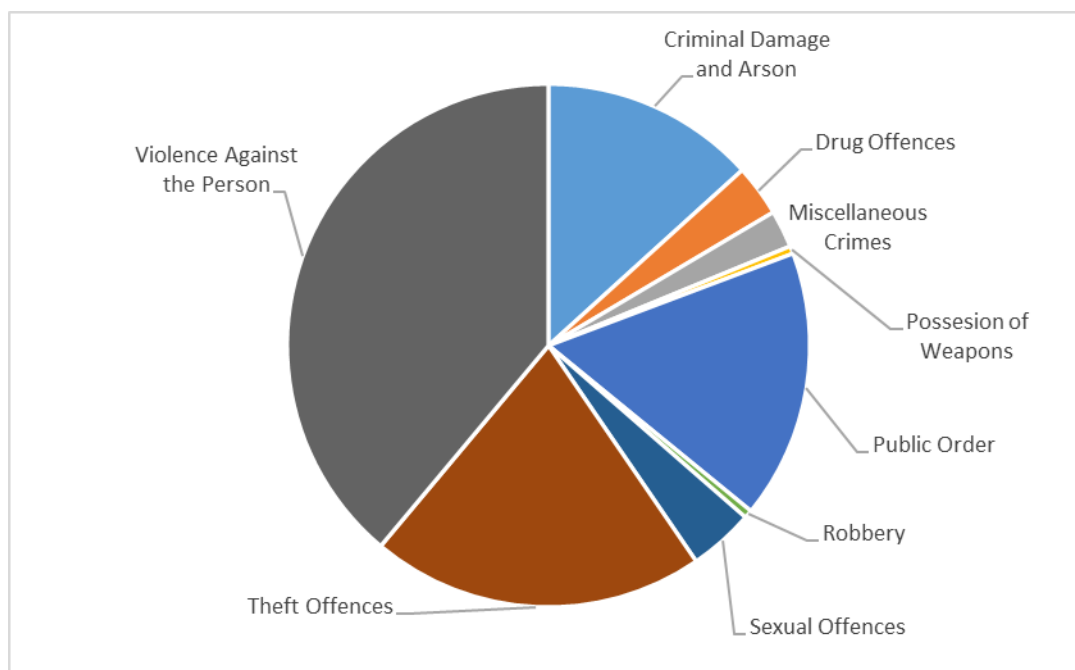
Tables 36 shows the incidences of crime in Monmouthshire. The highest counts of crime are for public order offences, theft offences and violence against the person. Violence against the person accounted for the largest percentage of offences in the latest data. The incidences of crime in Monmouthshire follow a similar pattern to those in Wales

Table 36: Crime in Monmouthshire

Crime	2014/15	%	2018/19	%	2021/22	%
Criminal Damage and Arson	625	15.7	760	12.9	758	13.3
Drug Offences	236	5.9	145	2.5	182	3.2
Miscellaneous Crimes	48	1.2	122	2.1	132	2.3
Possession of Weapons Offences	10	0.3	23	0.4	27	0.5
Public Order Offences	185	4.6	685	11.6	948	16.6
Robbery	7	0.2	16	0.3	29	0.5
Sexual Offences	121	3.0	212	3.6	230	4.0
Theft Offences	1960	49.1	2078	35.1	1178	20.7
Violence against the Person	797	20.0	1873	31.7	2218	38.9
Total	3,989		5,914		5,702	

Source: Crime Community Safety Partnership Statistics - (Accessed 25/11/2022)

Chart 35: Incidences of Reported Crime in Monmouthshire (Count) (Year ending June 2022)



Source: Crime Community Safety Partnership Statistics - (Accessed 25/11/2022)

6.5 Transport

6.5.1 Roads

Table 37: Road Length by Road Class 2021/22 (KM)

Location	Motorway	Trunk	County	Minor Surfaced
Monmouthshire	22.2	101.8	58.7	839.0
Newport	25.9	8.8	50.6	461.5
Torfaen	0	14	26.3	326.1
Blaenau Gwent	0	9.6	51.0	389.8
Powys	0	429.9	242.6	2,128.4
Wales	134.8	1,575.6	2,773.1	17,756.6

Source: StatsWales - (Accessed 25/11/2022)

Whilst Monmouthshire accounts for 4.7% of the total Wales road network, it accounts for 16.5% of the Welsh motorway network. In the Monmouthshire Adopted Local Development Plan there are two safeguarded proposed highway schemes:

- (a) M4 Relief Motorway around Newport – Magor to Castleton (Assembly Government Scheme)
- (b) B4245 Magor/Undy Bypass (Monmouthshire County Council Scheme)

6.5.2 Volume of Traffic

Table 38: Volume of Traffic (Billion Vehicle miles)

	2012	2013	2014	2015	2016	2017	2018	2019	2021	2021	%
Monmouthshire	0.46	0.45	0.48	0.49	0.52	0.52	0.56	0.55	0.44	0.49	2.9
Newport	0.80	0.80	0.90	0.92	0.95	0.95	0.98	0.98	0.79	0.88	4.9
Torfaen	0.44	0.44	0.47	0.48	0.50	0.50	0.53	0.53	0.44	0.49	2.9
Blaenau Gwent	0.31	0.31	0.32	0.35	0.38	0.40	0.34	0.35	0.27	0.30	1.8
Powys	0.75	0.75	0.78	0.79	0.85	0.86	0.86	0.90	0.73	0.79	4.6
SE Wales	8.37	8.31	8.77	9.02	9.33	9.29	9.50	9.58	7.69	8.54	18.1
Wales	16.94	16.91	17.72	18.14	18.87	18.84	19.11	19.28	15.46	17.05	50.1

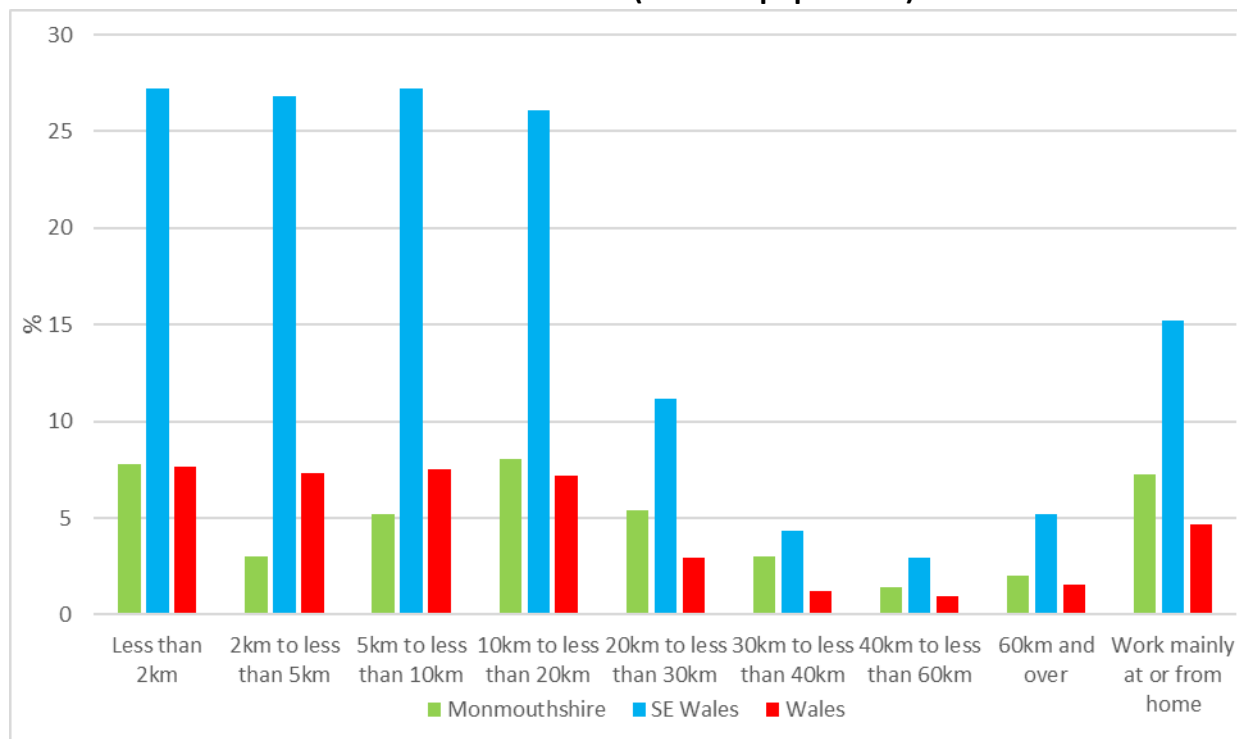
Source: StatsWales - (Accessed 25/11/2022)

The net volume of traffic since 2012 increased steadily throughout Wales up to 2019. With the Covid-19 epidemic and the subsequent lockdowns the volume of traffic shows a noticeable decline, with traffic volumes in 2021 still at a lower level than before the epidemic. In 2021, the South East Wales area accounted for 50.1% of the volume of traffic in Wales. There was an increase in traffic volume of 19.6% in Monmouthshire between 2012 and 2019, this compared to 14.5% across the South East Wales region. Current volumes of traffic in Monmouthshire are 6.5% higher than in 2012, this compares to 2.0% across the South East Wales region.

6.5.3 Travel to Work

Section 1 showed that there is a high level of commuting amongst Monmouthshire's residents. In 2011, 18% of those in employment between the ages of 16-74 in Monmouthshire who travel to work travelled further than 30km to their place of work this compares to 11.3% in 2001. In 2011 10% of residents in the SE Wales region and 8.5% for Wales as a whole travelled further than 30km to their place of work. Equally, the percentage of those working mainly at or from home was 12.9% in 2001 compared to 15% in 2011, this compares to 10% for SE Wales and Wales. The average distance travelled to work by Monmouthshire residents in 2011 was 21.9km compared to 15.1km across the region and 16.7km in Wales.

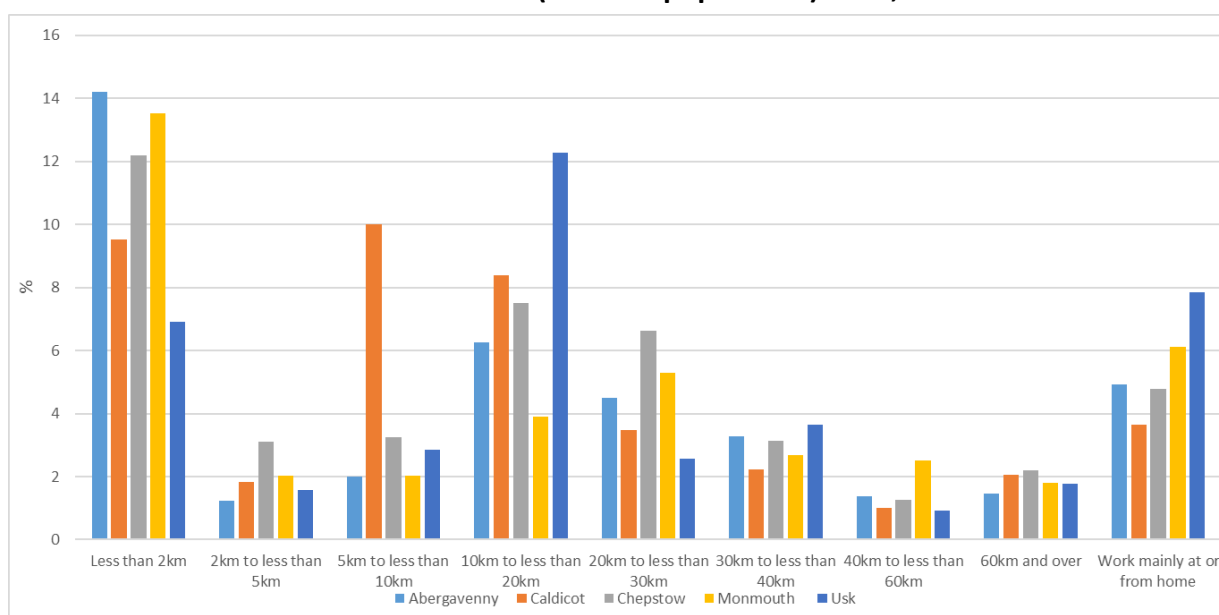
Chart 36: Distance travelled to work (resident population) 2011



Source: ONS Census 2011

Similarly to 2001, in 2011, Abergavenny and Monmouth had the highest percentage of their resident population working within 2km of their place of residence. In 2011, relatively large proportions of the resident population in each of the respective main settlements, worked mainly at or from home, the largest proportion seen in Usk, at just under 8%. However Usk and Chepstow also had the largest average distance travelled to work (21.1km), followed by Monmouth (20.7km) and then Caldicot (19.8km) and Abergavenny (18.8km).

Chart 37: Distance travelled to work (resident population) 2011, main settlements



Source: ONS Census 2011

6.5.4 Mode of Travel to Work

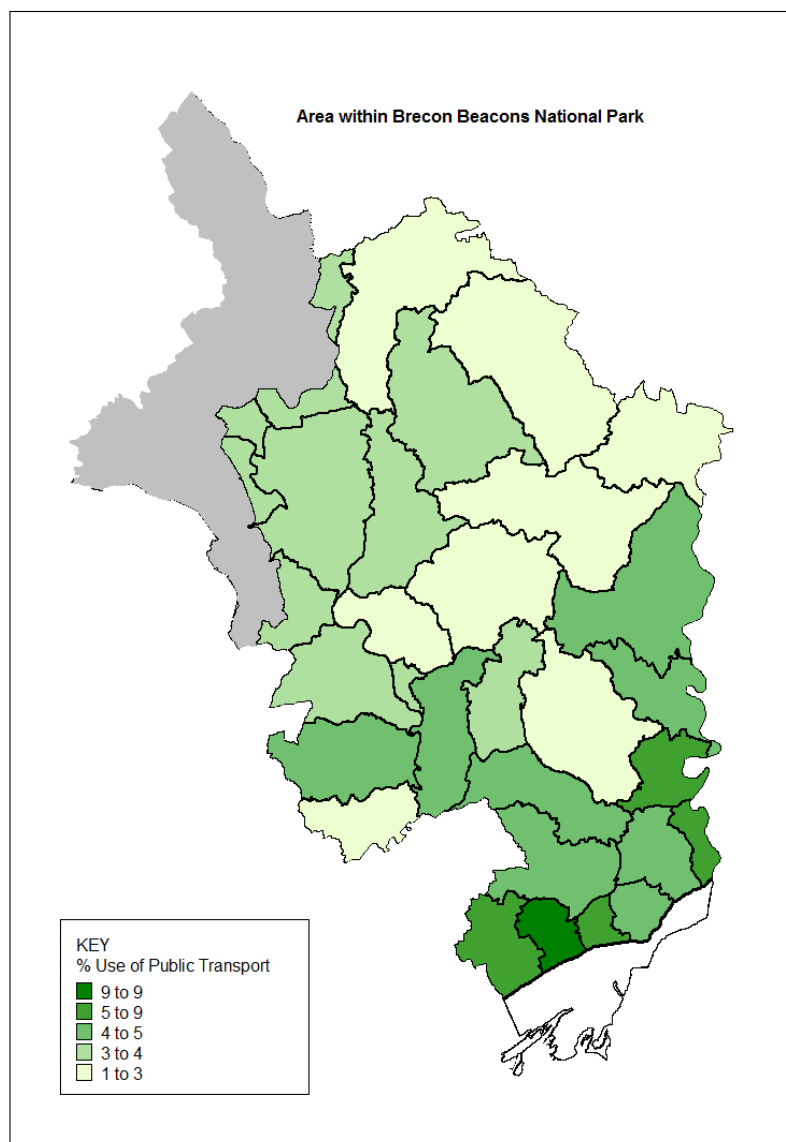
Table 39: Mode of travel to work – resident population (excluding those working mainly from home)

	Monmouthshire	South East Wales	Powys	Wales
Underground, metro, light rail	0.2	0.1	0.1	0.1
Train	2.4	2.9	0.7	2.2
Bus, minibus or coach	1.6	5.9	1.3	5.0
Taxi or minicab	0.2	0.5	0.2	0.5
Driving car or van	76.3	69.3	74.8	71.4
Passenger in car or van	6.1	7.1	5.8	7.4
Motorcycle, scooter, moped	0.9	0.6	0.4	0.6
Bicycle	1.3	1.9	1.7	1.6
On foot	10.5	11.2	14.2	10.7
Other	0.5	0.4	0.8	0.5

Source: ONS Census 2011

At the time of the 2011 Census 82.4% of the resident population of Monmouthshire were travelling to work by car or van, compared to 81.5% in 2001. In South East Wales in 2011, this figure was 76.4%, and in Wales 78.8%. In Powys, which in common with Monmouthshire is a rural border County, the figure is also lower than that for Monmouthshire at 80.6%.

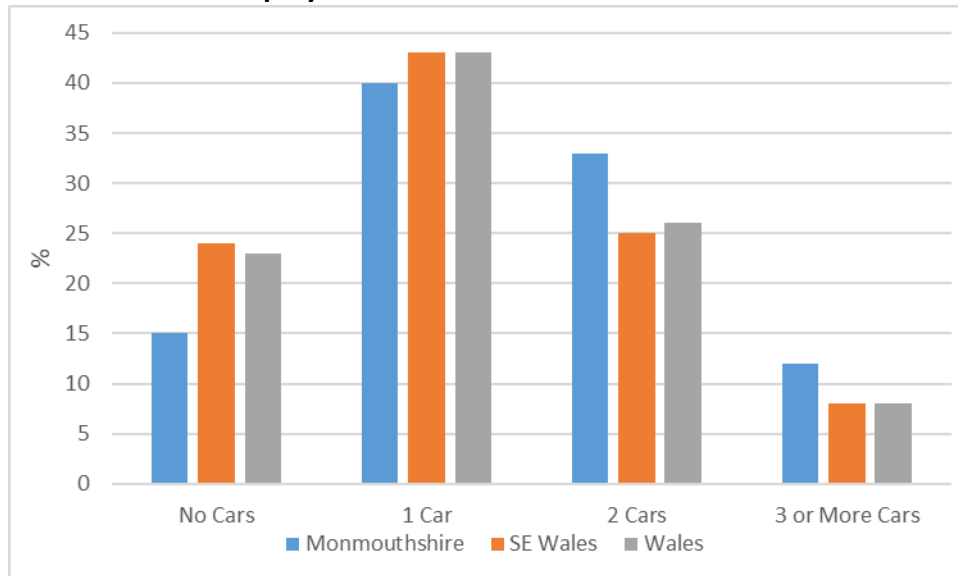
Map 22: Travel to Work – use of public transport



Source: ONS Census 2011

Monmouthshire has a lower percentage (3.6%) of its resident working population travelling to their place of work using public transport than either South East Wales (8.2%) or Wales (6.7%) as a whole. Although the South East Wales figures are influenced by Cardiff and Newport who have higher percentages, 13.6% and 10.1% respectively, of their resident population using public transport. The above map shows the use of public transport within Monmouthshire by Town and Community Councils, where the larger proportions of those using public transport are in the South of the County, where there are links to the M4 and train stations such as that at Severn Tunnel Junction and Chepstow. Rogiet had the highest proportion with 9% use of public transport, with the lowest in Llangattock Vibon Avel (1.2%).

Chart 38: Car ownership by households

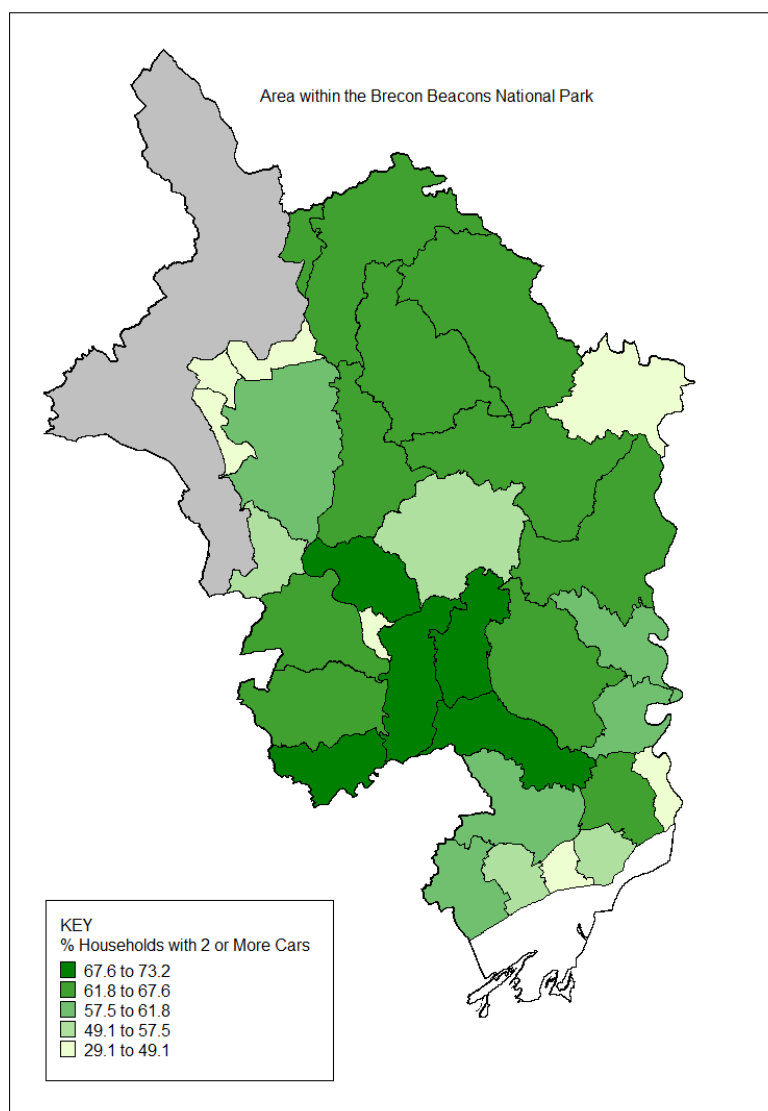


Source: ONS Census 2011

Monmouthshire has a higher percentage (33%) of households with 2 cars than either South East Wales (25%) or Wales (26%) as a whole. Equally, at the time of the 2011 Census, Monmouthshire had a larger proportion of households with 3 or more cars than both the South East Wales region and Wales as a whole. There has also been an intercensal increase in the number of cars per household. The 1991 Census recorded 33.7% of Monmouthshire households with 2 or more vehicles, this had risen to 40.1% by the time of the 2001 Census, and the 2011 Census recorded 45% of households.

Map 23 shows the distribution of car ownership throughout the County in 2011. As would be expected the level of car ownership is lower in the towns where there is access to greater levels of public transport than in the more rural areas where access to services is more limited.

Map 23: % Households with 2 or more cars or vans



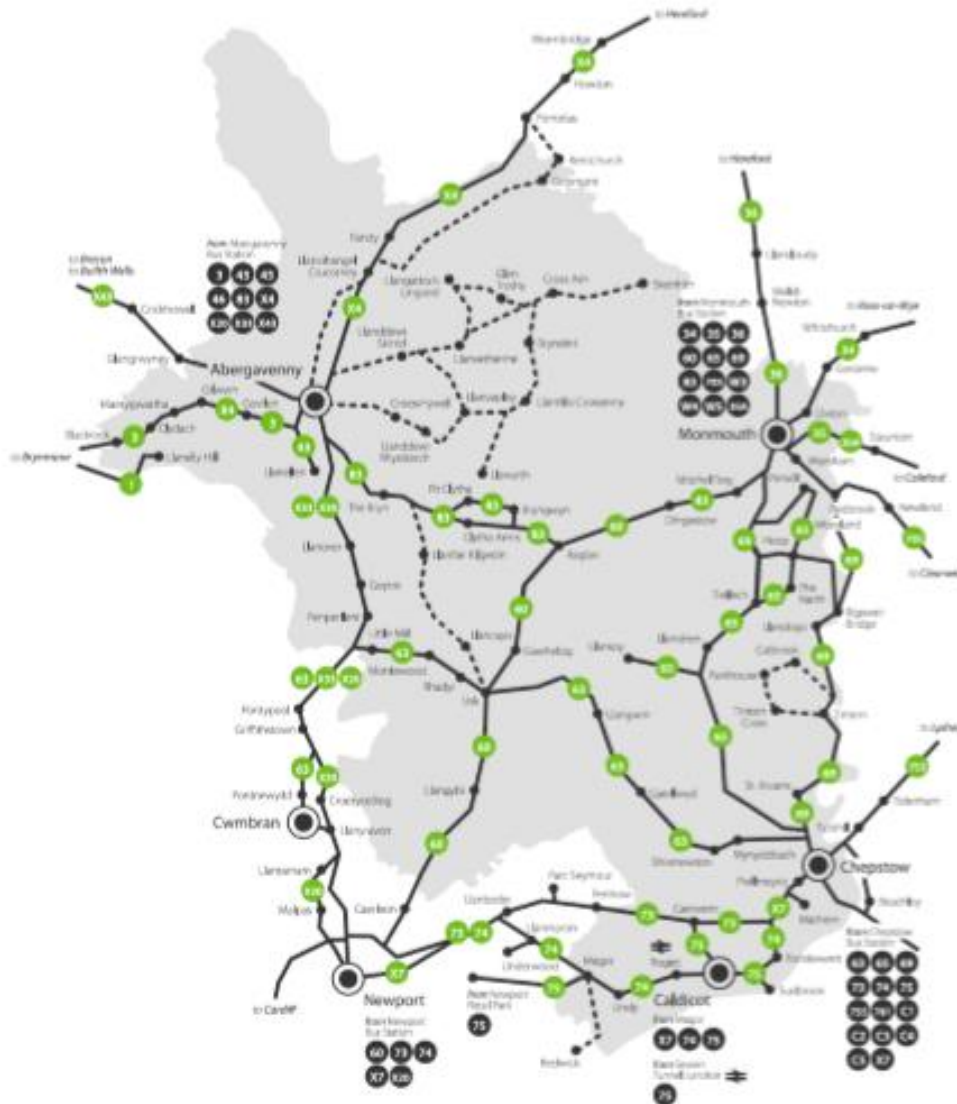
Source: ONS Census 2011

6.5.5 Public Transport Provision

Monmouthshire is served by a number of both local and national bus routes. The main towns of Abergavenny, Chepstow and Monmouth all have bus stations with bus services extending to the surrounding towns and villages and to the sub-region, including Bristol, Gloucester, Hereford, Newport and Cardiff, as illustrated in Map 24. From the map, however, it can be seen that in the north of the County in particular there is a lack of provision in the rural areas. This has been partly addressed by the introduction of a 'grass routes' bus service, which is a demand responsive bus service available during the week for all residents of Monmouthshire and accommodation providers who are members of the scheme.

In terms of rail provision, Monmouthshire has four railway stations, Caldicot, Chepstow and Severn Tunnel Junction in the south of the County and Abergavenny in the north. The centre and north east of the County are poorly served for rail travel.

Map 24: Monmouthshire Bus Services



Source: Monmouthshire County Council Local Transport Plan

6.5.6 Public Rights of Way and Cycling

Table 40 shows the extent of the public rights of way network that is present in Monmouthshire excluding the Brecon Beacons National Park (BBNP). The maps on the following pages identify the PROW network and that for off road cyclists and horse riders. Map 25 shows that although there is localised fragmentation, there is generally a high density and good coverage for walking within the county. Generally there is a good network of footpaths all over Monmouthshire but there are gaps in provision where there are Ministry of Defence Sites (such as in Caerwent) and in areas of privately owned estates such as The Hendre in Monmouth and along part of the coast

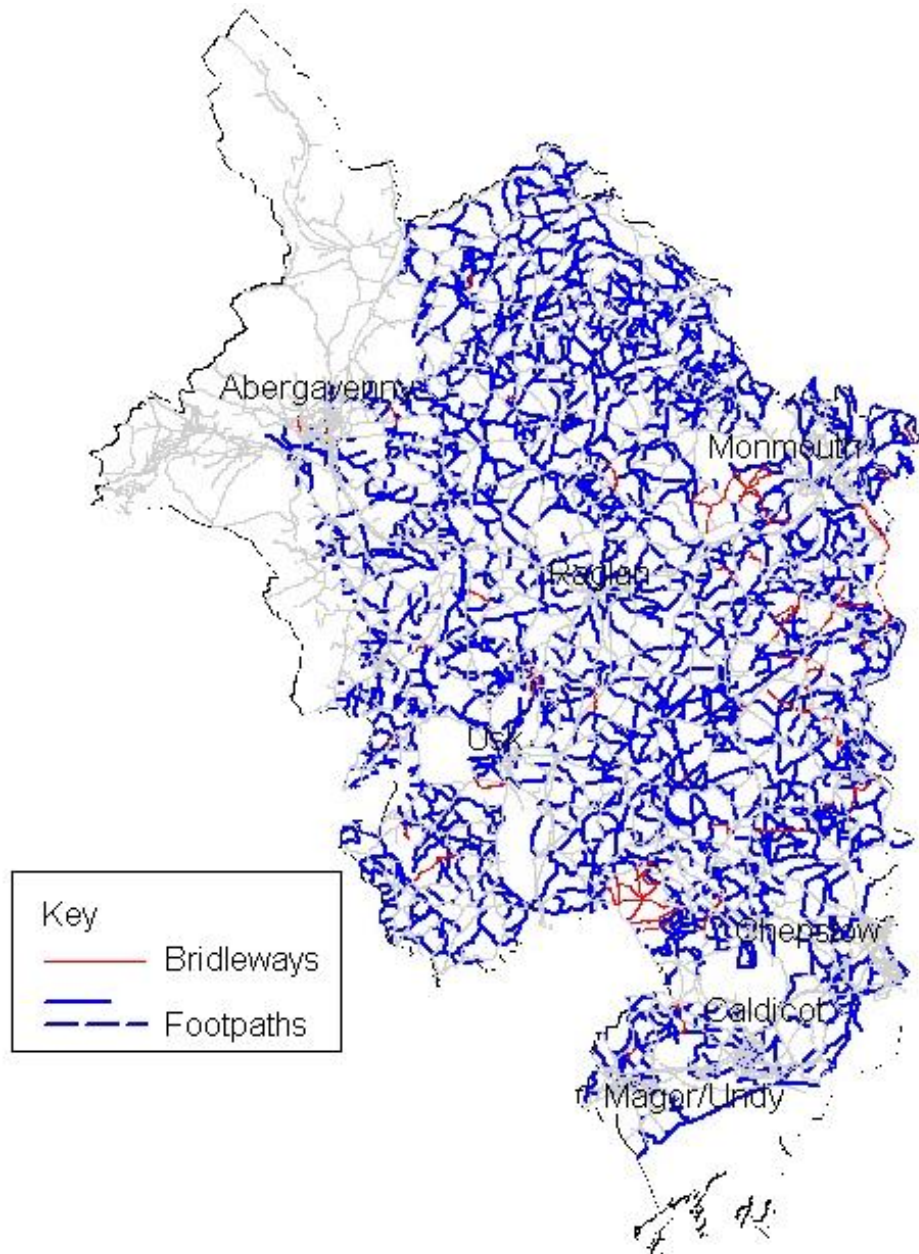
(Source: Monmouthshire ROWIP). There are 5 regional trails within the County, The Wye Valley Walk, The Three Castles Way, The Usk Valley Walk, St Tewdrig's Trail and the Monnow Valley Walk. There is also the Offa's Dyke Path National Trail and the Wales Coast Path which runs around the Severn Estuary ending in Chepstow.

Table 40: Extent of PROW network (Excluding BBNP)

Status of Path	% of Network	Total km
Bridleway	4.9%	76.2
Footpath	89.7%	1,408.1
Restricted Byways	5.3%	83.9
Byway	0.1%	1.5
Total km of PROW in Monmouthshire (excluding BBNP)		1,569.7
Total km of PROW in Wales		33,000

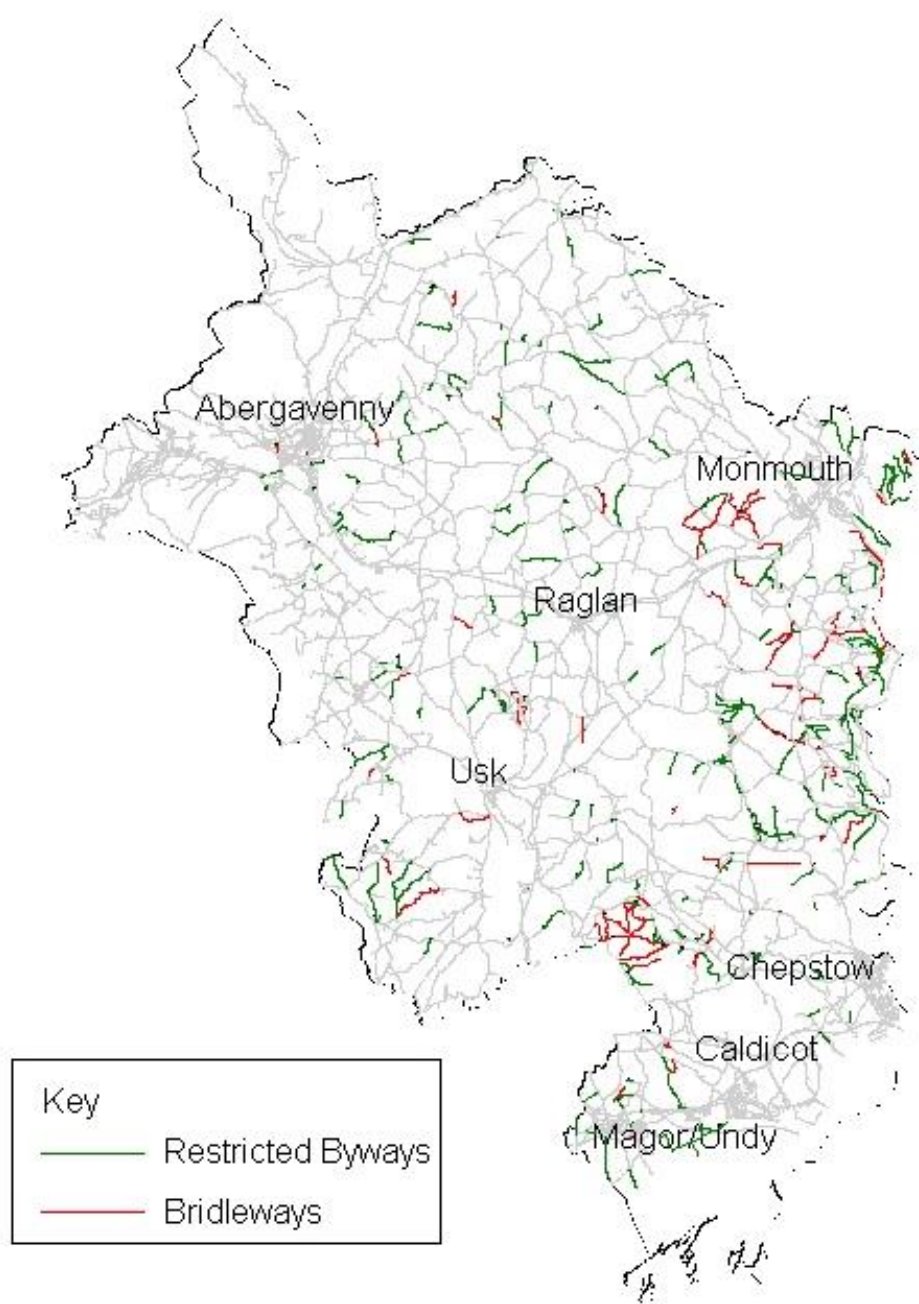
Source: Monmouthshire County Council 2021

Map 25: Networks of Rights of Way



Map 26 identifies the network for off road cyclists and horse riders. The map reveals a highly fragmented network, with little chance of connectivity possible without including the highways network. There are two national cycle routes within the county, both of these run from Chepstow; number 4- The Celtic Trail (Severn Bridge to Pembrokeshire) and number 42 (Chepstow to Glasbury, Powys). There are however currently no maps available to show all of the existing cycle ways within the county and this is therefore considered to be a data gap.

Map 26: Network for off road cyclists and horse riders



6.6 Key Issues arising from a review of the Baseline Characteristics

The creation of cohesive communities which are attractive, well-connected, safe and meet the needs of the population are important and is strongly tied to supporting the economy of Monmouthshire. The following are the key issues to arise from a review of the baseline characteristics of the County:

Housing

- Average house prices in the County are the highest in Wales at £398,859 compared to the Welsh average of £236,439 (Hometrack, November 2022)¹. and have experienced significant increases in recent years, up 41% between 2014 and 2022.
- House prices are also high in relation to earnings (11:1) and there is a pressing need for additional affordable housing in the County in both urban and rural areas. The affordable housing waiting list for the County (Bands 1 – 3) currently stands at more than 2,100 households.
- A range and choice of housing is needed to both meet the needs of an ageing population and to attract and retain the younger age groups.

Transport and Access

- The volume of traffic in the County increased steadily up to 2019, however, in common with Wales as a whole there was a noticeable decline during the covid-19 pandemic. Whilst levels have gone up again since then they are still at a lower level than previously. However, volumes of traffic in Monmouthshire are still 6.5% higher than in 2012, this compares to 2.0% across the South East Wales region Wales as a whole. Monmouthshire also has a pattern of relatively long travel to work distances, high levels of car ownership and reliance on the private car.
- Poor access to community facilities and declining local service provision is a particular issue for rural communities. Achieving sustainable accessibility requires that whilst the majority of retail and other service provision takes place in existing centres local service provision in the smaller settlements is also supported. Where it is necessary to travel to existing centres to access higher order services there is a need to ensure that there is a sustainable transport system that connects these centres to their rural hinterlands.

¹ Based on sales and valuations over six month period March 2022 – August 2022. Sales only over same period related to £351,643 for Monmouthshire and £224,101 for Wales. Data accessed on 02/11/2022.

7. A Wales of Vibrant Culture & Thriving Welsh Language

7.1 Introduction

This section provides baseline data relating to the following well-being goal:

‘A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, and sports and recreation.’

The data relates primarily to:

- Welsh Language;
- Diversity;
- Cultural and Heritage Assets and townscape; and
- Landscape

7.2 Welsh Language

The Welsh Government is committed to reviving and revitalising the Welsh language. In 2012 ‘A living language: a language for living’ was published. This was the Welsh Ministers' strategy for the promotion and facilitation of the use of the Welsh language. The Government's vision is to see the Welsh language thriving in Wales. To achieve that, the strategy aimed to see an increase in the number of people who both speak and use the language. It was a five-year strategy, from 1 April 2012 to 31 March 2017, which superseded Iaith Pawb published in 2003. Post 2017 ‘Cymraeg 2050: A Million Welsh Speakers’, is ‘the Welsh Ministers’ strategy for the promotion and facilitation of the use of the Welsh language’. The ultimate aim of the strategy is to reach the target of a million Welsh speakers by 2050.

Table 41: Knowledge/Skill in Welsh (%) People aged 3 and over

Knowledge/skill (%)	Monmouthshire		Wales	
	2001	2011	2001	2011
Understands spoken Welsh only	2.1	2.4	4.9	5.2
Speaks but does not read or write Welsh	1.6	1.7	2.8	2.6
Speaks and reads but does not write Welsh	0.6	0.7	1.4	1.5
Speaks, reads and writes Welsh	6.8	7.0	16.3	14.1
Other combination of skills	1.8	1.8	3.0	2.4
No knowledge of Welsh	87.1	83.4	71.6	70.8

Source: ONS 2011 Census

At the time of the 2011 Census 7.0% of Monmouthshire’s population aged 3 and over said that they spoke Welsh compared to 6.8% in 2001, and an all Wales figure of 16.3% in 2011. While Monmouthshire is well below the Welsh average during the two intercensal periods there has been a growth in the number of people classifying themselves as Welsh speakers, a figure of only 2%

was recorded for Monmouthshire at the time of the 1991 Census. There are two Welsh Medium Primary Schools in Monmouthshire:

- Ysgol Gymraeg Y Fenni, St David's Road, Abergavenny
- Ysgol Y Ffin, Sandy Lane, Caldicot

At the time of the June 2012 annual population survey 51.1% of the population in Monmouthshire considered themselves Welsh. Monmouthshire was the fifth lowest proportion and above Flintshire, Conwy, Denbighshire and Powys. The figure in Wales at the time was 63.8%. However, in June 2022, this figure was 45.6%, with only Powys and Flintshire recording lower figures. The figure for Wales at the same time was 62.3% (Source: Statswales)

7.3 Ethnic Diversity

Table 42 shows that Monmouthshire's population profile in terms of ethnic groups is different to both the Wales average and that of the South East Wales region as a whole. At the time of the 2021 census, nearly 97% of Monmouthshire's population classified themselves as white, compared to 98% in 2011. In 2021 the figure for Wales's as a whole stood at 93.8% and in South East Wales 91.4%. The South East Wales figures are particularly influenced by the population profile of Cardiff which accounts for nearly 24% of the population of the region, and as would be expected the population profile is much more diverse in the city.

Table 42: Ethnic Diversity

	All people (100%)	%				
		White	Mixed/Multiple Ethnic Groups	Asian, Asian British or Asian Welsh	Black, Black British, Black Welsh, Black Caribbean or African	Other
England & Wales	59,597,542	81.7	2.9	9.3	4.0	2.1
Wales	3,107,494	93.8	1.6	2.9	0.9	0.9
SE Wales	1,523,197	91.4	2.0	4.0	1.4	1.2
Monmouthshire	92,960	96.9	1.2	1.3	0.2	0.3

Source: ONS 2021 Census

7.4 Cultural and Heritage Assets

Monmouthshire has a rich historic environment dating from the prehistoric period. Evidence of Bronze Age burials and Iron Age settlements have been found during excavations in the Gwent Levels. Roman occupation is evidenced by the establishment of a civil town at Caerwent (Venta Silurum), the only Roman walled town in the principality. The Normans brought the Romanesque style of architecture, apparent in the stone keeps of castles and early monastic

churches, while the Gothic period is characterised by monastic ruins at Tintern. Medieval Castles exhibiting a variety of styles were built at Abergavenny, Chepstow, Monmouth, Raglan and Usk. Monmouthshire is also recognised for the interest of its sixteenth and seventeenth century farmhouses and vernacular buildings, with many mansions adding to the architectural interest. The main towns within the County saw a wave of architectural influence in the 18th and 19th centuries with new buildings taking on the architecture of the day. The re-fronting of earlier structures with the new architectural styles is commonly found. The eighteenth and nineteenth century also saw greater industrialisation in South Wales and the industrial heritage of the County can still be seen in many places.

7.4.1 Conservation Areas

There are 31 Conservation Areas within the Monmouthshire planning administrative area designated for their special historic or architectural interest. The 31 Conservation Areas vary considerably in size covering some 1648 hectares in total and include a wide spectrum of different areas from market towns, rural villages and medieval castles. The largest three Conservation Areas are Mathern (231.6ha), Llanarth (203.1ha) and Abergavenny (152.8ha), which illustrates that the larger Conservation Areas are not necessarily found within the urban areas of the County but that the landscape quality of the setting of villages can also be of importance within designations. The boundaries of the Conservation Areas are shown on Map 27.

Conservation Area Appraisals for the county's 31 conservation areas have been conducted and were formally approved by Single Cabinet Member on the 23rd of March 2016. These conservation area appraisals, have since been approved as Supplementary Planning Guidance (SPG).

7.4.2 Historic Parks and Gardens

There are 45 Historic Parks and Gardens identified as having a Special Historic Interest within the Monmouthshire planning administrative area, covering approximately 1925 hectares. The County is exceptionally rich in parks and gardens of historic interest; many of these are closely associated with important listed buildings and are sometimes designed by the same person. The Historic Parks and Gardens are widely dispersed across the County and vary considerably in size and character, the largest of which is Chepstow Park Wood, a seventeenth-century deer park and deer course measuring approximately 366.5 hectares. The second largest is Piercefield Park covering approximately 274.2 hectares, the western half of Piercefield Park has been in use as Chepstow Racecourse since 1926. The extent of the Historic Parks and Gardens is shown on Map 27.

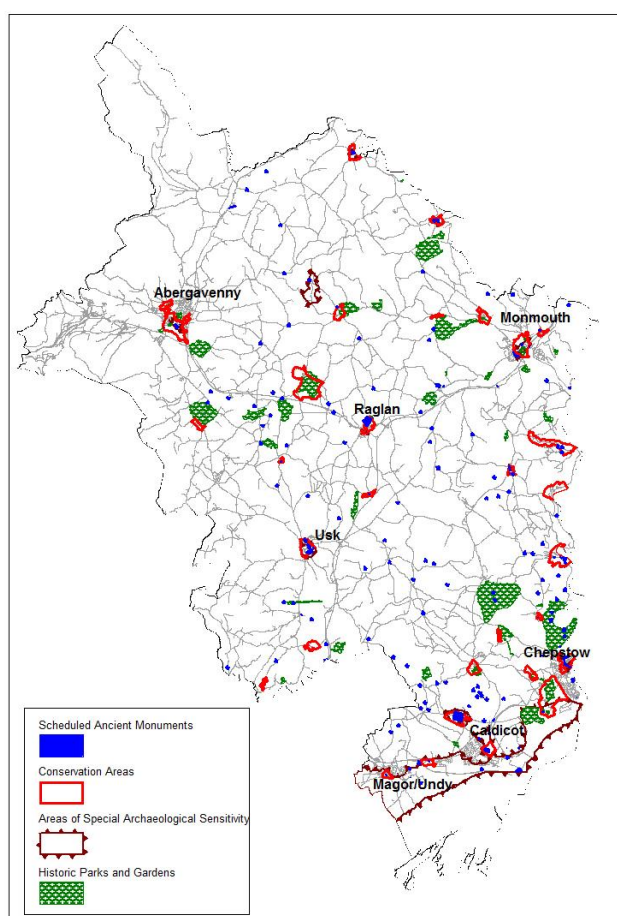
7.4.3 Historic Landscapes

Three Landscapes of Outstanding Historic Interest have been identified by CADW within the Monmouthshire planning administrative area – Blaenavon, the Gwent Levels and the Lower Wye Valley. The outstanding nature of the historic landscapes is more broadly based, identifying those that are among the best surviving and most complete examples. Each of the historic landscapes represents the range, type, diversity and quality of the historic content of the whole of the Welsh landscape. Blaenavon was also inscribed in 2000 as a World Heritage Site for its remarkable industrial heritage.

7.4.4 Scheduled Ancient Monuments

There are approximately 164 archaeological sites statutorily protected as Scheduled Ancient Monuments under the Scheduled Ancient Monuments and Archaeological Areas Act 1979 (Source: Monmouthshire County Council Annual Monitoring Report 2018) within the Monmouthshire planning administrative area. The Scheduled Ancient Monuments are plotted on Map 27.

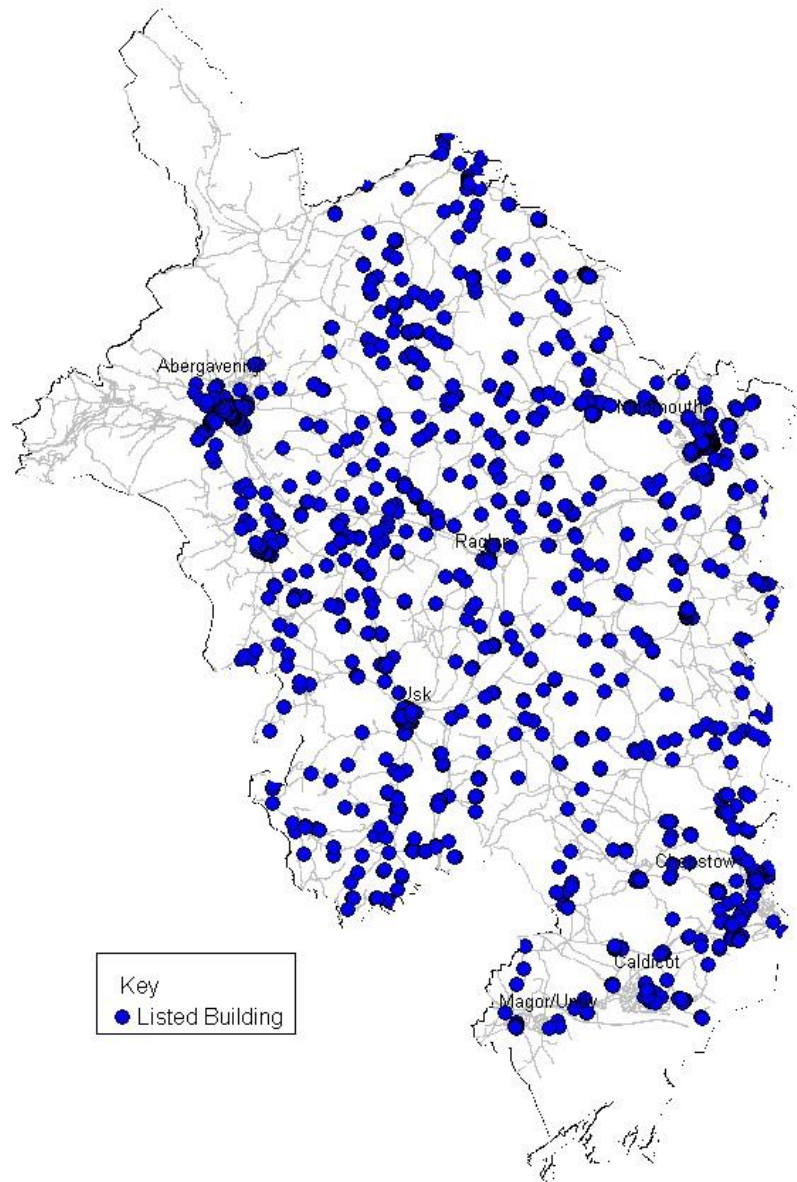
Map 27: Location and Designation of Sites, Areas and Buildings of Historic or Conservation Importance



Source: Cadw 2011

7.4.5 Listed Buildings

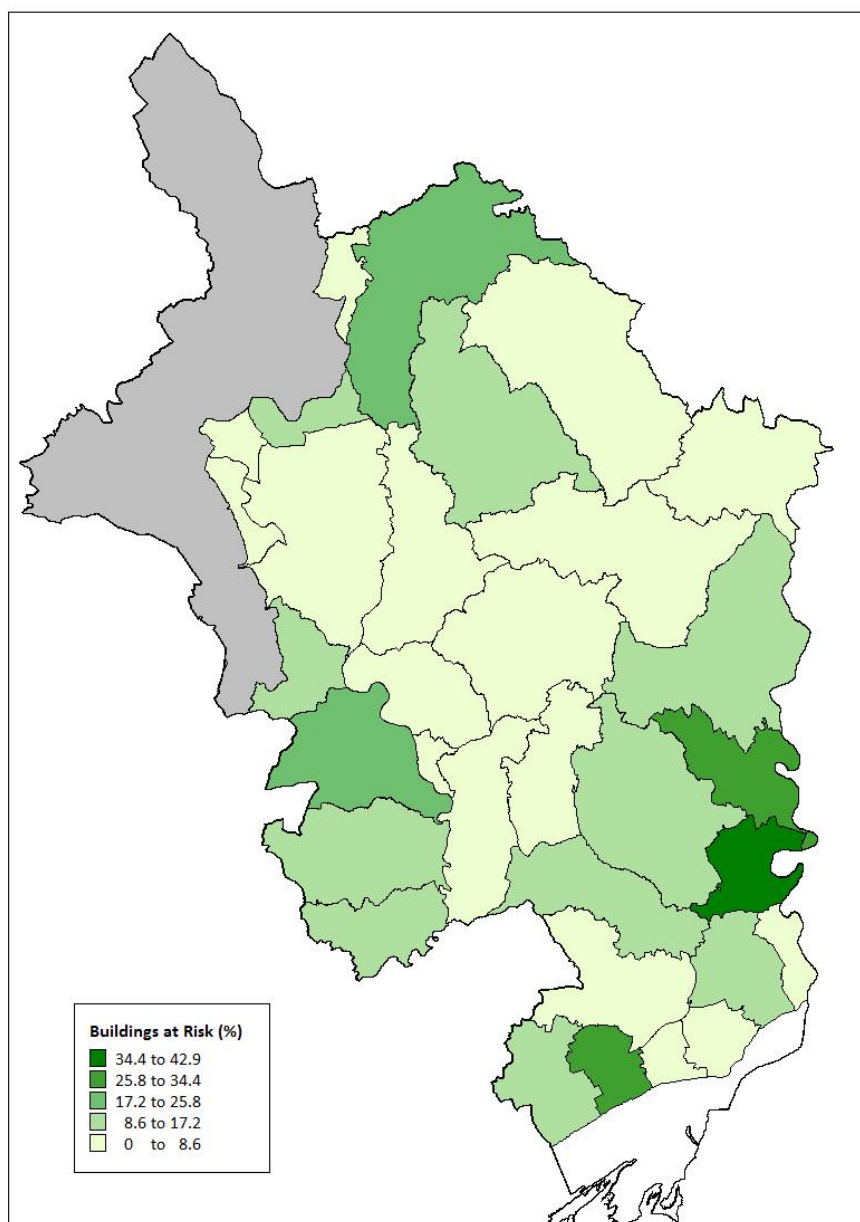
Map 28: Location of Listed Buildings within Monmouthshire



Source: Cadw (2011)

Cadw undertook a re-survey of Listed Buildings within Monmouthshire in 2005, the figures provided were indicative only due to the continual listing process; ad hoc listings may therefore be added to the stock throughout the plan process. In 2018, there were just over 2,220 listed buildings, a figure which is above that recorded in 2011. Of the listed buildings in 2018; 2% were Grade I, 10% are Grade II * and 88% are Grade II. In 2022, there were over 2,145 listed buildings.

Map 29: Proportion of Listed Buildings at Risk- Percentage per Community.



Source: Monmouthshire Conservation Section 2018

There were however a proportion of Listed Buildings within the County identified as being at risk in 2018 , which amounts to approximately 166 in total (7.5% of the stock). The four communities identified as having the highest percentage of listed buildings at risk in name order based on the number of buildings were:

- St Arvans – 42.9% of the communities stock (12 buildings)
- Tintern – 28.1% of the communities stock (9 buildings)
- Rogiet – 30.8% of the communities stock (4 buildings)
- Llanbadoc – 25.0% of the communities stock (4 buildings)

The top five uses of listed buildings at risk are identified as; agricultural (61 buildings, 20.9%), monument (35 buildings, 29.2%), domestic (23 buildings, 2.2%) boundary (23 structures, 17%) and commercial (10 buildings, 2.3%) demonstrating that there is a broad range of uses of listed buildings within the County that are considered to be 'at risk'. As buildings can be removed from the 'at risk' category or added to it the total numbers of Buildings at Risk are indicative and may change throughout the plan period.

The results of human activities on Monmouthshire's landscapes have been extensively analysed using the Countryside Council for Wales' (now NRW) *LANDMAP* methodology, two of the five aspect areas covered in the study relate to History and Culture. The study (Draft Supplementary Planning Guidance Landscape Assessment was published in 2001) in connection with the Deposit Monmouthshire Unitary Development Plan.

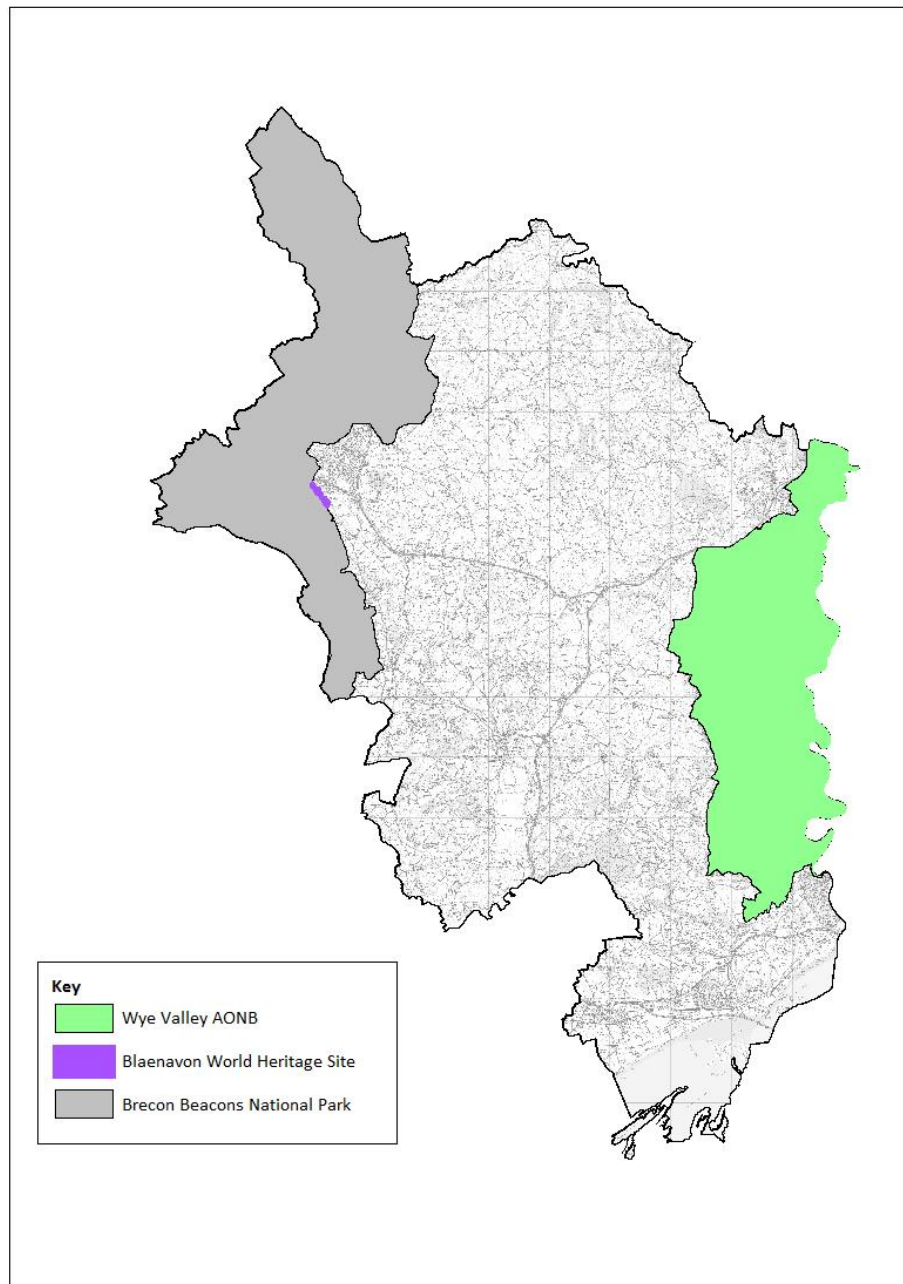
7.5 Landscape

Monmouthshire has a rich and diverse landscape stretching from the coastline of the Gwent Levels in the south of the County, to the uplands of the Brecon Beacons in the north, and the picturesque river corridor of the Wye Valley in the east.

7.5.1 Nationally Designated Landscapes.

The County incorporates part of the Wye Valley AONB shown in map 30 to the East of Monmouthshire and part of the Brecon Beacons National Park to the North West - both of which are nationally recognised designations of high quality landscape. There are also three landscapes of outstanding historic interest within Monmouthshire- Blaenavon, the Gwent Levels and the Lower Wye Valley. The portion of the Brecon Beacons National Park (BBNP) located in Monmouthshire covers some 14,880 hectares, which accounts for approximately 17% of the County. The BBNP Local Planning Authority exercise the development plan and development control functions in this part of the County but the impact of development on the setting of the National Park is an important consideration near the north-western boundary of the Monmouthshire Local Planning Authority area. The part of the Wye Valley AONB located within Monmouthshire covers approximately 11,710 hectares and accounts for approximately 16% of the Monmouthshire LDP area. A small portion of the Blaenavon World Heritage Site (approximately 20 hectares) also lies within the Monmouthshire local planning area.

Map 30: Internationally and Nationally Designated areas within Monmouthshire



Source: Monmouthshire Local Development Plan

7.6 Key Issues arising from a review of the Baseline Characteristics

Monmouthshire has a large number of designated and non-designated heritage assets, many of these provide attractive places to live and are important to the tourist economy of the County. In addition the Welsh language is an important component of Welsh national identity and culture. As such, the future well-being of the Welsh language is an important consideration. The following are the key issues to arise from a review of the baseline characteristics of the County:

Cultural and Heritage Assets

- Statistics show that whilst the Welsh language does not currently play a significant role in the County, with less than 10% of residents able to speak Welsh, this figure has risen since the 2001 Census (up 0.2%).
- Monmouthshire has a rich cultural heritage, including 31 Conservation Areas, 45 Historic Parks and Gardens, 164 Scheduled Ancient Monuments and over 2,145 Listed Buildings. There is a need to preserve, protect and enhance these cultural assets.
- An integral element of Monmouthshire's distinctive settlement pattern is its historic towns and villages and their relationship with the surrounding rural areas. The LPA area has also experienced substantial suburban expansion especially along the M4 in the south of the County, with growth pressures in this area increased as a result of the removal of the Severn Bridge Tolls and the opportunities associated with the Cardiff Capital Region City Deal.

Landscape

- Monmouthshire has a rich and diverse landscape, which incorporates parts of the Wye Valley Area of outstanding Natural Beauty, the Brecon Beacons National Park and the Blaenavon Industrial Landscape World Heritage Site. The County's beautiful landscapes and cultural heritage are part of what makes Monmouthshire special.
- There is a need to protect and enhance the landscape assets of the County, protecting the key views and the visual amenity of both the settlements and the wider countryside, whilst balancing this against the need to provide a range and choice of appropriate development to address the challenges Monmouthshire faces. As these assets extend beyond the boundary of the LDP area this protection incorporates cross-boundary landscapes.

8. A Globally Responsible Wales

8.1 Introduction

This section provides baseline data relating to the following well-being goal:

‘A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.’

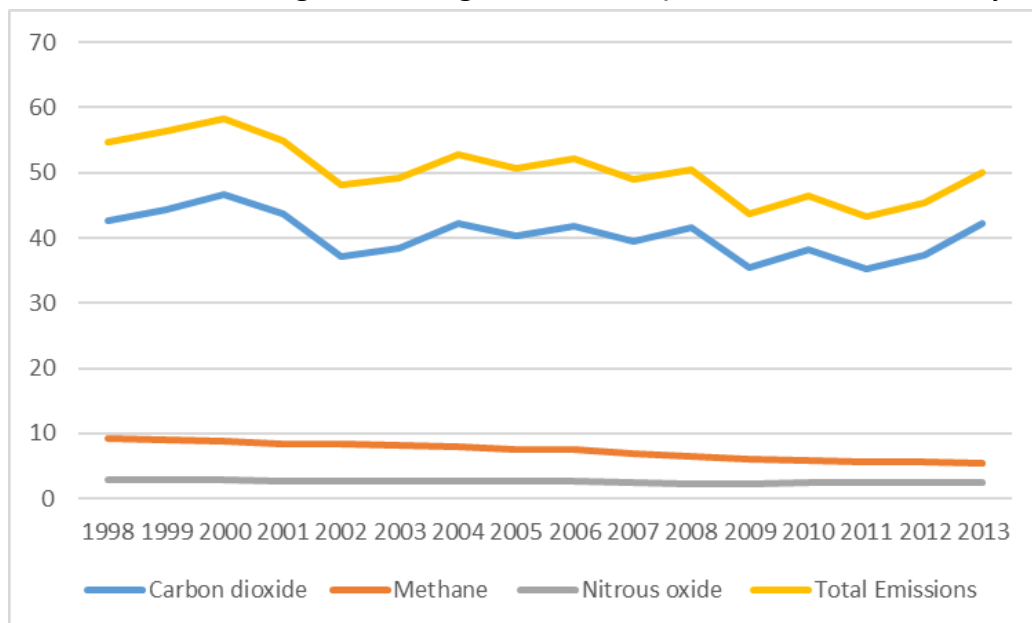
Essentially this well-being goal is a cross cutting goal which relates to all of the ISA topics. However, for the purposes of this report, the data in this section relates primarily to:

- Greenhouse Gas Emissions;
- Climatic Factors; and
- Flooding.

8.2 Greenhouse Gas Emissions

8.2.1 Emissions of greenhouse gases in Wales

Chart 39: Emissions of greenhouse gases in Wales (million tonnes carbon equivalent)



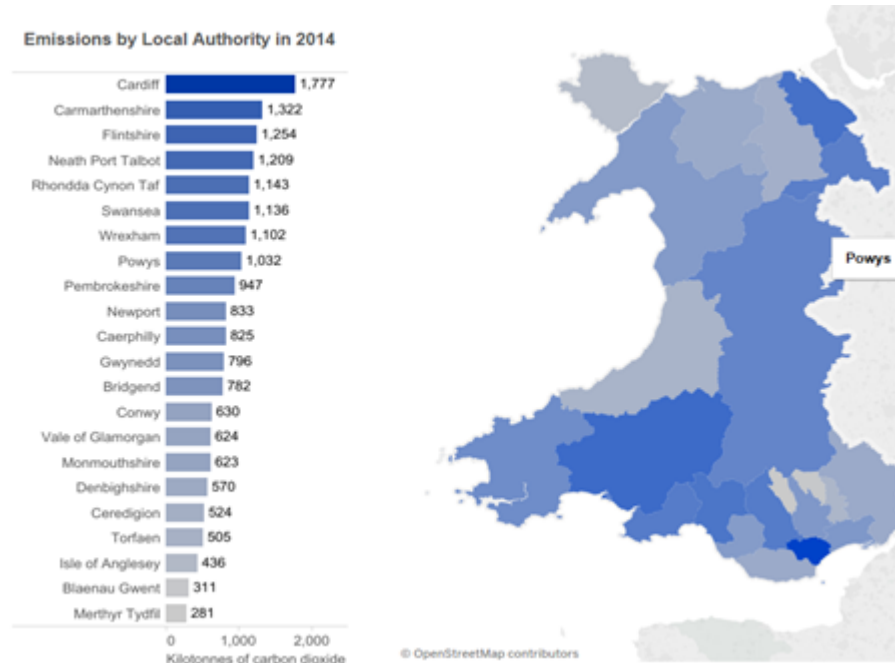
Source: Stats Wales (Accessed 05/09/2018)

Chart 39 shows the emissions of greenhouse gases in Wales. The overall effect since 1998 has been a decrease in total emissions of 8.5%. There were however increases in the early to mid-2000s within Wales. Equally, most recently in 2013, total emissions in Wales have risen 15.5% since 2011. The UK figures are more advanced than those for Wales and therefore cannot be compared directly, however, these show a 24.6% reduction in the Basket of greenhouse gas emissions for the UK between 1998 and

2013. There is no local or regional comparator data available since 2013, which is therefore considered to be a data gap.

8.2.2 Emissions of CO₂ in Wales

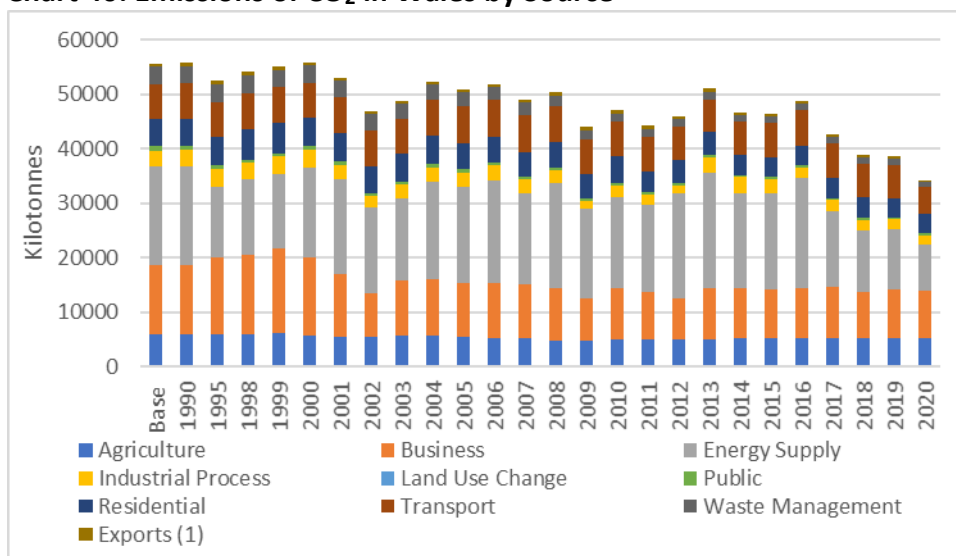
Map 31: Total Welsh CO₂ emissions 2014



Source: Welsh Government Statistics and Research. Accessed 05/09/2018

Map 31 above shows how carbon dioxide emissions varied across Wales in 2014, as expected, the most emissions in 2014 were recorded in Cardiff, and in more built up areas in general.

Chart 40: Emissions of CO₂ in Wales by Source



Source: StatsWales - (Accessed- 25/11/2022)

Chart 40 indicates that emissions of Greenhouse Gases vary on a year by year basis although the sources are generally consistent. Total CO₂ emissions from Wales have reduced by 39% between 1990 and 2020. These emission reductions are a result of a decline in manufacturing emissions (e.g. in iron and steel, bulk chemical production) in the Business and Industrial Process sectors, efficiencies in energy generation and business sector heating, the use of natural gas to replace some coal and other fuels as well as abatement in some chemical industries. The largest decline in emissions over this period has been from waste management and energy supply. Agricultural sector emissions in contrast have not reduced markedly since the Base.

8.2.3 Emissions of CO₂ in Monmouthshire

Table 43 below outlines CO₂ emissions in 2020 for Wales and Monmouthshire. Emissions in 2020 totalled 21,063.4 ktCO₂ for Wales and 501.4 ktCO₂ for Monmouthshire. In Monmouthshire in 2020 over half of all emissions (51.9%) were from transport. In Wales, the largest proportion of emissions came from industry and commercial emissions (50.8%). In 2020, emissions per capita for Monmouthshire were 5.3 tonnes of CO₂ per resident compared to 6.6 for Wales. Emissions per capita in Monmouthshire has decreased from 8.7 in 2010 to 5.3 in 2020.

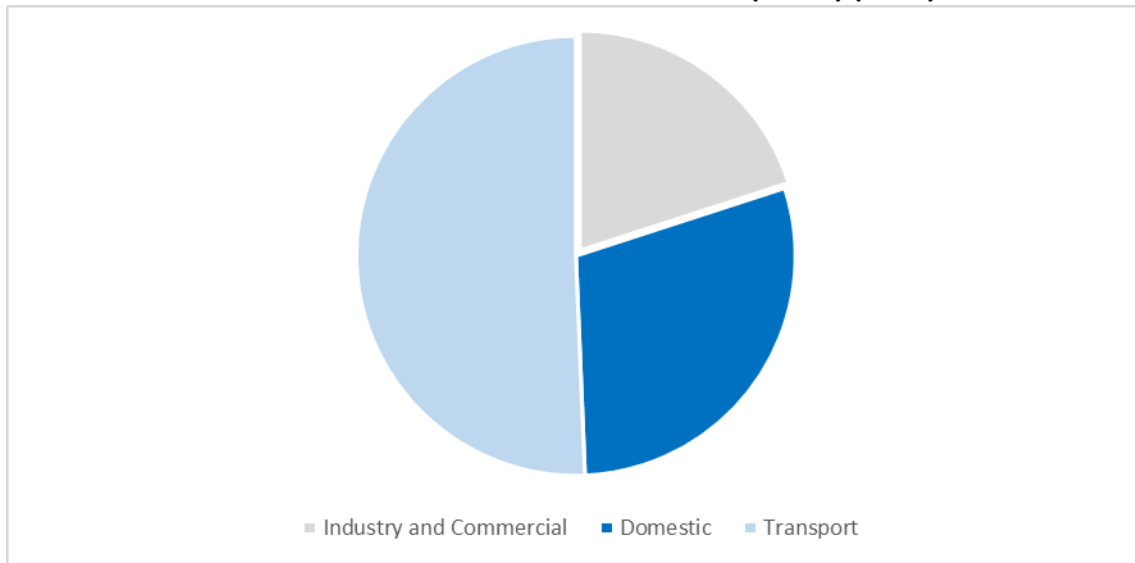
Table 43: Emissions summary for Wales and Monmouthshire, 2020 (kt CO₂)

Sector Name	Wales	Monmouthshire
Industry and Commercial Emissions	10699.2 (50.8%)	102.9 (20.5%)
Domestic Emissions	4679 (22.2%)	150.8 (30.1%)
Transport Emissions	5173.3 (24.6%)	260.4 (51.9%)
Land Use and Land Use Change & Forestry	-713.4 (-3.4%)	-60.7 (-12.1%)
Total	21063.4	501.4
Emissions Per Capita	6.6	5.3

Figure in Brackets is the proportion of total emissions for 2018.

Source: InfoBase Cymru (Accessed 25/11/2022)

Chart 41: CO₂ emission estimates in Monmouthshire (ktCO₂) (2020)

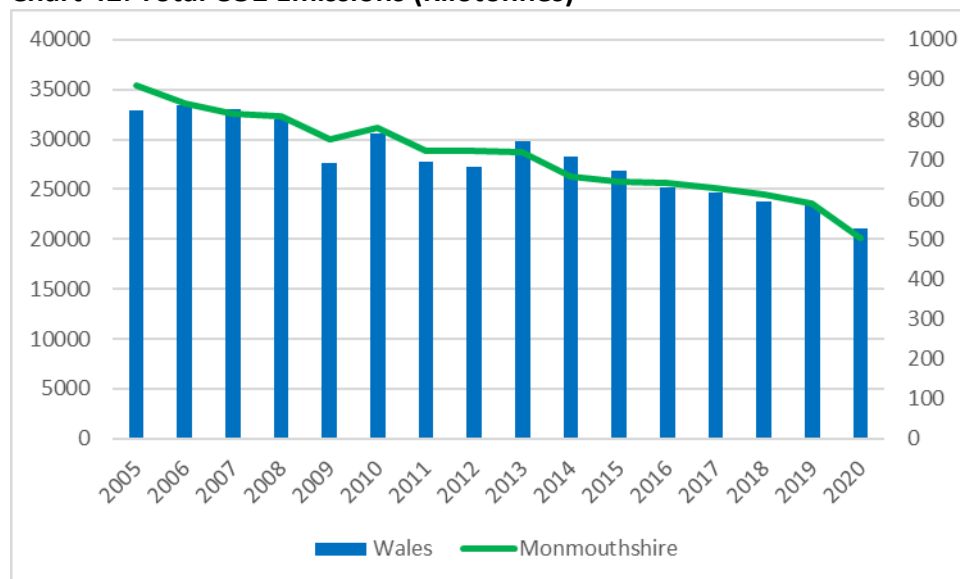


Source: InfoBase Cymru (Accessed 25/11/2022)

The CO₂ emissions per capita of Monmouthshire residents in 2005 was 9.2 tonnes, this had reduced to 7.4 tonnes by 2011, and was 5.3 tonnes in 2020. This is compared to an average for the South Wales region of 4.7 in 2020 and 6.6 tonnes for Wales as a whole. There were five authorities with CO₂ emissions per capita higher than Monmouthshire, including Wrexham, Newport, the Vale of Glamorgan, Flintshire and Neath Port Talbot which had 46.1 CO₂ emissions per capita. (Source: InfoBase Cymru).

Chart 42 illustrates total CO₂ emissions in both Wales and Monmouthshire between 2005 and 2020. During this period, total CO₂ emissions in Wales fell by 36.1% whilst in Monmouthshire CO₂ emissions fell by 43.4%.

Chart 42: Total CO₂ Emissions (Kilotonnes)



Source: InfoBase Cymru (Accessed 25/11/2022)

8.3 Climatic Factors

Both natural and human factors affect global climate. Natural causes can include interactions between the ocean and the atmosphere, changes in the Earth's orbit and volcanic eruptions. Humans influence global climate by releasing greenhouse gases (for example carbon dioxide and methane) into the atmosphere. These gases absorb energy that is radiated from the Earth's surface, warming the atmosphere and increasing temperatures globally. The Intergovernmental Panel on Climate Change (IPCC) concluded in 2007 that most of the observed increase in global average temperatures since the mid-20th century is very likely to be due to the observed increase in man-made greenhouse gas concentrations. Across Wales, average land temperature in the decade 2010-2019 was 0.9°C warmer than in the period of mid 1970s to mid-2010s, up to 10°C from 9°C. Most notable is the greater incidence of hot summer maximum temperatures in Wales, for example temperatures peaked at 31°C in the 2019 summer heatwave. (UK Climate Change Risk Assessment 2022 Evidence Report: Summary for Wales). Climate change can be reduced by mitigation; by reducing the net emissions of greenhouse gases, notably CO₂. However, some impacts can be tackled through adaptation.

The changes in climate that we are already experiencing are projected to continue and intensify. In the second half of the century, the amount of change that occurs will depend strongly on how successful we are in reducing greenhouse gas emissions globally.

Table 44: Projected Changes in Climate

	2050s RCP2.6 (50th percentile)	2050s RCP6.0 (50th percentile)	2080s RCP2.6 (50th percentile)	2080s RCP6.0 (50th percentile)
Annual Temperature	1.2°C	1.1°C	1.3°C	2.3°C
Summer Rainfall	-15%	-15%	-18%	-26%
Winter Rainfall	+6%	+5%	+7%	+13%
Sea level rise (Cardiff)	22cm	28cm	43cm	76cm

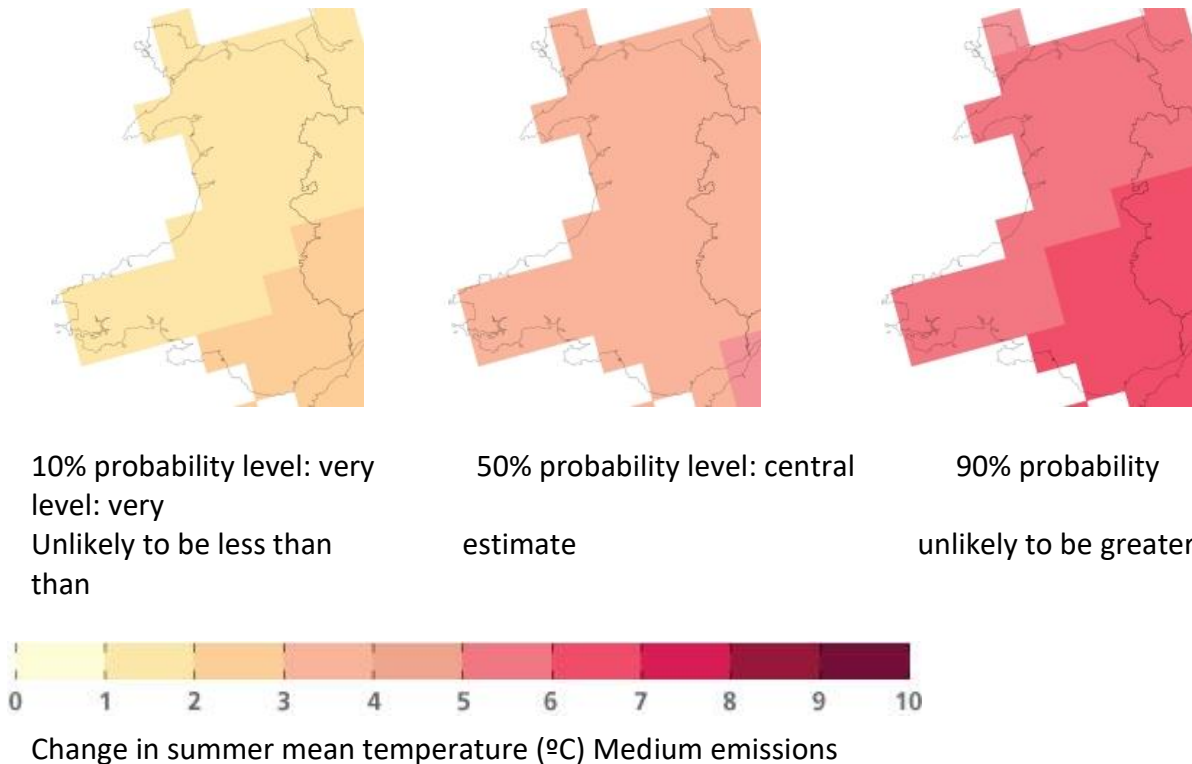
Source: UK Climate Change Risk Assessment 2022 Evidence Report: Summary for Wales

8.3.1 Temperature

Annual temperatures in Wales are expected to rise between approximately 1.2°C by the 2050s and between 1.3 and 2.3°C by the 2080s from a 1981-2000 baseline. Risks associated with rising temperatures, such as more extreme heatwave events causing impacts on people's health and wellbeing, are likely to become more prevalent as a result, with their magnitude depending on the degree of change that is experienced. (UK Climate Change Risk Assessment 2022 Evidence Report: Summary for Wales). Map 32 shows the view of future change in summer temperature in Wales under a medium

emissions scenario. It is evident from this that even under the 10% probability level Monmouthshire is located in an area where temperatures are likely to be higher than for much of the rest of Wales. No specific data for the County is however available and is therefore considered to be a data gap.

Map 32: Change in summer mean temperature for Wales, 2080s, under a Medium emissions scenario

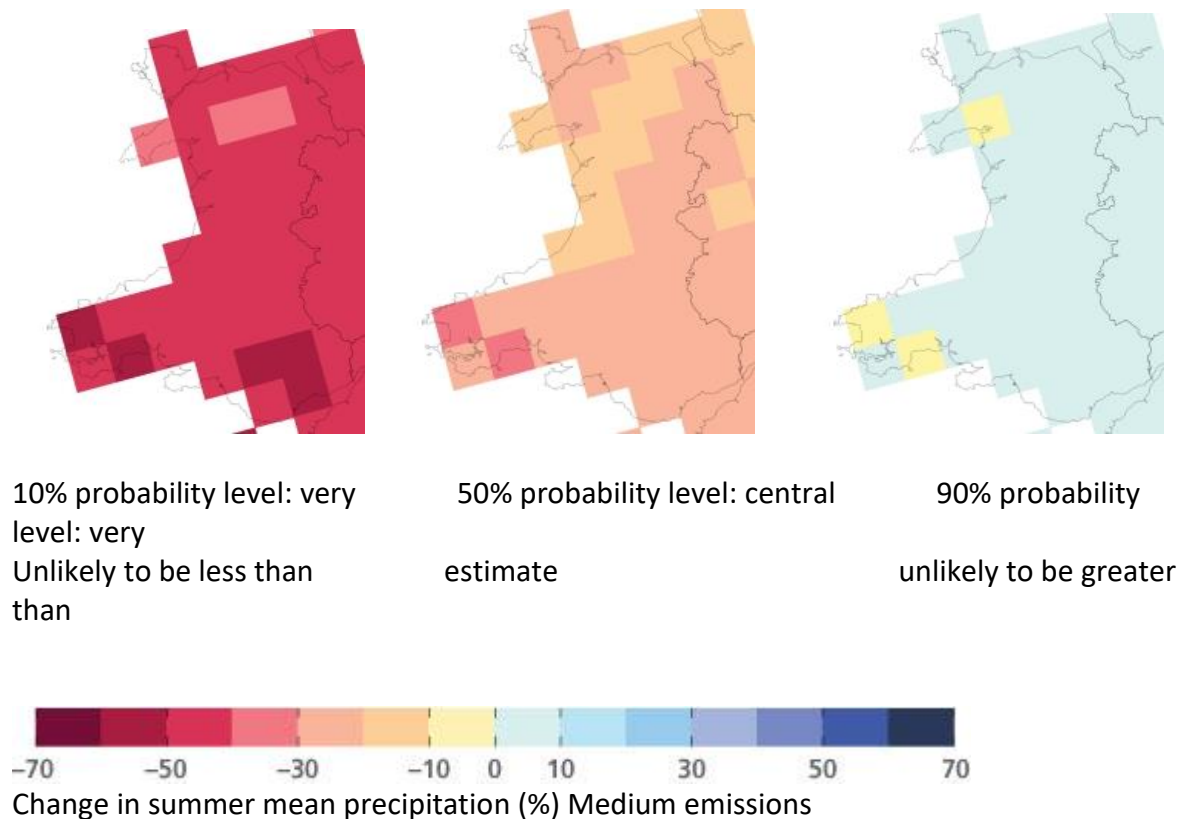


(Source:<http://ukclimateprojections.metoffice.gov.uk/24120?emission=medium>(Accessed 17/09/18))

There has been a small observed increase in annual mean rainfall in recent decades. Between the period of mid 1970s to mid-2010s and 2010-2019 there was an increase of 2%, from an average of 1,402mm per year to 1,430mm per year. There is a difference in expected rainfall trends in future in Wales, depending on the season. In winter, rainfall is expected to increase by approximately 6% by the 2050s and by between 7% to 13% by the 2080s from a 1981-2000 baseline, depending on global efforts to reduce greenhouse gas emissions. This is projected to lead to an increase in the likelihood of flooding of infrastructure, businesses and homes. Conversely, summer rainfall is expected to decrease by approximately 15% by the 2050s and by between 18% to 26% by the 2080s. Periods of water scarcity may become more prevalent under these scenarios, leading to possible implications in agriculture and industry, for example. (UK Climate Change Risk Assessment 2022 Evidence Report: Summary for Wales).

8.3.2 Summer Precipitation

Map 33: Change in summer mean precipitation for Wales, 2080s, under a Medium emissions scenario



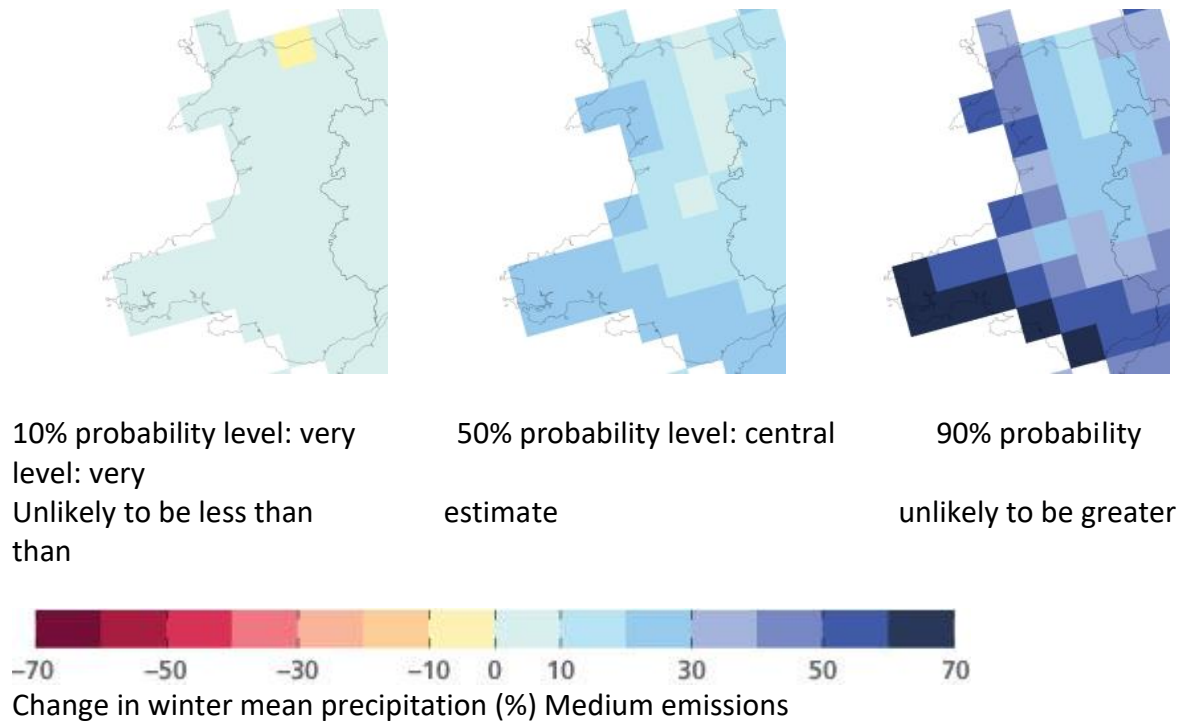
(Source:<http://ukclimateprojections.metoffice.gov.uk/24120?emission=medium>)(Accessed 17/09/18)

Map 33 shows the view of future change in summer precipitation in Wales under a medium emissions scenario. It is evident from this that even under the 10% probability level Monmouthshire is located in an area where summer precipitation is likely to be less than for much of the rest of Wales. No specific data for the County is however available and is therefore considered to be a data gap.

8.3.3 Winter Precipitation

Map 34 gives the view of future change in winter precipitation in Wales under a medium emissions scenario. The medium emissions scenario shows a change across the whole of the Country at the 50% probability to the 2080s period of between 10% and 30%. No specific data for the County is however available and is therefore considered to be a data gap.

Map 34: Change in winter mean precipitation for Wales, 2080s, under a Medium emissions scenario



(Source:<http://ukclimateprojections.metoffice.gov.uk/24120?emission=medium>
(Accessed 17/09/2018))

8.3.4 Habitat and Species Loss and Influx

The abundance of species are increasing and decreasing at sites and a range of species seem to be changing distributions in ways correlated with climate change. Within Wales, there is evidence that various species are travelling north and uphill, where new colonies originally from the South are forming. Equally, migratory birds are migrating shorter distances outside of the breeding season, where many have relocated to the north east in search of new feeding grounds, where warmer –milder winters help facilitate this (UK Climate Change Risk Assessment 2017 Evidence Report: Summary for Wales). Conversely, an increase in temperatures has positively affected terrestrial invertebrates, however, wet and warm winters have affected the numbers of both butterflies and moths. Furthermore, there is a significant risk to species at the margin of their southern range, who are retreating northwards, where species that are unable to adapt to a lack of suitable habitats may be lost from lower ground (UK Climate Change Risk Assessment 2017 Evidence Report: Summary for Wales).

Some of the most dramatic changes may occur on the coast, estuaries and tidal rivers, as a result of sea-level rise intensified by extreme weather events (Source: Defra 2007). The habitats and species found within the River Wye, River Usk and the Severn Estuary could therefore be affected due to climate change, within Monmouthshire this is likely to include wintering waders and ducks.

There is however a degree of uncertainty about the actual scale and future responses of individual species and habitats to a changing climate, due to a combination of issues and will be heavily dependent upon the capacity of species to disperse in response to climate change, which is difficult to predict (UK Climate Change Risk Assessment 2017 Evidence Report: Summary for Wales). It is considered therefore that there is a data gap in relation to the effects of climate change on the loss and influx of habitats and species.

8.3.5 Habitat Connectivity

Habitat connectivity and landscape permeability have been recognised as key to helping species dispersal and enhancing resilience. Habitat connectivity describes the spatial links between core areas of suitable habitat. It has been shown experimentally that physically connecting fragmented habitats or making the intervening habitat less hostile for example by reducing the intensity of land use, improves dispersal for some species (Source: Defra 2007). Within Monmouthshire examples of this can be found through the projects undertaken by Gwent Wildlife Trust on landscape management. Other than the work undertaken by Gwent Wildlife Trust there is no trend data available on habitat connectivity.

8.3.6 Peak Oil

The Peak Oil concept refers to the point when the maximum amount of oil that can be extracted globally is reached. Thereafter, production will tail off as remaining reserves become more difficult and more expensive to harvest. It is estimated that global oil supplies will fall by around 22% by 2020, and by approximately 50% by 2035. Approximately around a quarter of the UK's energy currently comes from oil compared to a global average of approximately 36% (Source: Soil Association 2008). An article in the Guardian from September 2020 reports that a BP energy report claims that demand for oil and fossil fuel had peaked and that there would subsequently be a period of sustained decline.

There are suggested positive aspects of peak oil which includes: the use of alternative clean fuels which could help control the pollution of fossil fuel use as well as mitigate global warming, a move to self-sufficiency and more natural systems which could result in a rise in agricultural input prices reducing the use of fertilisers, more organic farming practices which could lead to less processed food and more whole food. There is currently no data relating to peak oil and the effect it will have in Monmouthshire, this is therefore considered to be a data gap.

8.3.7 Agriculture and Forestry

Extra CO₂ is likely to have a fertilising effect and increase plant growth through combined effects of interaction of temperature rise and altered patterns of precipitation and evapotranspiration. This is likely to benefit cereal crops, however increased temperature will shorten grain ripening and depress the yield. The 'UK Climate Change Risk Assessment 2022 Evidence Report: Summary for Wales' suggests

future climate change, especially warming, will enhance climate suitability for new crops. Available evidence is cited on soya, cereal, fruit, wine and other food crop production and implications for forestry. However, this will vary across different regions. Those limited by climatic conditions may see an increase in agricultural land due to enhanced land capacity and longer and warmer summers, however an increase in soil aridity may decrease productivity. Projections suggest that the best grades of agricultural land in Wales and England (1-3a), will decrease from 37% to 7% by the 2080s. Equally the area of grade 4 land is expected to increase from 2% to roughly 66%. These projections are based upon a high emissions scenario and affected by factors such as soil aridity and the frequency of droughts (UK Climate Change Risk Assessment 2022 Evidence Report: Summary for Wales).

8.3.8 Built Heritage

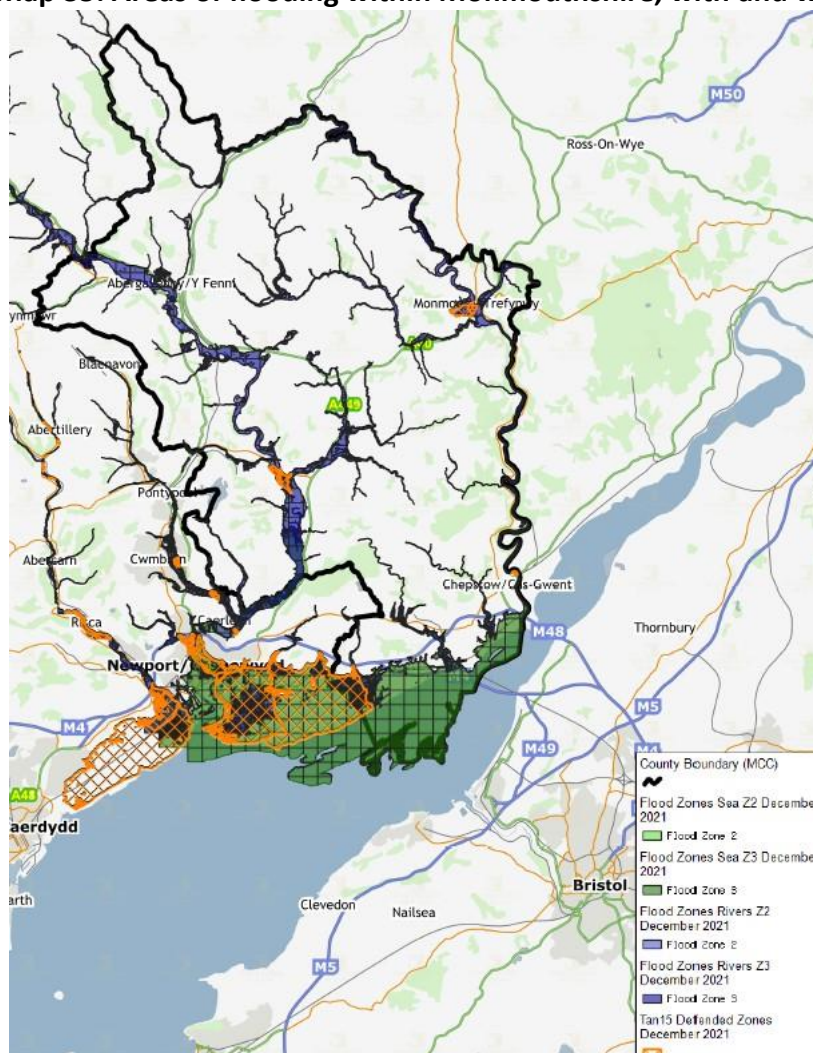
The risk of flooding to archaeological sites in low-lying areas like the Gwent Levels is likely to be increased. Other built heritage may suffer damage from increased severity in winter storms and in dry summers, subsidence as the ground dries out (Source UKCIP 2000). There is however a data gap in relation to the effects of climate change on the built heritage of Monmouthshire.

8.4 **Flooding**

- 8.4.1 An updated version of TAN 15: Development, Flooding and Coastal Erosion was published on 28th September 2021 with the intention of it coming into effect on 1st December 2021. Formal publication has, however, been suspended until 1st June 2023 for Development Management decisions. In the meantime, however, the updated TAN15 remains the policy basis for the preparation of the RLDP. The associated Flood Map for Planning (December 2021) should therefore be used as part of the RLDP process. This categorises areas of floodplain within Wales, Map 35 identifies the areas of floodplain within Monmouthshire. Flood Zone 1 relate to areas at minimal risk of flooding, Flood Zone 3 (Rivers and Sea) indicates areas at highest risk of flooding, followed by Zone 2. There are a number of these areas within Monmouthshire adjacent to the historic river courses and waterways. TAN15 Defended Zones identify areas of the floodplain that are served by significant infrastructure, including flood defences.

A large proportion of Flood Zone 3 floodplain is identified to the south of the County in the Gwent Levels. There is significant Flood Zone 3 floodplain in Monmouth, in the Wye Valley (including Llandogo and Tintern) and adjacent Chepstow all of which are located alongside the River Wye and its tributaries to the east of the County. There are also significant areas of Flood Zone 3 within the settlements of Abergavenny, Llanfoist and Usk, these settlements are located adjacent the River Usk in the west of the County. There are however flood defences within the towns of Chepstow, Monmouth and Usk and within part of Magor in the south of the County.

Map 35: Areas of flooding within Monmouthshire, with and without flood defences



Source: Welsh Assembly Government Technical Advice Note 15 (Updated September 2021).

8.4.2 Flood Risk

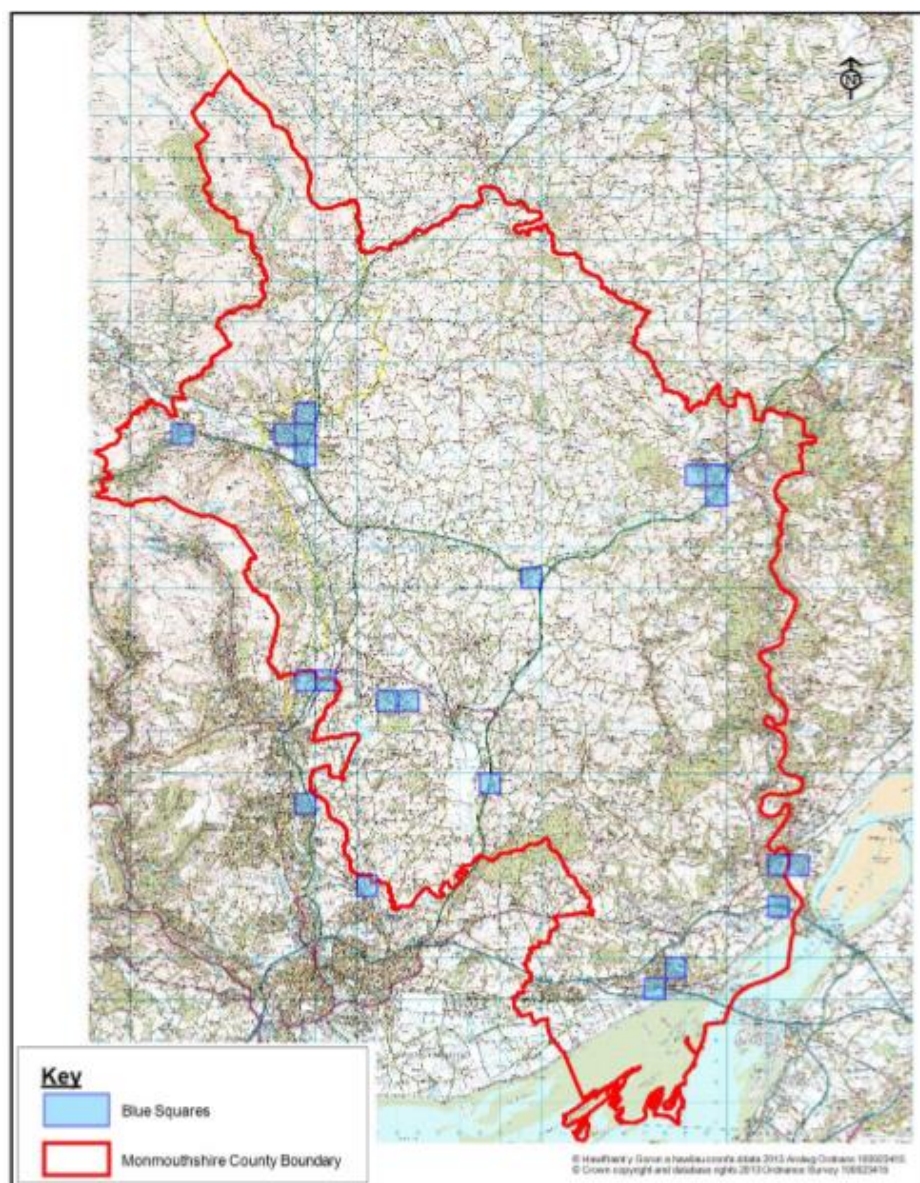
It is predicted that the sea level will rise by about 40cm by 2080 around the Welsh coasts, the frequency of flooding of low-lying areas like the Gwent Levels is therefore expected to increase (Source: UKCIP 2000).

Increased winter storms and intensity of daily precipitation will lead to the capacity of drains and sewers being exceeded; this will not only result in an increase in flooding but also the lack of replenishment of aquifers and reservoirs, as water is often diverted to rivers in these situations.

The Monmouthshire County Council Flood Risk Management Plan 2016 suggests that of the 92,994 people in the county, 543 are at high risk or 1 in 30 (3%) or greater chance of flooding, 801 are at medium risk or 1 in 100 (1%) chance of flooding, whilst 4,782 people are at low risk or 1 in 1000 (0.1%) chance of flooding. In addition, the plan suggests that those communities most at risk of 1 in 1000 year surface flooding

were Caldicot with 1159 residents and 493 properties at risk, Abergavenny with 1135 residents and 483 properties at risk, and Chepstow with 947 residents and 403 properties at risk. Monmouth, Magor with Undy, Llantilio Pertholey, Llanfoist Fawr, Usk, Llanelly and Portskewett all feature as part of the top 10 communities in this category. In terms of flooding from main rivers and the sea, those communities at most risk from a 1 in 1000 year flood, are Monmouth with 3443 residents and 1465 properties at risk, Abergavenny with 2374 residents and 1010 properties at risk and Usk with 1659 residents and 706 properties at risk.

Map 36: Areas of Concentrated Flood Risk



Source: Natural Resources Wales

Map 36 above, indicates areas of Monmouthshire of concentrated flood risk, and where flood risk exceeds the defined threshold, where 'a minimum of 200 people at risk of flooding; a minimum of 20 businesses at risk of flooding and 2 or more critical

services are at risk of flooding'. The map produced by NRW identifies 21 of these areas, 17 of which were within the Monmouthshire County Boundary.

8.4.3 Catchment Abstraction Management

The River Usk and River Wye both have Catchment Abstraction Management Strategies (CAMS) which set out how water abstraction will be managed, by outlining where water is available and where current rates of abstraction need to be reduced.

The Usk CAMS covers 1169km² and is spread across 5 counties including Monmouthshire, it is one of the Environment Agency's largest catchments and includes the River Usk and its tributaries but not the Usk Estuary. In the Usk CAMS, water is taken from both surface water and groundwater resources. Water is abstracted for public water supply, navigation, agriculture, commerce/industry, domestic use, spray irrigation, horticultural watering, lake/pond maintenance, fish farming and hydropower generation.

The 2017 Usk Abstraction Licensing Strategy suggests that Natural Resources Wales believe that surface water is very limited and is protected from abstraction, which should only be carried out at high flows.

The River Wye CAMS covers an area of 4171km² and includes a number of substantial tributaries including the Monnow. The 2015 Wye Abstraction Licensing Strategy suggests that Natural Resources Wales have concerns about surface water availability during low flows, where water for consumptive abstraction may only be available at medium to high flows.

8.5 Key Issues arising from a review of the Baseline Characteristics

Monmouthshire has a contribution to make to Wales as a globally responsible nation. In particular energy consumption and greenhouse emissions are two things that occur locally through homes, businesses and transport but contribute to global consequences. The following are the key issues to arise from a review of the baseline characteristics of the County:

- The number of low carbon energy generation projects in Monmouthshire have continues to rise. There is a continued need to encourage renewable and low carbon energy generation in appropriate locations and the incorporation of appropriate renewable energy schemes within new developments.
- Monmouthshire's carbon footprint per capita is lower than the Welsh average and has decreased over the past 10 years. There is still more to do however, to bring this figure down, with emissions from transport the main contributor.
- Parts of the County, mainly in the south and those areas adjacent to major water courses, are vulnerable to flooding, a risk that is increasing through climate change and rising sea levels. In 2016 there were some 1,344 people and 292 properties in the County at high (1 in 30 year) or medium (1 in 100 year) at risk of flooding.