

SDR 165/2013 (R)

20 December 2013

## Local authority population projections for Wales, 2011-based: Variant projections Revised

This release presents results of the variant 2011-based local authority population projections for Wales. It has been revised since initial publication on 26 September 2013 following a minor error discovered in the ten-year average migration variant. Tables 1 to 8 and accompanying information have been revised as a result. The principal projection and other variant projections are unaffected.

Population projections provide estimates of the size of the future population, and are based on assumptions about births, deaths and migration. The assumptions are based on past trends. Projections done in this way do not make allowances for the effects of local or central government policies on future population levels, distribution and change.

These 2011-based projections are trend-based projections for the 25-year period from 2011 to 2036. As they are trend-based they become less certain the further they are carried forward. They are based on mid-year population estimates for 2011 which are the first population estimates to be based on the 2011 Census.

In order to illustrate the inherent uncertainty around future demographic change when producing a set of projections it is possible to produce a 'central' or principal projection based on an agreed set of assumptions, and a number of variants based on alternative assumptions. For the 2011-based set of Local Authority Population Projections four variants have been produced along with the principal projection for each authority. Please see page 2 for more details. The results of these variant projections are presented and discussed in this release, with an emphasis on the period mid-2011 to mid-2026.

### Key points:

#### Projected Total Population

- For all authorities projected population is higher at mid-2026 based on the 'high variant' and lower based on the 'low variant' than based on the principal projection.
- Differences between the 'high variant' and principal projection for local authorities are around 1,300 on average, and between the 'low variant' and the principal projection around 2,000 at mid-2026.
- For most authorities projected population at mid-2026 is higher based on the ten-year average migration variant than based on the principal projection, which used a five-year average.

#### Projected Population by Age

- For some authorities there would be an increase in the population aged 0 to 15 between mid-2011 and mid-2026 based on the 'high variant', but a decrease if based on the 'low variant'.

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- The population aged 65 and over is projected to increase by mid-2026 for all local authorities based on both the principal projection and the other variants.
- Similarly the population aged 85 and over is projected to increase by mid-2026 for all local authorities based on both the principal projection and the other variants.

Detailed information is available via the interactive StatsWales website, including projected population for each variant broken down by age and gender:

<https://statswales.wales.gov.uk/Catalogue>

### **Variants for the 2011-based Projections**

In order to illustrate the uncertainty associated with projections, four variant projections have been published for each local authority alongside the main (or principal) population projection. These variant projections are purely illustrative to show how possible variations in the fertility, mortality and migration assumptions impact the projections and how the size of this impact increases the further into the projection period the results are taken. The four variant projections published are:

- A *higher population variant* which is based on assumptions of higher fertility rates and lower mortality rates.
- A *lower population variant* which is based on assumptions of lower fertility rates and higher mortality rates.
- A variant in which the migration assumption is based on average migration over a longer, ten-year period.
- A *zero migration (or 'natural change only') variant* to illustrate the projected population of each local authority if there were no future inward or outward migration.

For the higher population variant a higher assumption than used in the principal projection has been used for fertility at the same time as a higher assumption for life expectancy. Similarly, for the lower population variant a lower assumption for fertility has been used than in the principal projection at the same time as a lower assumption for life expectancy. These 'combination' variants are not intended to provide upper and lower ranges for the Local Authority Population projections.

For the 2011-based projections two migration variants have been produced for each local authority in Wales. For the principal projection a five-year series of data is used to calculate the average numbers of migrants for each local authority which are held constant for the length of the projection. As an alternative, a ten-year series of data has been used to produce average numbers of migrants which take into account migration trends over a longer time period. This is the first time this ten-year average migration variant has been produced. The 'zero migration' or 'natural change only' variant is provided to show the impact of migration on overall population growth. For this migration was assumed to be zero for all local authorities, so that any change in projected population is due to births and deaths.

Both the principal and variant projections have been developed in close collaboration with local authorities and key users in Wales through the Wales Sub-national Projections working group (WASP). Whilst there are many other variants that could be produced the WASP Working Group considered these four variants to be the most useful.

### **Projected Total Population**

The tables in this and the following section highlight the results of the Local Authority Population Projections for the first fifteen years of the projections, from mid-2011 to mid-2026. Table 1 shows projected total population at 2026 by local authority in Wales. Table 2 shows the projected growth between mid-2011 and mid-2026 based on the different variants.

Table 1 shows that for all authorities total population is projected to be higher at mid-2026 based on the higher population variant and lower based on the lower population variant than on the principal projection. The differences at mid-2026 between the higher population variant and the principal projection are around 1,300 on average, and between the lower population variant and the principal projection around 2,000. On the whole, the differences between the high and low variants and the principal projection vary in proportion to total population.

For most authorities the projected population at mid-2026 is higher based on the ten-year average migration variant than based on the principal projection. There are a number of exceptions, namely

Wrexham, Merthyr Tydfil, Torfaen, Newport and Cardiff. Based on the zero migration variant the population at mid-2026 would be 15,000 lower for Carmarthenshire and Swansea and 35,000 lower for Cardiff than under the principal projection, but would be slightly higher for Flintshire, Caerphilly and Torfaen.

**Table 1: Projected Population at mid-2026 for Local Authorities in Wales, by Variant**

Area	Population at mid-2011	Population as at mid-2026 based on:				
		Principal Projection	High Fertility and Life Expectancy	Low Fertility and Life Expectancy	Ten-Year Average Migration (r)	Zero Migration
Isle of Anglesey	69,900	69,900	70,500	69,000	71,600	69,900
Gwynedd	121,500	127,600	128,700	125,900	128,500	121,500
Conwy	115,300	116,800	117,800	115,400	120,000	112,300
Denbighshire	93,900	99,700	100,600	98,300	102,300	94,500
Flintshire	152,700	156,200	157,500	154,300	156,400	156,800
Wrexham	135,100	153,400	154,700	151,400	151,500	140,200
Powys	133,100	136,500	137,600	135,000	141,200	130,900
Ceredigion	75,300	78,100	78,800	77,300	78,800	77,200
Pembrokeshire	122,600	126,600	127,700	125,000	128,600	122,500
Carmarthenshire	184,000	198,200	200,000	195,800	203,000	183,100
Swansea	238,700	258,900	261,100	255,600	261,300	243,800
Neath Port Talbot	139,900	142,700	144,000	140,700	147,400	139,800
Bridgend	139,400	148,600	149,900	146,600	150,500	142,700
The Vale of Glamorgan	126,700	132,500	133,600	131,000	136,300	129,600
Rhondda Cynon Taf	234,400	237,400	239,600	233,600	244,800	240,400
Merthyr Tydfil	58,900	62,000	62,500	61,000	60,000	60,500
Caerphilly	178,800	183,500	185,200	180,800	184,600	184,000
Blaenau Gwent	69,800	68,000	68,700	67,000	68,100	69,300
Torfaen	91,200	93,000	93,900	91,600	92,300	93,900
Monmouthshire	91,500	92,300	93,000	91,400	95,000	90,400
Newport	145,800	161,400	163,000	158,900	159,300	154,400
Cardiff	345,400	412,800	416,500	407,500	408,800	377,700

Notes:

r - Revised figures.

Table 2 shows the projected population growth between mid-2011 and mid-2026 in percentage terms. Compared with the principal projection, growth is projected to be around 0.9 percentage points higher based on the 'high variant' and 1.4 percentage points lower based on the 'low variant' for a number of authorities. Based on the 'low variant' this means a projected decline in population for some authorities (Isle of Anglesey, Rhondda Cynon Taf, Monmouthshire, and Blaenau Gwent). Based on the ten-year average migration variant projected growth to mid-2026 is expected to be on average 1.1<sup>1</sup> percentage points higher than that based on the principal projection. This shows the effect a different migration assumption has on projected population growth. Based on the zero migration variant, average growth would be considerably lower, with an average of 1.6 percent across Wales, compared with nearly 5 percent under the principal projection.

<sup>1</sup> Revised figure.

**Table 2: Projected Population Change mid-2011 to mid-2026 for Local Authorities in Wales, by Variant**

*Percentages*

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Percentage Population Change mid-2011 to mid-2026 based on:

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Area	Principal Projection	High Fertility and Life Expectancy	Low Fertility and Life Expectancy	Ten-Year Average Migration (r)	Zero Migration
Isle of Anglesey	0.0	0.9	-1.3	2.4	0.0
Gwynedd	5.0	5.9	3.6	5.8	0.0
Conwy	1.3	2.2	0.1	4.1	-2.6
Denbighshire	6.2	7.1	4.7	8.9	0.6
Flintshire	2.3	3.1	1.0	2.4	2.7
Wrexham	13.5	14.5	12.1	12.1	3.8
Powys	2.6	3.4	1.4	6.1	-1.7
Ceredigion	3.7	4.6	2.7	4.6	2.5
Pembrokeshire	3.3	4.2	2.0	4.9	-0.1
Carmarthenshire	7.7	8.7	6.4	10.3	-0.5
Swansea	8.5	9.4	7.1	9.5	2.1
Neath Port Talbot	2.0	2.9	0.6	5.4	-0.1
Bridgend	6.6	7.5	5.2	8.0	2.4
The Vale of Glamorgan	4.6	5.4	3.4	7.6	2.3
Rhondda Cynon Taf	1.3	2.2	-0.3	4.4	2.6
Merthyr Tydfil	5.3	6.1	3.6	1.9	2.7
Caerphilly	2.6	3.6	1.1	3.2	2.9
Blaenau Gwent	-2.6	-1.6	-4.0	-2.4	-0.7
Torfaen	2.0	3.0	0.4	1.2	3.0
Monmouthshire	0.9	1.6	-0.1	3.8	-1.2
Newport	10.7	11.8	9.0	9.3	5.9
Cardiff	19.5	20.6	18.0	18.4	9.4
<b>Average</b>	<b>4.9</b>	<b>5.8</b>	<b>3.5</b>	<b>6.0</b>	<b>1.6</b>

Notes:

r - Revised figures.

### Projected Population by Age

Full results of the variant projections by single year of age are provided on StatsWales. However the following tables summarise the results to show the effect of the variant assumptions on the population for selected age groups. Tables show the projection results for populations aged 0-15, 65 and over, and 85 and over. These age groups will be important for particular areas of policy and service planning, such as education, health and social services.

#### *Population Aged 0 to 15*

Table 3 shows that based on the principal projection the population aged 0 to 15 is projected to decrease in some authorities but to increase in others from mid-2011 to mid-2026. As may be expected, for most authorities projected increases in the population aged 0 to 15 would be larger under the higher population variant than under the principal projection. For some though there would be an increase in the population aged 0 to 15 by mid-2026 based on the 'high variant', but a decrease based on the low population variant. For a handful of authorities (Flintshire, Powys, Caerphilly, Monmouthshire and

Blaenau Gwent) the population aged 0 to 15 is expected to decrease based on both the higher and lower population variants and the principal projection, with the size of the decrease varying accordingly.

Based on the ten-year average migration variant the projected population aged 0 to 15 is generally higher than based on the principal projection and similar to that based on the higher population variant in some cases. Based on the zero migration variant there would still be growth in the 0 to 15 age group, with the population projected to be higher in mid-2026 than in mid-2011 for the majority of local authorities. For some authorities the population aged 0 to 15 would also be higher based on the zero migration variant than based on the principal projection.

**Table 3: Projected Population Aged 0 to 15 at mid-2026 for Local Authorities in Wales, by Variant**

Area	Population Aged 0 to 15 as at mid-2011	Population Aged 0 to 15 as at mid-2026 based on:				
		Principal Projection	High Fertility and Life Expectancy	Low Fertility and Life Expectancy	Ten-Year Average Migration (r)	Zero Migration
Isle of Anglesey	11,900	12,400	12,800	11,700	12,700	12,600
Gwynedd	20,900	20,500	21,200	19,100	20,900	20,700
Conwy	19,100	19,100	19,700	18,000	19,500	19,200
Denbighshire	17,000	18,000	18,600	16,900	18,300	17,600
Flintshire	28,600	27,500	28,500	26,100	27,200	26,900
Wrexham	25,800	28,400	29,400	26,800	28,300	26,100
Powys	22,800	21,100	21,800	20,100	22,100	20,900
Ceredigion	11,200	12,100	12,600	11,500	12,200	14,000
Pembrokeshire	22,000	21,800	22,500	20,600	21,900	21,400
Carmarthenshire	33,000	34,900	36,000	33,000	35,600	31,800
Swansea	41,300	43,900	45,500	41,300	45,200	42,800
Neath Port Talbot	24,700	25,600	26,500	24,000	26,600	24,600
Bridgend	25,400	26,900	27,800	25,300	27,700	26,200
The Vale of Glamorgan	23,800	23,300	24,000	22,000	24,100	21,800
Rhondda Cynon Taf	44,300	44,900	46,500	41,800	46,500	45,200
Merthyr Tydfil	11,000	11,300	11,700	10,500	11,000	11,200
Caerphilly	34,800	33,500	34,600	31,300	33,800	33,500
Blaenau Gwent	12,500	11,500	11,900	10,700	11,600	12,000
Torfaen	17,200	17,900	18,500	16,700	17,600	17,600
Monmouthshire	16,200	14,500	14,900	13,900	15,000	13,600
Newport	29,400	33,300	34,500	31,200	32,900	31,100
Cardiff	63,100	79,600	82,500	75,100	78,600	77,000

Notes:

r - Revised figures.

Table 4 compares in percentage terms the proportion of the projected total population aged 0 to 15 by variant at mid-2026 with that at mid-2011. For most authorities the percentage of the population aged 0 to 15 is expected to be lower at mid-2026 than at mid-2011 based on the principal projection, and even lower based on the lower population variant. For some though the percentage of the population aged 0 to 15 is expected to decrease even under the higher population variant. This may be due to projected growth in other age groups such as those aged 65 and over.

Based on the ten-year average migration variant the percentage of the population aged 0 to 15 is expected to be higher than that based on the principal projection for around half the authorities in Wales at mid-2026<sup>2</sup>. Similarly the zero migration variant results in a higher proportion of the population aged 0 to 15 for most authorities than based on the principal projection at mid-2026.

**Table 4: Projected Percentage of Total Population Aged 0 to 15 at mid-2026 for Local Authorities in Wales, by Variant**

Area	<i>Percentages</i>					
	Percentage Aged 0 to 15 as at mid-2011	Percentage Aged 0 to 15 as at mid-2026 based on:				
		Principal Projection	High Fertility and Life Expectancy	Low Fertility and Life Expectancy	Ten-Year Average Migration (r)	Zero Migration
Isle of Anglesey	17.0	17.7	18.2	17.0	17.8	18.0
Gwynedd	17.2	16.0	16.5	15.2	16.3	17.0
Conwy	16.5	16.3	16.7	15.6	16.3	17.1
Denbighshire	18.1	18.1	18.5	17.2	17.9	18.6
Flintshire	18.7	17.6	18.1	16.9	17.4	17.2
Wrexham	19.1	18.5	19.0	17.7	18.7	18.6
Powys	17.1	15.5	15.9	14.9	15.6	16.0
Ceredigion	14.8	15.5	15.9	14.9	15.5	18.2
Pembrokeshire	17.9	17.2	17.6	16.4	17.0	17.5
Carmarthenshire	18.0	17.6	18.0	16.9	17.5	17.4
Swansea	17.3	17.0	17.4	16.2	17.3	17.6
Neath Port Talbot	17.6	18.0	18.4	17.1	18.0	17.6
Bridgend	18.2	18.1	18.5	17.3	18.4	18.3
The Vale of Glamorgan	18.8	17.5	18.0	16.8	17.7	16.8
Rhondda Cynon Taf	18.9	18.9	19.4	17.9	19.0	18.8
Merthyr Tydfil	18.6	18.2	18.6	17.2	18.4	18.6
Caerphilly	19.5	18.2	18.7	17.3	18.3	18.2
Blaenau Gwent	17.9	16.9	17.4	16.0	17.0	17.3
Torfaen	18.9	19.2	19.7	18.3	19.1	18.8
Monmouthshire	17.7	15.7	16.1	15.2	15.7	15.0
Newport	20.2	20.7	21.2	19.7	20.6	20.2
Cardiff	18.3	19.3	19.8	18.4	19.2	20.4
Average	18.0	17.6	18.1	16.8	17.7	17.9

Notes:

r - Revised figures.

<sup>2</sup> Revised information.

## Population Aged 65 and over

Table 5 shows that the population aged 65 and over is projected to increase by mid-2026 for all authorities based on the principal projection and all the other variants. Increases range from 2 or 3 thousand for Blaenau Gwent and Merthyr to around 15 thousand for Cardiff. Differences in the projected population aged 65 and over between the higher and lower population variants and the principal projection are no more than a few hundred at mid-2026. For the ten-year average and zero migration variants the differences tend to be greater, with projected populations several thousand below the principal projection for some authorities based on the zero migration variant.

**Table 5: Projected Population Aged 65 and over at mid-2026 for Local Authorities in Wales, by Variant**

Area	Population Aged 65+ as at mid-2011	Population aged 65+ as at mid-2026 based on:				
		Principal Projection	High Fertility and Life Expectancy	Low Fertility and Life Expectancy	Ten-Year Average Migration (r)	Zero Migration
Isle of Anglesey	15,700	20,200	20,400	20,000	20,600	19,500
Gwynedd	25,300	30,300	30,600	30,000	31,000	30,800
Conwy	28,400	35,700	36,100	35,400	36,500	32,800
Denbighshire	19,900	26,100	26,400	25,800	27,000	24,300
Flintshire	27,100	37,900	38,300	37,500	38,100	38,300
Wrexham	23,000	32,200	32,500	31,900	32,100	31,300
Powys	30,500	42,700	43,100	42,300	43,800	39,300
Ceredigion	15,800	20,500	20,700	20,300	20,900	20,300
Pembrokeshire	26,900	35,000	35,300	34,600	36,100	34,000
Carmarthenshire	38,400	50,900	51,400	50,400	52,500	48,000
Swansea	43,000	54,400	55,000	53,900	54,500	54,900
Neath Port Talbot	26,200	33,400	33,800	33,100	34,200	33,500
Bridgend	25,000	34,500	34,800	34,100	34,400	32,800
The Vale of Glamorgan	23,200	32,900	33,200	32,600	33,400	32,500
Rhondda Cynon Taf	40,300	51,400	52,000	50,800	51,600	52,000
Merthyr Tydfil	9,900	13,200	13,400	13,100	13,100	13,200
Caerphilly	29,800	40,500	40,900	40,100	40,700	40,400
Blaenau Gwent	12,500	15,100	15,300	14,900	15,500	15,300
Torfaen	16,500	21,700	21,900	21,500	21,800	21,700
Monmouthshire	19,200	26,800	27,000	26,500	27,200	26,000
Newport	23,800	29,700	30,000	29,400	29,700	30,900
Cardiff	45,700	62,500	63,100	61,900	60,900	64,300

Notes:

r - Revised figures.

Similarly, Table 6 shows that the proportion of the population aged 65 and over is projected to increase based on the principal and variant projections for all authorities. Projected proportions at mid-2026 range from around 15 percent for Cardiff to 30 percent or over for Powys, based on the principal and all variant projections. For the higher and lower population and ten-year average migration variants the proportions of those aged 65 and over are not significantly different to the principal projection, but are slightly higher on average<sup>3</sup>. For the zero migration variant the proportions are slightly higher on average. For all variants, as a proportion those aged 65 and over are expected to increase from a fifth of total population at mid-2011 to a quarter by mid-2026.

<sup>3</sup> Revised information.

**Table 6: Projected Percentage of Total Population Aged 65 and over at mid-2026 for Local Authorities in Wales, by Variant**

Area	Percentage Aged 65+ as at mid-2011	Percentage Aged 65+ as at mid-2026 based on:				
		Principal Projection	High Fertility and Life Expectancy	Low Fertility and Life Expectancy	Ten-Year Average Migration (r)	Zero Migration
Isle of Anglesey	22.5	29.0	29.0	29.1	28.7	28.0
Gwynedd	20.8	23.8	23.8	23.8	24.1	25.4
Conwy	24.6	30.6	30.6	30.7	30.4	29.2
Denbighshire	21.1	26.2	26.2	26.3	26.4	25.8
Flintshire	17.8	24.3	24.3	24.3	24.4	24.4
Wrexham	17.1	21.0	21.0	21.1	21.2	22.4
Powys	22.9	31.3	31.3	31.4	31.0	30.0
Ceredigion	21.0	26.2	26.3	26.3	26.5	26.3
Pembrokeshire	22.0	27.6	27.6	27.7	28.0	27.7
Carmarthenshire	20.9	25.7	25.7	25.7	25.8	26.2
Swansea	18.0	21.0	21.1	21.1	20.8	22.5
Neath Port Talbot	18.7	23.4	23.5	23.5	23.2	24.0
Bridgend	18.0	23.2	23.2	23.3	22.8	22.9
The Vale of Glamorgan	18.3	24.8	24.8	24.9	24.5	25.1
Rhondda Cynon Taf	17.2	21.6	21.7	21.7	21.1	21.6
Merthyr Tydfil	16.7	21.4	21.4	21.5	21.8	21.9
Caerphilly	16.7	22.1	22.1	22.2	22.0	22.0
Blaenau Gwent	17.9	22.2	22.3	22.3	22.7	22.0
Torfaen	18.1	23.3	23.3	23.4	23.6	23.1
Monmouthshire	21.0	29.0	29.1	29.0	28.7	28.8
Newport	16.4	18.4	18.4	18.5	18.6	20.0
Cardiff	13.2	15.1	15.2	15.2	14.9	17.0
Average	19.1	24.1	24.2	24.2	24.2	24.4

Notes:

r - Revised figures.

#### *Population Aged 85 and over*

As with the population aged 65 and over, the population aged 85 and over is projected to increase by mid-2026 for all authorities based on the principal and all the variant projections. For the principal projection the increase to mid-2026 is 3,000 or less for all authorities. As may be expected for the higher population variant the increases in the 85 and over age group are all slightly larger whereas for the lower population variant they are all slightly lower, with the largest increase being around 2,800. Nevertheless for the higher population variant and lower population variant projected numbers are all within a few hundred of the principal projection.

For the ten-year average migration variant projected numbers of those aged 85 and over tend to be around a hundred higher than based on the principal projection but are around the same as for the higher population variant in a some cases. For both the migration variants the projected population aged 85 and over is around the same as the principal projection for a handful of local authorities. This possibly indicates very little assumed migration at older ages in the principal and variant migration assumptions.



**Table 7: Projected Population Aged 85 and over at mid-2026 for Local Authorities in Wales, by Variant**

Area	Population Aged 85+ as at mid-2011	Population aged 85+ as at mid-2026 based on:				
		Principal Projection	High Fertility and Life Expectancy	Low Fertility and Life Expectancy	Ten-Year Average Migration (r)	Zero Migration
Isle of Anglesey	2,000	3,400	3,500	3,300	3,400	3,500
Gwynedd	3,500	5,100	5,300	5,000	5,200	5,400
Conwy	4,300	6,400	6,600	6,300	6,500	6,600
Denbighshire	2,600	4,100	4,200	4,000	4,200	4,100
Flintshire	3,200	6,100	6,200	5,900	6,100	6,200
Wrexham	2,900	5,000	5,100	4,800	5,000	4,700
Powys	4,200	7,000	7,200	6,800	7,200	6,800
Ceredigion	2,200	3,400	3,500	3,300	3,400	3,600
Pembrokeshire	3,500	6,000	6,100	5,800	6,100	6,000
Carmarthenshire	5,200	7,900	8,100	7,700	8,100	7,700
Swansea	5,800	8,800	9,100	8,600	8,800	9,100
Neath Port Talbot	3,500	4,800	5,000	4,700	4,900	5,000
Bridgend	3,100	5,300	5,400	5,100	5,200	5,000
The Vale of Glamorgan	3,200	5,300	5,400	5,100	5,400	5,300
Rhondda Cynon Taf	5,100	7,600	7,900	7,400	7,700	7,600
Merthyr Tydfil	1,200	1,900	2,000	1,900	1,900	2,000
Caerphilly	3,400	5,600	5,800	5,400	5,700	5,700
Blaenau Gwent	1,500	2,100	2,200	2,000	2,200	2,200
Torfaen	2,200	3,400	3,500	3,300	3,400	3,400
Monmouthshire	2,600	4,600	4,700	4,500	4,700	4,500
Newport	3,200	4,700	4,800	4,600	4,700	4,900
Cardiff	6,900	9,700	10,000	9,400	9,400	10,000

Notes:

r - Revised figures.

The percentage of the population aged 85 and over is projected to increase based on the principal and variant projections for all authorities. Based on the principal projection the proportion of the population that aged 85 and over is projected to rise from 2.5 percent to 3.8 percent on average by mid-2026. For the higher population variant the percentages tend to be slightly higher at mid-2026 than when based on the principal projection, whereas for the lower population variant they tend to be lower or about the same, based on the rounded figures shown in the table.

For the ten-year average migration variant the percentage of those aged 85 and over at mid-2026 is projected to be the same as for the principal projection for most authorities. For the zero migration variant the percentage of those aged 85 and over at mid-2026 is the same or higher than for the principal projection. This may be due to the effect the migration assumption for the principal projection has on the population at ages up to 85.

**Table 8: Projected Percentage of Total Population Aged 85 and over at mid-2026 for Local Authorities in Wales, by Variant**

Area	Percentage Aged 85+ as at mid-2011	Percentage Aged 85+ as at mid-2026 based on:				
		Principal Projection	High Fertility and Life Expectancy	Low Fertility and Life Expectancy	Ten-Year Average Migration (r)	Zero Migration
Isle of Anglesey	2.9	4.8	4.9	4.8	4.8	5.0
Gwynedd	2.9	4.0	4.1	4.0	4.1	4.4
Conwy	3.8	5.5	5.6	5.4	5.4	5.9
Denbighshire	2.8	4.1	4.2	4.0	4.1	4.3
Flintshire	2.1	3.9	4.0	3.8	3.9	4.0
Wrexham	2.2	3.3	3.3	3.2	3.3	3.4
Powys	3.1	5.1	5.2	5.1	5.1	5.2
Ceredigion	2.9	4.3	4.4	4.2	4.3	4.6
Pembrokeshire	2.9	4.7	4.8	4.6	4.7	4.9
Carmarthenshire	2.8	4.0	4.1	3.9	4.0	4.2
Swansea	2.4	3.4	3.5	3.4	3.4	3.7
Neath Port Talbot	2.5	3.4	3.5	3.3	3.3	3.6
Bridgend	2.2	3.5	3.6	3.5	3.4	3.5
The Vale of Glamorgan	2.5	4.0	4.0	3.9	4.0	4.1
Rhondda Cynon Taf	2.2	3.2	3.3	3.2	3.1	3.2
Merthyr Tydfil	2.0	3.1	3.2	3.1	3.2	3.3
Caerphilly	1.9	3.1	3.1	3.0	3.1	3.1
Blaenau Gwent	2.2	3.1	3.2	3.0	3.2	3.1
Torfaen	2.4	3.6	3.7	3.6	3.7	3.6
Monmouthshire	2.9	5.0	5.1	4.9	4.9	5.0
Newport	2.2	2.9	3.0	2.9	3.0	3.2
Cardiff	2.0	2.3	2.4	2.3	2.3	2.7
Average	2.5	3.8	3.9	3.8	3.8	4.0

Notes:

r - Revised figures.

## Variant Assumptions

### *Fertility and Life Expectancy*

For the 2011-based Local Authority Population projections variant assumptions for fertility and life expectancy are based on the assumptions for 'standard' high and low fertility and mortality variants from the 2010-based National Population Projections (NPP). The methodology for the principal projections uses 'differentials' to apply national level trends at a local authority level. The differentials are indices of future fertility and mortality rates based on rates for the first year of the projection. By preparing an alternative set of differentials it is possible to apply the trends from the variant national-level projections to the starting fertility and mortality rates in the same way.

When comparing the effects of variant assumptions it is possible to use demographic measures such as the Total Fertility Rate (TFR) and Expectation of Life at Birth (EOLB). These indicators of fertility and mortality respectively enable comparisons to be made either between geographic areas or over time. The TFR is the average number of children that women would bear if the female population experienced the age-specific fertility rates for the year in question throughout their childbearing years. EOLB is the age, in years, to which a person is expected to live if they experience the age-specific mortality rates for the year in question over the course of their life.

For fertility the high variant assumption from the NPP is that the long-term TFR will be +0.2 above that for the principal projection whilst for the low variant the NPP assumption is that the long-term TFR will be -0.2 below that for the principal projection. For mortality the assumption is that current annual improvements in mortality rates for most ages will gradually converge to common 'target rates' of improvement, at each age and for both sexes, by the year 2035, and continue to improve at that constant rate thereafter. The NPP assumptions are that the annual rate of improvement will be 1.2 percent at 2035 for the principal projection, 2.4 percent for the high variant and 0 percent for the low variant.

The projected TFR and EOLB figures from the Local Authority Population Projections based on the principal projections are shown in Tables 9 and 10. The principal assumptions mean that TFRs are projected to reduce over the projection period whilst EOLB figures are expected to increase over the projection period. The higher- and lower population variant projections produce TFR and EOLB figure which are relatively higher and lower respectively than those shown below, for years 2012-13 onwards.

**Table 9: Projected Total Fertility Rate (TFR) by Local Authority for Wales, 2011-based Principal Projections**

Area	2011-12	2015-16	2025-26	2035-36
Isle of Anglesey	2.25	2.22	2.09	2.07
Gwynedd	1.77	1.76	1.66	1.65
Conwy	2.16	2.14	2.01	1.99
Denbighshire	2.22	2.19	2.07	2.05
Flintshire	1.99	1.98	1.86	1.85
Wrexham	2.10	2.08	1.96	1.94
Powys	2.07	2.05	1.94	1.92
Ceredigion	1.79	1.78	1.69	1.68
Pembrokeshire	2.11	2.09	1.97	1.95
Carmarthenshire	2.00	1.98	1.87	1.85
Swansea	1.77	1.75	1.66	1.64
Neath Port Talbot	1.98	1.96	1.84	1.82
Bridgend	2.13	2.10	1.98	1.96
The Vale of Glamorgan	1.98	1.96	1.85	1.83
Rhondda Cynon Taf	1.98	1.96	1.84	1.82
Merthyr Tydfil	1.92	1.90	1.78	1.76
Caerphilly	1.97	1.94	1.83	1.81
Blaenau Gwent	1.77	1.75	1.64	1.62
Torfaen	2.03	2.01	1.89	1.87
Monmouthshire	1.93	1.92	1.81	1.80
Newport	2.09	2.07	1.95	1.93
Cardiff	1.74	1.73	1.63	1.63

**Table 10: Expectation of Life at Birth (EOLB) in years, by Local Authority for Wales, 2011-based Principal Projections**

Area	2011	2015	2025	2035
Isle of Anglesey	80.6	81.3	82.7	83.6
Gwynedd	80.9	81.6	82.9	83.8
Conwy	80.6	81.3	82.7	83.6
Denbighshire	80.1	80.8	82.2	83.2
Flintshire	81.0	81.7	83.0	83.9
Wrexham	80.2	81.0	82.3	83.3
Powys	81.9	82.6	83.8	84.7
Ceredigion	81.8	82.5	83.7	84.6
Pembrokeshire	81.0	81.7	83.0	83.9
Carmarthenshire	80.4	81.2	82.5	83.5
Swansea	80.3	81.1	82.4	83.4
Neath Port Talbot	78.9	79.7	81.2	82.3
Bridgend	79.7	80.4	81.9	82.9
The Vale of Glamorgan	81.6	82.3	83.5	84.4
Rhondda Cynon Taf	78.9	79.7	81.2	82.3
Merthyr Tydfil	78.9	79.7	81.2	82.2
Caerphilly	79.5	80.3	81.7	82.7
Blaenau Gwent	78.0	78.8	80.4	81.5
Torfaen	80.0	80.8	82.2	83.2
Monmouthshire	82.0	82.7	83.9	84.7
Newport	79.8	80.5	81.9	82.9
Cardiff	80.2	81.0	82.3	83.3

#### *Ten-Year Average Migration*

The assumption for ten-year average migration variant was based on mid-year components of change data produced by the Office for National Statistics for mid-2001 to mid-2011. The average numbers of migrants by age and gender produced by this were assumed to be constant for the length of the projection. Table 11 shows these ten-year average migration figures by flow for each local authority rounded to the nearest hundred. Table 12 then compares the net flows with those from the principal projection. For most local authorities this produces higher net internal migration and higher net total migration than the principal projection assumption, although for some net international migration is lower.

**Table 11: Average Migration for Local Authorities in Wales, based on mid-2001 to mid-2011**

	Internal migration			International migration			Total migration		
	In	Out	Net	In	Out	Net	In	Out	Net
Isle of Anglesey	2,350	2,200	150	140	120	20	2,490	2,320	170
Gwynedd	5,460	5,200	260	760	560	200	6,210	5,760	460
Conwy	4,870	4,210	670	320	380	-50	5,200	4,580	620
Denbighshire	4,610	4,040	570	240	220	20	4,850	4,260	590
Flintshire	4,680	4,730	-50	310	260	50	5,000	5,000	-
Wrexham	3,890	3,640	250	760	330	440	4,650	3,970	690
Powys	5,510	4,730	770	310	260	50	5,810	4,990	820
Ceredigion	5,910	5,710	200	600	520	80	6,510	6,230	280
Pembrokeshire	4,130	3,660	470	420	360	60	4,540	4,020	520
Carmarthenshire	6,350	5,210	1,140	510	270	240	6,870	5,480	1,380
Swansea	8,900	8,540	370	1,680	1,020	660	10,580	9,560	1,030
Neath Port Talbot	4,050	3,530	520	140	160	-10	4,190	3,690	500
Bridgend	3,940	3,440	490	270	220	50	4,210	3,660	540
Vale of Glamorgan	5,000	4,550	450	310	300	10	5,310	4,850	460
Rhondda Cynon Taf	6,290	6,180	110	770	670	100	7,060	6,850	210
Merthyr Tydfil	1,300	1,410	-120	160	70	90	1,450	1,480	-30
Caerphilly	4,340	4,230	110	150	210	-60	4,490	4,440	50
Blaenau Gwent	1,560	1,640	-70	80	70	20	1,650	1,700	-60
Torfaen	2,280	2,340	-60	90	110	-20	2,370	2,450	-80
Monmouthshire	4,270	3,850	420	170	220	-50	4,440	4,060	380
Newport	4,990	4,940	50	800	660	150	5,800	5,590	200
Cardiff	17,960	17,920	30	4,780	3,160	1,620	22,730	21,090	1,650

**Table 12: Principal and Ten-Year Average Migration Assumptions for Local Authorities in Wales, 2011-based Projections**

Assumption:	Net International migration					
	Net Internal migration		migration		Net Total migration	
	Principal	Ten-Year Average	Principal	Ten-Year Average	Principal	Ten-Year Average
Isle of Anglesey	30	150	10	20	40	170
Gwynedd	50	260	330	200	390	460
Conwy	540	670	-130	-50	410	620
Denbighshire	390	570	-	20	400	590
Flintshire	-110	-50	100	50	-20	-
Wrexham	170	250	630	440	790	690
Powys	460	770	30	50	490	820
Ceredigion	80	200	140	80	220	280
Pembrokeshire	300	470	50	60	350	520
Carmarthenshire	790	1,140	240	240	1,030	1,380
Swansea	160	370	750	660	910	1,030
Neath Port Talbot	200	520	-10	-10	190	500
Bridgend	410	490	40	50	450	540
Vale of Glamorgan	210	450	10	10	220	460
Rhondda Cynon Taf	-550	110	320	100	-230	210
Merthyr Tydfil	-60	-120	130	90	80	-30
Caerphilly	10	110	-40	-60	-30	50
Blaenau Gwent	-120	-70	40	20	-80	-60
Torfaen	-50	-60	-	-20	-50	-80
Monmouthshire	270	420	-70	-50	190	380
Newport	-70	50	360	150	290	200
Cardiff	300	30	1,650	1,620	1,960	1,650

## Quality Information

In addition to the information below, further information can be found at:

<http://gov.wales/statistics-and-research/local-authority-population-projections/frequently-asked-questions/?lang=en>

## Relevance

Population and migration statistics are important for policy development, and planning and providing public services. There is a high demand for population and migration statistics for a variety of uses.

Some of these include:

- Planning services and estimating future need at national and local level, e.g. schools, health and social services provision.
- As part of the Local Government Finance revenue settlement.
- Policy development,
- Advice to Ministers
- Informing debate in the National Assembly for Wales and beyond.
- For the calculation of further statistics e.g. Spatial Plan Areas, Housing Estimates and Household Projections.
- As denominators in rates (e.g. birth rates).
- For the purposes of weighting surveys.
- Geographic profiling, comparisons and benchmarking.
- Analysis of population cohorts and migration trends.

There is a wide variety of users of population data from national and local government, charities and voluntary sector organisations, other government departments, students, academics and universities, individual citizens and private companies. In particular there is a high level of interest in projections at local authority level. Those who plan for the future, to deliver services and to help frame sustainable policies, need to consider the population by age and sex. Population projections can identify trends that shape the context for future policy development.

There are similar demands for local authority household projections for planning purposes. Local Authority Population Projections are the basis for producing household projections which are used for housing planning purposes e.g. are considered in preparation of Local Development Plans.

## Data Source and Definitions

Population projections are based on mid-year population estimates (as at 30 June each year). Mid-year population estimates for Wales and England are produced by the Office for National Statistics (ONS). In order to produce the Local Authority Population Projections the population estimates are combined with assumptions about births, deaths and migration. These assumptions are based on past trends.

The assumptions for the 2011-based projections have been produced using data from mid-2011 population estimates and the revised population and migration estimates for mid-2002 to mid-2010 which were published by ONS on 30 April 2013, including actual numbers of births and deaths and estimates of migration. Due to the timing of the release of the revised estimates it has not been possible to also incorporate data from the mid-2012 population estimates which were published on 26 June 2013.

For migration the UN definition of an international migrant is used – those changing country of residence for a period of at least 12 months. Short-term migrants (e.g. migrant workers from Eastern European countries) are not counted in the population estimates.

## Quality

These population projections are National Statistics. National Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference.

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- Meet identified user needs;
- Are well explained and readily accessible;
- Are produced according to sound methods, and
- Are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

**Population projections** are trend-based projections that provide estimates of the size of the future population, and are based on assumptions about births, deaths and migration. The assumptions are generally based on past trends. Projections done in this way do not make allowances for the effects of local or central government policies on future population levels, distribution and change

Population projections do, therefore, have their limitations. These local authority population projections are not policy-based forecasts. They only indicate what may happen in future should the trend-based assumptions become true.

As the process of demographic change is cumulative, projections become increasingly uncertain the further they are carried forward. Demographic change affects some populations more rapidly and to a greater effect than others. Due to the size of estimated migration flows, for some local authorities migration assumptions are more critical than fertility and mortality assumptions. Therefore, migration assumptions can have a significant effect on certain areas in the long-term.

It would be impossible for any projections to be entirely correct – changes in the economy, in individual, family and household behaviour and events outside the UK will occur and will influence the three main components of population change. Possible effects of this uncertainty are shown by producing both a principal projection and a number of variant projections. These variants give alternative plausible scenarios according to high or low assumptions about the trajectories of fertility, migration and mortality; they can also be combined to see the effect on the projections of, for example, a ‘young’ population assumption (high fertility, high migration and low life expectancy assumptions).

Local authorities are advised to use these published projections as a starting point, and are encouraged to produce their own variant projections and scenarios if required. The PopGroup software used to produce the projections is available to local authorities in Wales and (as in previous projection rounds) permission will be sought from ONS to share the base data used so that local authorities can use the data to create their own variants if they wish.

## Methodology

Local Authority Population Projections are produced using a well established demographic approach known as the cohort component method. In simple terms, this involves:

- Taking the most recent year's population estimate;
- Taking out special population groups;
- Ageing every person on one year;
- Adding births and subtracting deaths;
- Allowing for inward and outward migration;
- Adding back in the special population groups.

The base data used to make the calculations are produced by the Office for National Statistics.

This process is carried out for all unitary authorities in Wales for the length of the projection, normally twenty-five years. In order to produce population projections, assumptions need to be formed to project future levels of fertility, mortality and migration for each local authority. These assumptions are based on local trends in recent years.

The methodology for these projections has been developed in close collaboration with local authorities and key users in Wales - through the Wales Sub-national Projections (WASP) working group. This group has met on a regular basis during the preparation of the projections and has been a forum for technical discussion on the methodology and the base data used. Members of WASP include local authority representatives with knowledge of and/or experience of demographic data and population projections.

Guidance on the detailed methodology used to produce the 2011-based Local Authority Population Projections has been published in a technical report. This can be found at:

<http://gov.wales/statistics-and-research/local-authority-population-projections/technical-report/?lang=en>

## Revisions and changes

This release was revised on 20 December 2013 following a minor error discovered in one small element of the projection methodology relating to the age distributions used for internal migration to other parts of the UK, for the ten year average migration variant only. The principal projection and other variants were unaffected by this. This revision does not substantially affect any of the key messages presented.

These 2011-based population projections replace the 2008-based population projections and take account of the most recent data on which to base trends. There have been no revisions to these population projections. However there have recently been changes to the methods used to produce the mid-year population estimates on which they are based. These changes are explained below.

From mid-2011 onwards, prisoners are regarded as usually resident at an institution if they are serving a custodial sentence of six months or more. Previously, prisoners were considered usually resident if they were serving a custodial sentence and had already been in prison for six months or more. This definition was changed in order to be more consistent with the 2011 Census definition of usual residence for prisoners.

Prior to mid-2011, school boarders were treated as a special population as it was believed their movements were not captured in the data sources used to estimate internal migration. However, further research has shown that school boarder moves are measured in the internal migration estimates and therefore this component will no longer be included in the mid-year estimates. As a consequence school boarders were treated as a special population in the 2006-based and 2008-based Local Authority Population Projections but this will not be the case in current and future projections.

The population estimates made between census years are revised following a subsequent census in order to provide a consistent series of population estimates over time. This avoids a step change in the



estimates when they are rebased using new census counts. The mid-year population estimates for 2002-2010 were revised to take into account the results of the 2011 Census at a national level on 13 December 2012 and at a local authority level on 30 April 2013. The change in how school boarder moves are taken account of in the mid-year estimates was applied along with other adjustments when these revised estimates were produced. Similarly, school boarders are no longer treated as a special population in the Local Authority Population Projections.

### **Comparability**

Due to the revisions to the methods used to population estimates the base of the 2011-based Local Authority Population Projections for Wales is not directly comparable with that for the 2008-based or 2006-based projections. Thus any comparison with previous projections needs to be treated with caution.

The Local Authority Population Projections also use a different approach to that used for the National Population Projections (NPP). As a result the aggregated total of the Local Authority Projections is not equal to the National Population Projection for Wales for a given year. Guidance on how to use the Local Authority Population Projections and the NPP for Wales is provided in the summary report for the 2006-based projections which is available here:

<http://wales.gov.uk/topics/statistics/publications/publication-archive/popprojsum06/?lang=en>

### **Frequency**

Local Authority Population Projections for Wales are normally produced every two years. The previous set of projections was 2008-based. A 2010-based set of projections was not produced; instead a decision was taken to make the next set 2011-based set in order to incorporate the results of the 2011 Census into the base population as soon as is practicable. Following this the next set of Local Authority Population Projections are expected to be 2012-based or 2014-based. A final decision will be taken following consultation with users and the ONS.

### **Related Outputs**

Further population data for Wales including population projections can be accessed via the Welsh Government website at:

[Welsh Government | Population and census statistics](#)

Mid-2012 population estimates for England and Wales are published by the Office for National Statistics and can be found at:

<http://www.ons.gov.uk/ons/rel/pop-estimate/population-estimates-for-uk--england-and-wales--scotland-and-northern-ireland/index.html>

National Population Projections for the United Kingdom and constituent countries, including Wales, are published by the Office for National Statistics. The most recent projections are 2010-based and can be found at:

<http://www.ons.gov.uk/ons/rel/npp/national-population-projections/2010-based-projections/index.html>

### **Further Information**

Detailed population statistics by local authority, gender and age can be found on StatsWales:

<https://statswales.wales.gov.uk/Catalogue>

We actively encourage feedback from our users. If you have any comments please contact us.

For queries on Local Authority Population Projections for Wales, or for general queries on demographic data, please contact:

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