Demographic Trends in Scotland:

Response to the Infrastructure Commission for Scotland Call for Evidence

This paper has been prepared by analysts from National Records of Scotland (NRS), in conjunction with the Scottish Government, to provide the Infrastructure Commission with a summary of the latest demographic trends in Scotland. This evidence should be helpful in understanding how Scotland's demographics, both nationally and at a local level, are changing to allow the Commission to consider in relation to future needs and demand for infrastructure.

Overview of key demographic trends

- Scotland's population has increased in recent years and is projected to continue to rise.
- Migration has been the main driver of Scotland's population growth and in future, all of the projected increase in Scotland's population is projected to come from migration (from both overseas and the rest of the UK).
- Most Scottish council areas are projected to increase in population but increasingly more may experience depopulation in future, particularly in the west and southwest of Scotland and the Islands.
- Cities are projected to experience most of their population growth through overseas in-migration, whilst also seeing outward migration to surrounding areas.
- Scotland's population is ageing. People aged 75 and over are projected to be the fastest growing age group in Scotland.
- All Scottish council areas are projected to see an increase in the population of pensioners.
- Single adult households are increasing and growing at a much faster rate compared to all households.

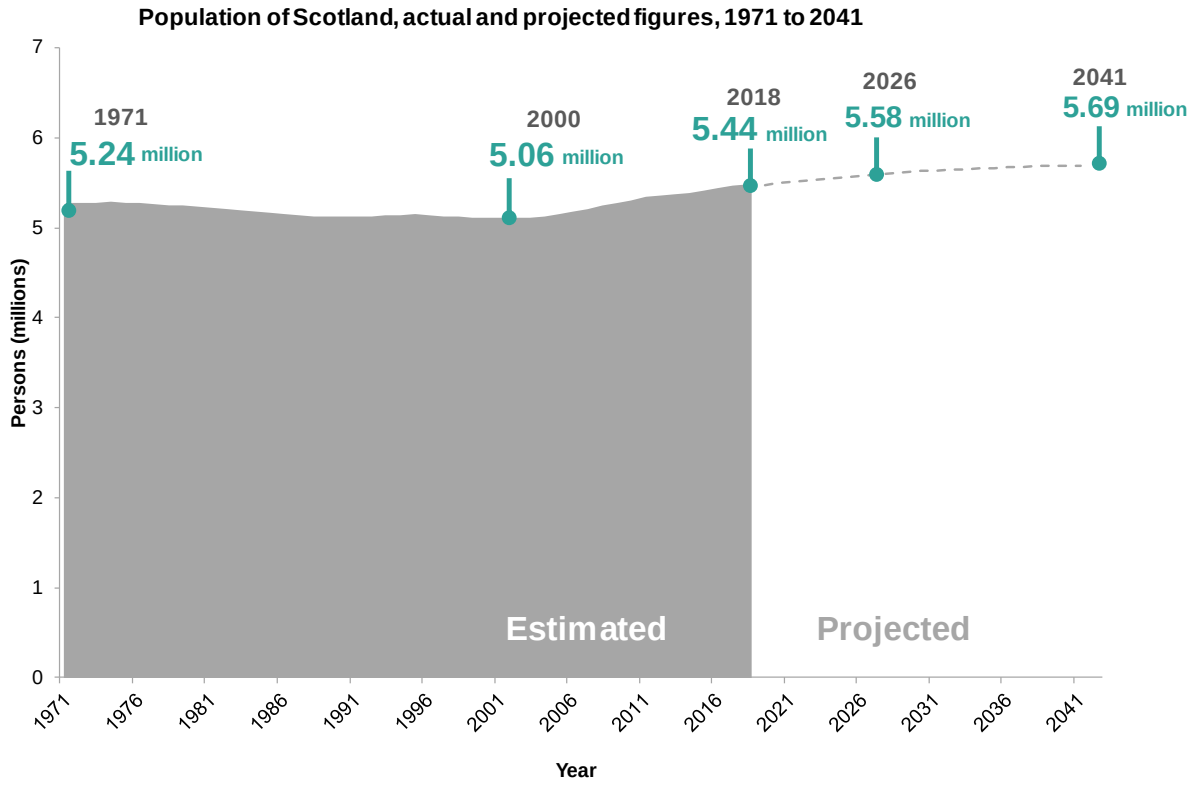
Contents

Further Information

NRS are happy to discuss and answer any questions on the evidence included. Additional analysis, for example focusing on alternative time periods, can also be provided on request by contacting: statisticscustomerservices@nrscotland.gov.uk

Changes in Scotland's population

Scotland's population has risen since 2000 and is projected to continue to increase



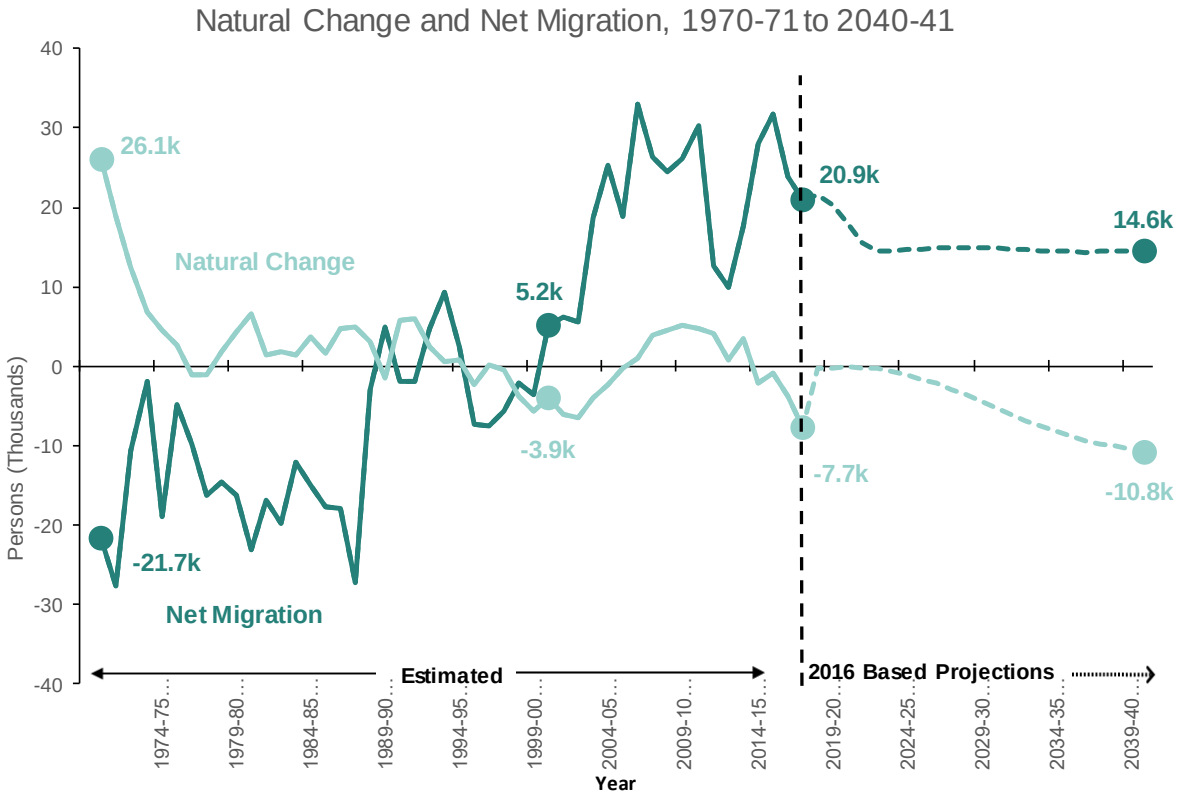
Source: Mid-Year Population Estimates, National Population Projections (2016-based), National Records of Scotland

- Between mid-2000 and mid-2018, the population has increased from 5.06 million in 2000 to 5.44 million in mid-2018[1] (an increase of 7.4% over 18 years).

- The population of Scotland is projected to keep increasing. The latest 2016-based projections show that the population is projected to increase from 5.40 million in 2016 to 5.58 million in 2026 (increase of 3.2% over 10 years), and to reach 5.69 million people in 2041 (increase of 5.3% over 25 years).

[1] This is the most recent population estimate recording Scotland's population at 30th June 2018.

Migration has been the main driver of the growth in Scotland's population over the past 18 years, and this is projected to continue



Source: Mid-Year Population Estimates, National Population Projections (2016-based), National Records of Scotland

- Between 2000 and 2018, net migration (dark green line) has been positive and has been the main driver of growth for the Scottish population. In the year to mid-2018, 20,900 more people came to Scotland than left, from both overseas and the rest of the UK.

- All of the projected increase in Scotland's population over the next 25 years (between 2016 and 2041) is due to net in-migration to Scotland. Over this period, 53% of net in-migration is projected to come from overseas, with 47% coming from the rest of the UK.

- Whilst net migration is projected to remain positive in each year up to 2041, natural change (births minus deaths, shown by the paler green line) in contrast is projected to be negative each year going forward. In 2041, there are projected to be 10,800 more deaths than births.

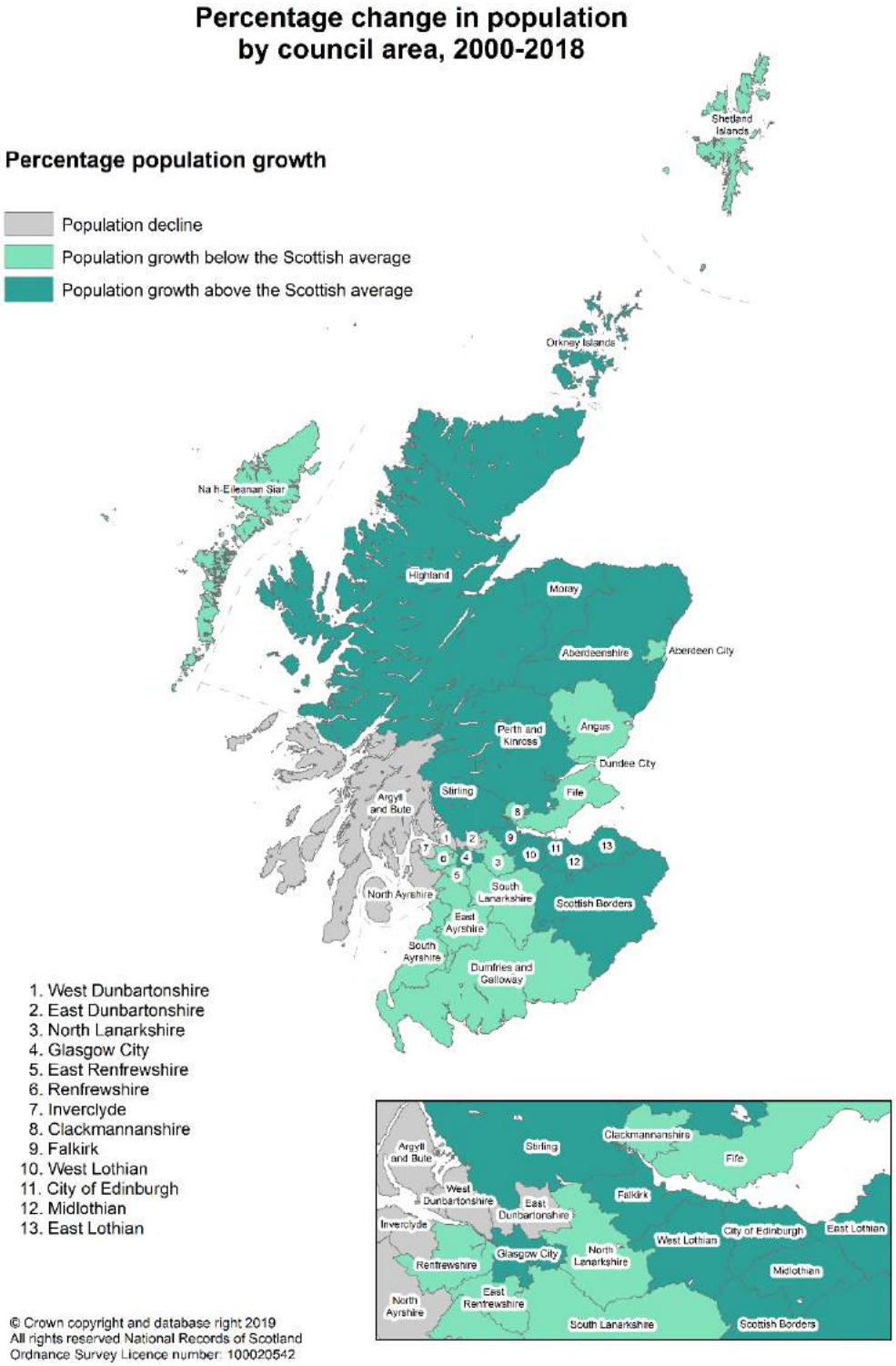
National Records of Scotland

The level of population change in the past 18 years has varied across Scotland's council areas

Percentage change in population from 2000 to 2018

Source: Mid-Year Population Estimates, National Records of Scotland

- Between 2000 and 2018, the majority of council areas experienced an increase in population.
- However, five councils in the west experienced a population decrease over this 18 year period. This can also be seen in the map below.

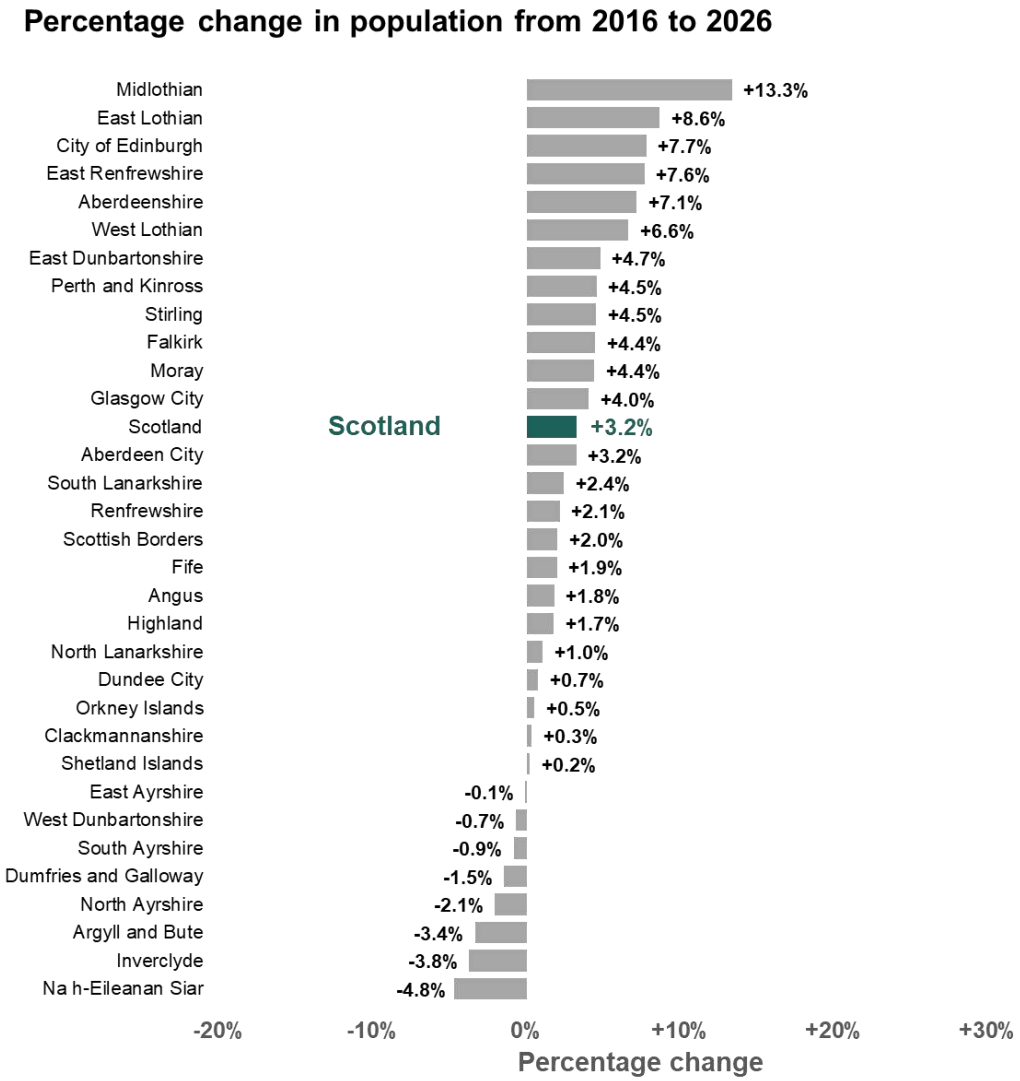


Source: Mid-Year Population Estimates, National Records of Scotland

- Areas in and around most of the cities have grown over this period, particularly around Edinburgh. While Glasgow City Council has experienced growth slightly above the Scottish average, the surrounding councils have grown less or seen a decline in their populations. Dundee City has also

experienced smaller growth than most other cities and less than the Scottish average.

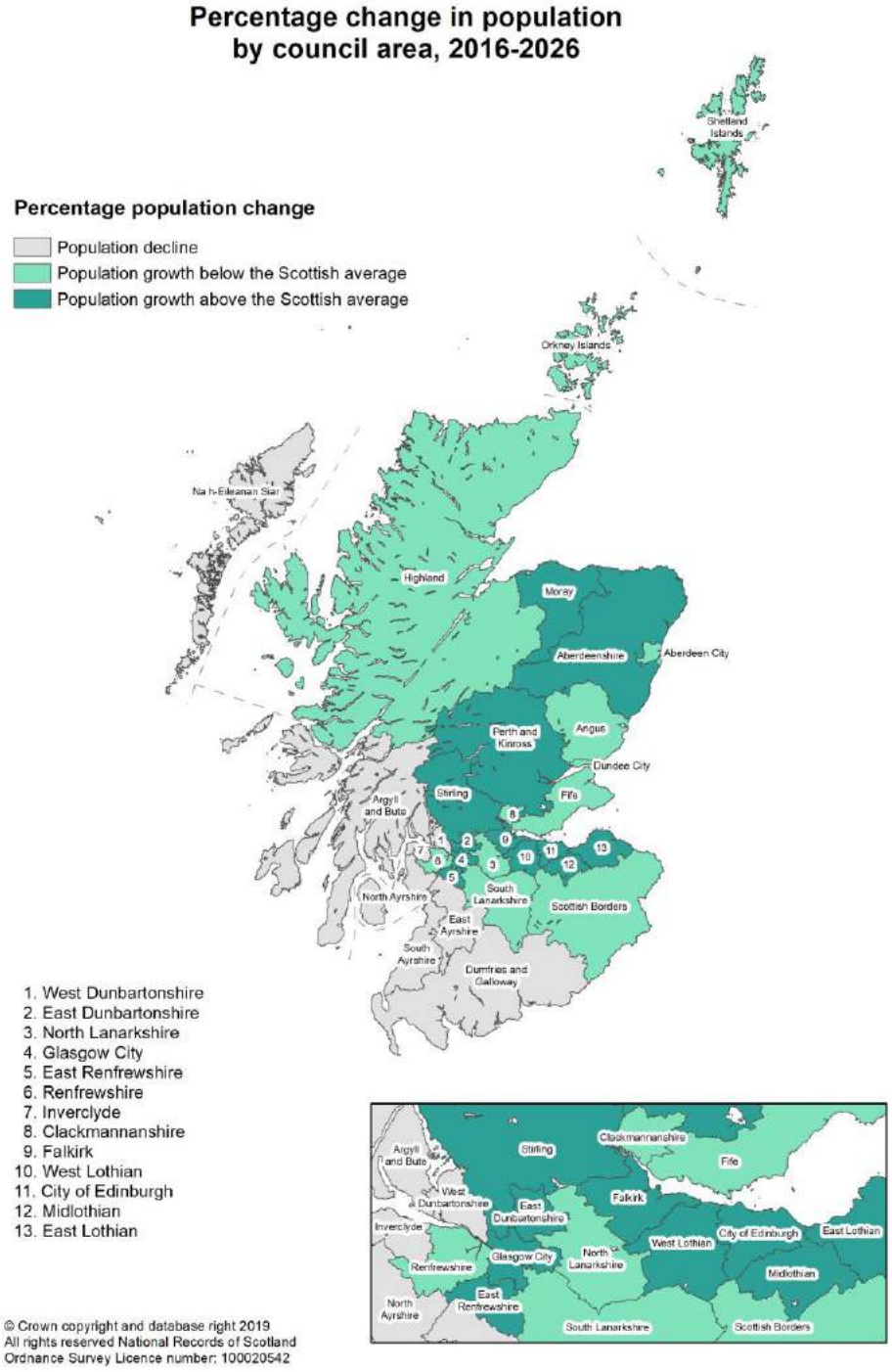
Most Scottish council areas are projected to increase in population but increasingly more may experience depopulation, particularly in the west and southwest of Scotland and the Islands



Source: National Population Projections (2016-based), National Records of Scotland

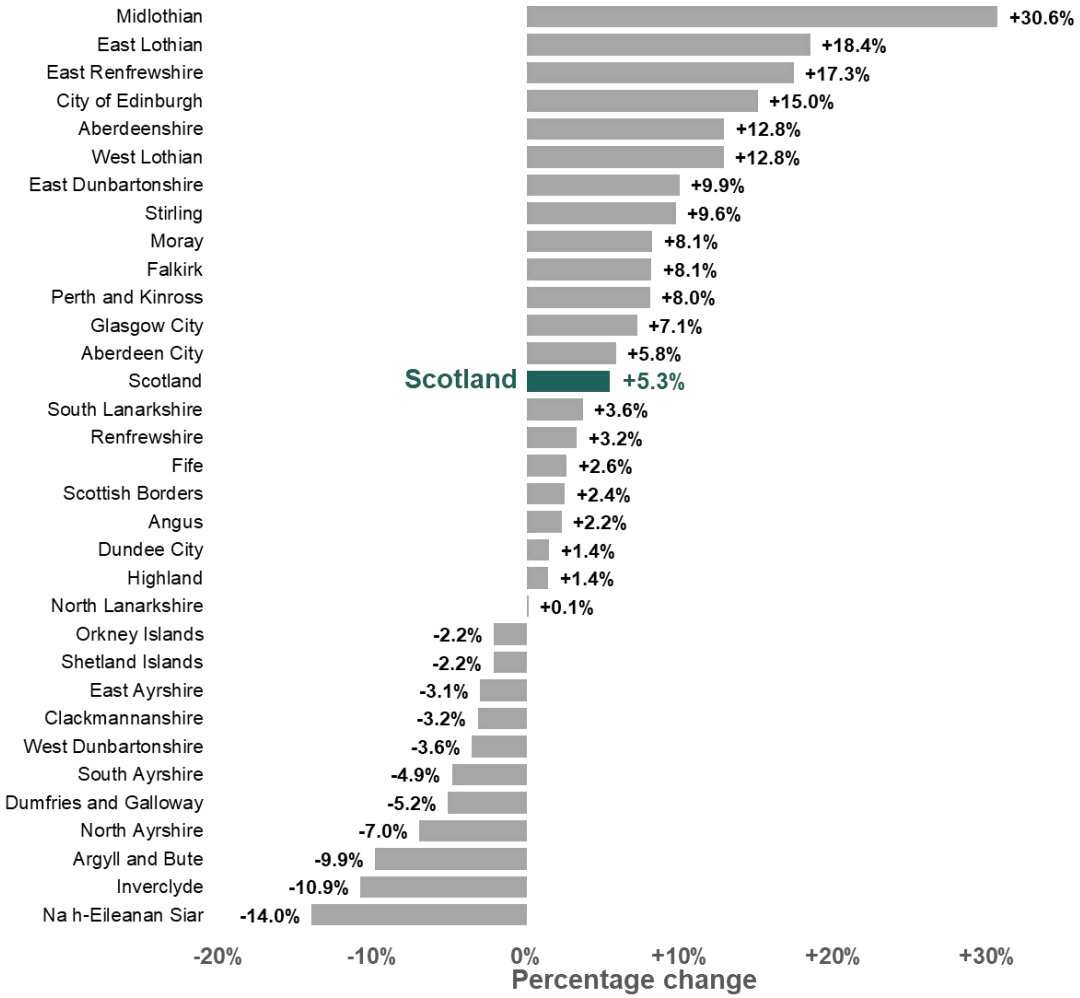
- Most council areas are projected to increase in population over the next 10 years (2016 to 2026). Councils in and around Edinburgh are projected to grow the most during this period.

- However, **a quarter of councils (8 in total) are projected to experience population decrease over this period (2016-2026).** As shown in the map below, these councils are clustered in the west of mainland Scotland, as well as Na h-Eileanan Siar.



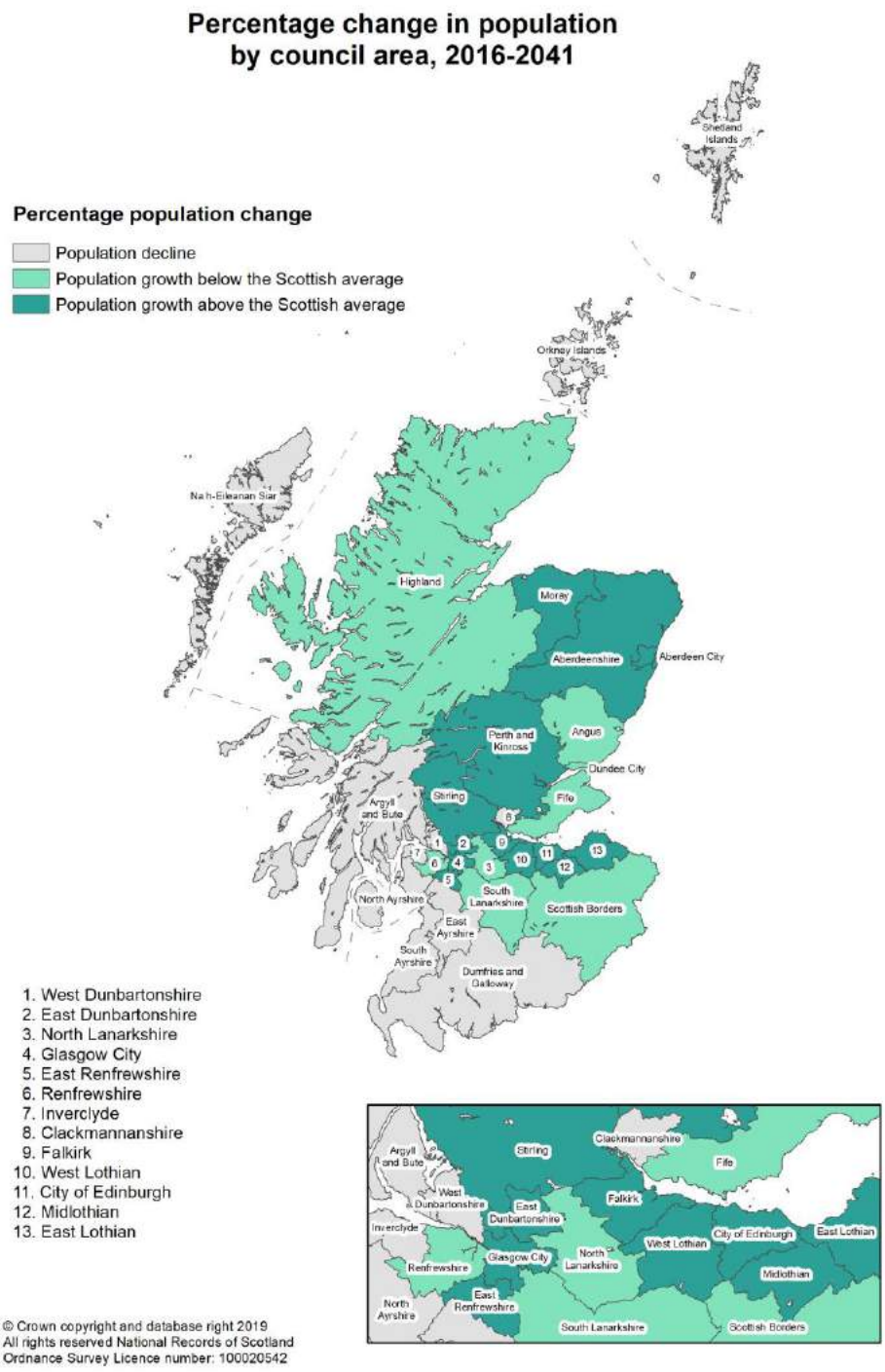
Source: National Population Projections (2016-based), National Records of Scotland

Percentage change in population from 2016 to 2041



Source: National Population Projections (2016-based), National Records of Scotland

- Most council areas are projected to increase in population over the next 25 years (2016 to 2041).
- However, **a third of councils (11 in total) are projected to experience population decrease during this period (2016-2041).** As shown in the maps, these councils are mainly in the west and southwest of mainland Scotland, as well as the Islands.



Source: National Population Projections (2016-based), National Records of Scotland

The trend of depopulation is projected to spread to more council areas

- As can be seen in the three maps, the trends of population change are fairly stable across Scotland: two-thirds of councils are projected to stay in the same category (decline, growth below average or growth above average) that they experienced from 2000 to 2018 going forward both 10 and 25 years.

- **Seven councils experienced population growth from 2000 to 2018 and are projected to experience population decline between 2016 and 2041**. They are Clackmannanshire, Dumfries and Galloway, Na h-Eileanan Siar, Orkney Islands, Shetland Islands and South Ayrshire and East Ayrshire.

- **Only one council which experienced population decline in the past 18 years is projected to experience population growth in the coming years**. The trend of population decline in East Dunbartonshire from 2000-2018 (decrease of 0.3%) is projected to change direction going forward, with a projected increase above the Scottish average in the coming 10 years (increase of 4.7%) and 25 years (increase of 9.9%). A similar trend is seen in East Renfrewshire, which experienced population growth below the Scottish average from 2000-2018 (increase of 6.9%) and is projected to have growth above the Scottish average over the coming 10 years (increase of 7.6%) and 25 years (increase of 17.3%). This suggests a **discrete cluster of growth could be seen in the west, specifically in Glasgow City and some of its neighbouring councils.**

Most people in Scotland live in settlements

Source: Population estimates for Settlements and Localities, National Records of Scotland

- Over 90% of people in Scotland live within a settlement, yet settlements account for just over 2% of Scotland's area[2].
- As shown in the map, there are clusters of settlements in the central belt and around the coast.

[2] Population estimates for Settlements and Localities, Scotland, mid-2016

- A settlement is defined to be a group of high density postcodes whose combined population rounds to 500 people or more. They are separated by low density postcodes.

The majority of people in Scotland live in urban areas

- In mid-2017, the majority of Scotland's population (70.9%, over 3.8 million people) live in large urban and other urban areas (settlements of 10,000 or more people), while 17% of the population (over 900,000 people) live in 'accessible' and 'remote' rural areas[3] [4].

Population estimates by 6-fold Urban Rural Classification, 2017

Classification	2017 population	2017 population (%)
Large urban areas	1,884,644	34.7
Other urban areas	1,961,709	36.2
Accessible small towns	467,115	8.6
Remote small towns	191,497	3.5
Accessible rural areas	603,678	11.1
Remote rural areas	316,157	5.8

Note

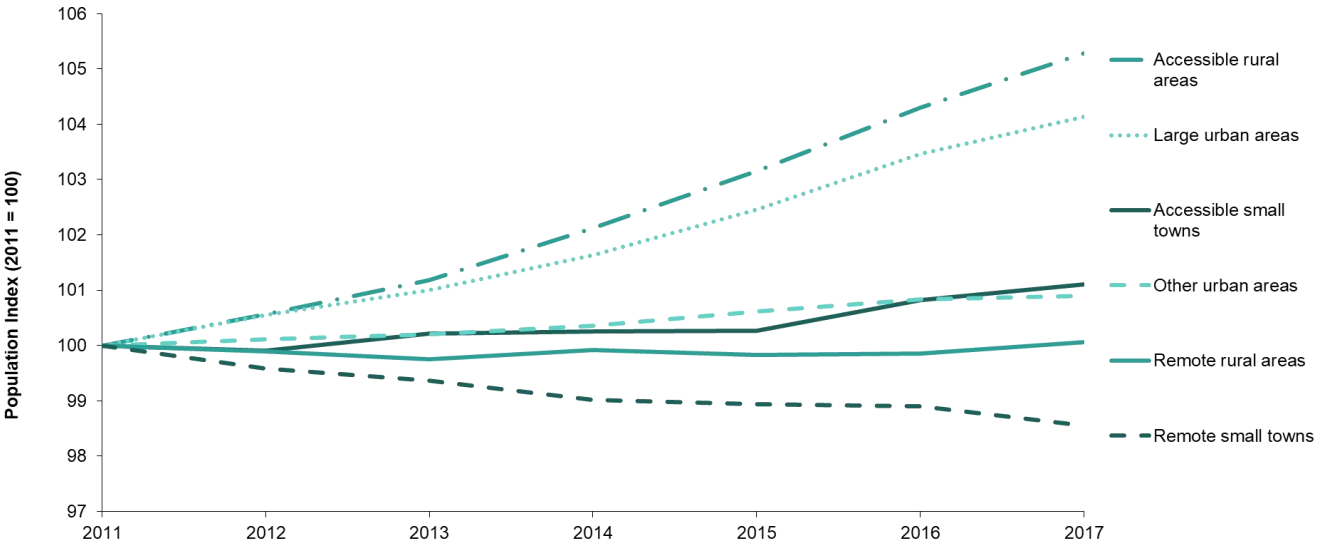
Based on Scottish Government Urban Rural Classification 2016.

Accessible rural areas and large urban areas have experienced large increases in population in the past 16 years

- The figure below shows the percentage change in population from mid-2011 to mid-2017, split by Urban Rural Classification.
- Since 2011, accessible rural areas have seen the largest increase in population (5.3%) followed by large urban areas (4.1%).
- Meanwhile remote small towns is the only category to experience a decrease in population (1.5%) between 2011 and 2017.

3 Mid-2017 Small area population estimates.
4 The Scottish Government Urban Rural 2016 Classification defines urban and rural areas across Scotland. The classification is based on population and accessibility (using drive-time analysis to identify accessible and remote areas). The 6-fold classification distinguishes between urban, rural and remote areas using six categories. Each data zone in Scotland is assigned to one of the categories.

Change in population by Urban Rural Classification, 2011-2017[1]



Notes
1) Population for each area shown as a percentage of the 2011 population.
2) Based on Scottish Government 6-fold Urban Rural Classification

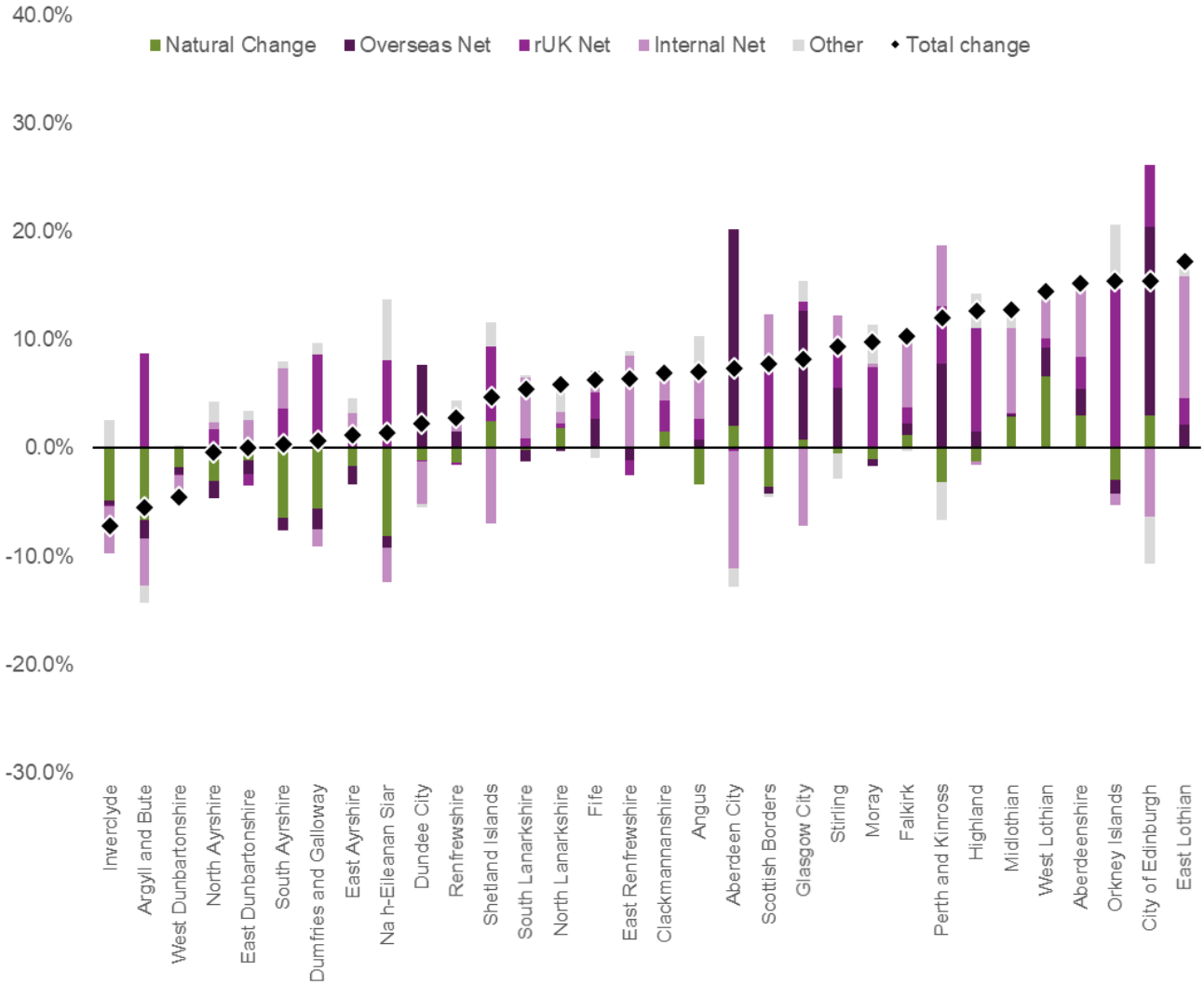
Trends in Migration

Looking backward

Since 2001[5], most areas have seen an increase to their population overall. Areas that had low or no population growth also have experienced larger numbers of deaths compared to births. Most of the growth is seen in the east side of the country, with many areas experiencing growth from all components of migration.

Migration has been the main driver of population growth in Scotland

Components of population change for Scottish council areas between 2001 and 2018



Source: Mid-Year Population Estimates, National Records of Scotland
Notes:
Natural change is the number of births minus the number of deaths. The 'Overseas' category is the total net change brought about by migration between the area and overseas. 'Rest of UK' is the same, but for moves within the UK. 'Internal' is movement within Scotland. 'Other' refers to change brought about by the movement of prisoners and armed forces.

[5] Data for overseas/Rest UK at council level is available as far back as 2001.

Cities tend to have a lot of inward migration from overseas, but a lot of outgoing migration to other areas in Scotland. Overall, all city areas (Dundee, Glasgow, Aberdeen and Edinburgh) grew in population over the period, with Dundee City having the lowest growth overall.

Focussing just on migration (not looking at natural change) shows a slightly different picture. The three areas to experience population decreases through migration were Inverclyde, West Dunbartonshire and Shetland Islands. The largest population increase solely through migration was seen in Perth and Kinross (18.8% increase).

Population change through migration, 2001-2018

1	Aberdeen City	7.00%
2	Aberdeenshire	11.70%
3	Angus	7.50%
4	Argyll and Bute	2.80%
5	City of Edinburgh	16.80%
6	Clackmannanshire	5.20%
7	Dumfries and Galloway	5.10%
8	Dundee City	3.60%
9	East Ayrshire	1.50%
10	East Dunbartonshire	0.30%
11	East Lothian	15.70%
12	East Renfrewshire	5.90%
13	Falkirk	9.40%
14	Fife	7.20%
15	Glasgow City	5.60%
16	Highland	10.70%
17	Inverclyde	-5.00%
18	Midlothian	8.30%
19	Moray	7.10%
20	Na h-Eileanan Siar	3.90%
21	North Ayrshire	0.70%
22	North Lanarkshire	1.20%
23	Orkney Islands	12.40%
24	Perth and Kinross	18.80%
25	Renfrewshire	2.30%
26	Scottish Borders	11.80%
27	Shetland Islands	-0.10%
28	South Ayrshire	6.10%
29	South Lanarkshire	5.50%
30	Stirling	12.30%
31	West Dunbartonshire	-3.00%
32	West Lothian	7.40%

Source: Mid-Year Population Estimates, National Records of Scotland

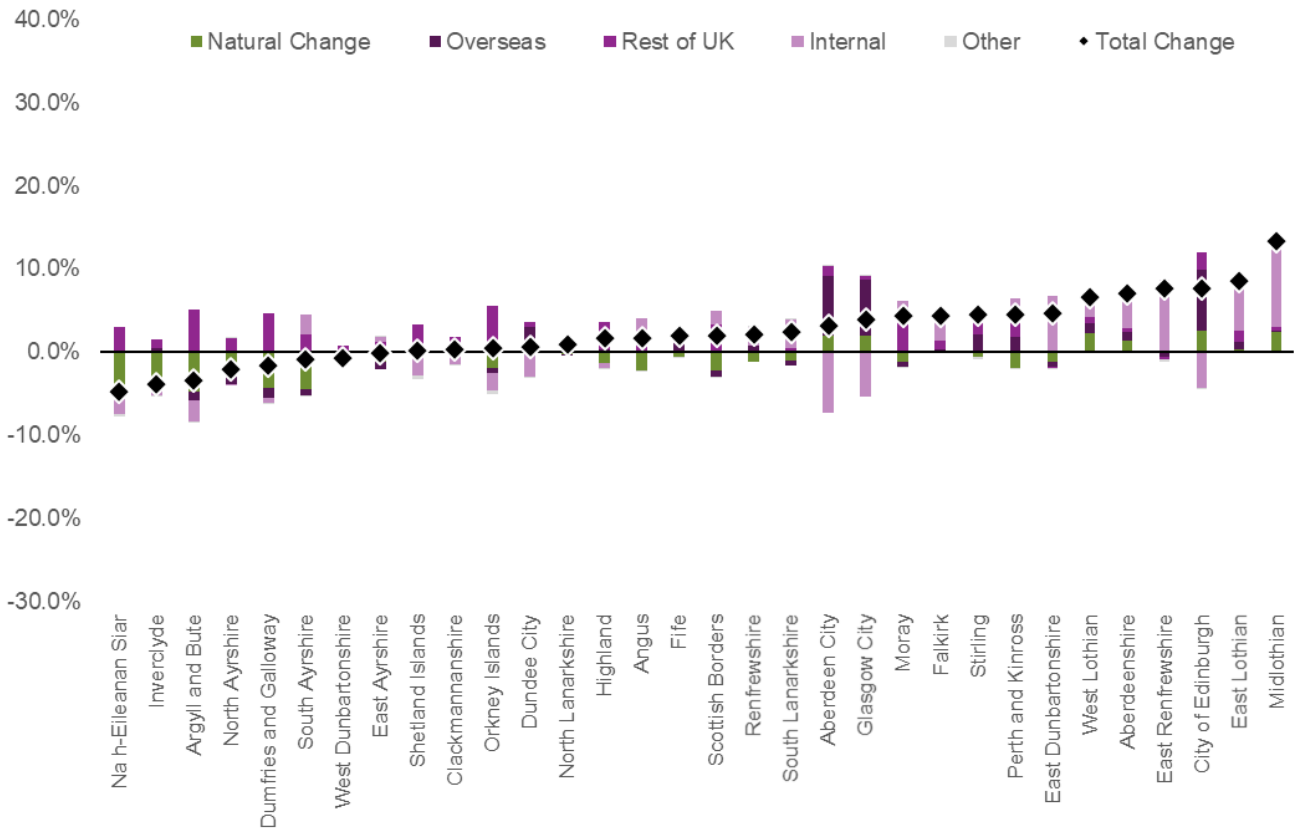
Projections

The projected patterns for the future depict a similar trend. Cities are projected to continue to see most of their growth from overseas inward migration, whilst also seeing outward migration to other Scottish areas.

The ten year projection and twenty five year projection show similar trends. Areas in the east of the central belt are projected to see continued inward migration from the rest of the country. Midlothian's population is projected to grow by 31% between 2016 and 2041, mostly being driven by internal migration. Population decline is projected for many rural areas, and areas in the west of Scotland. Many of these areas are projected to see similar trends, such as high levels of negative natural change (more deaths than births), net outward migration to the rest of Scotland and overseas, but also having net inward migration from the rest of the UK.

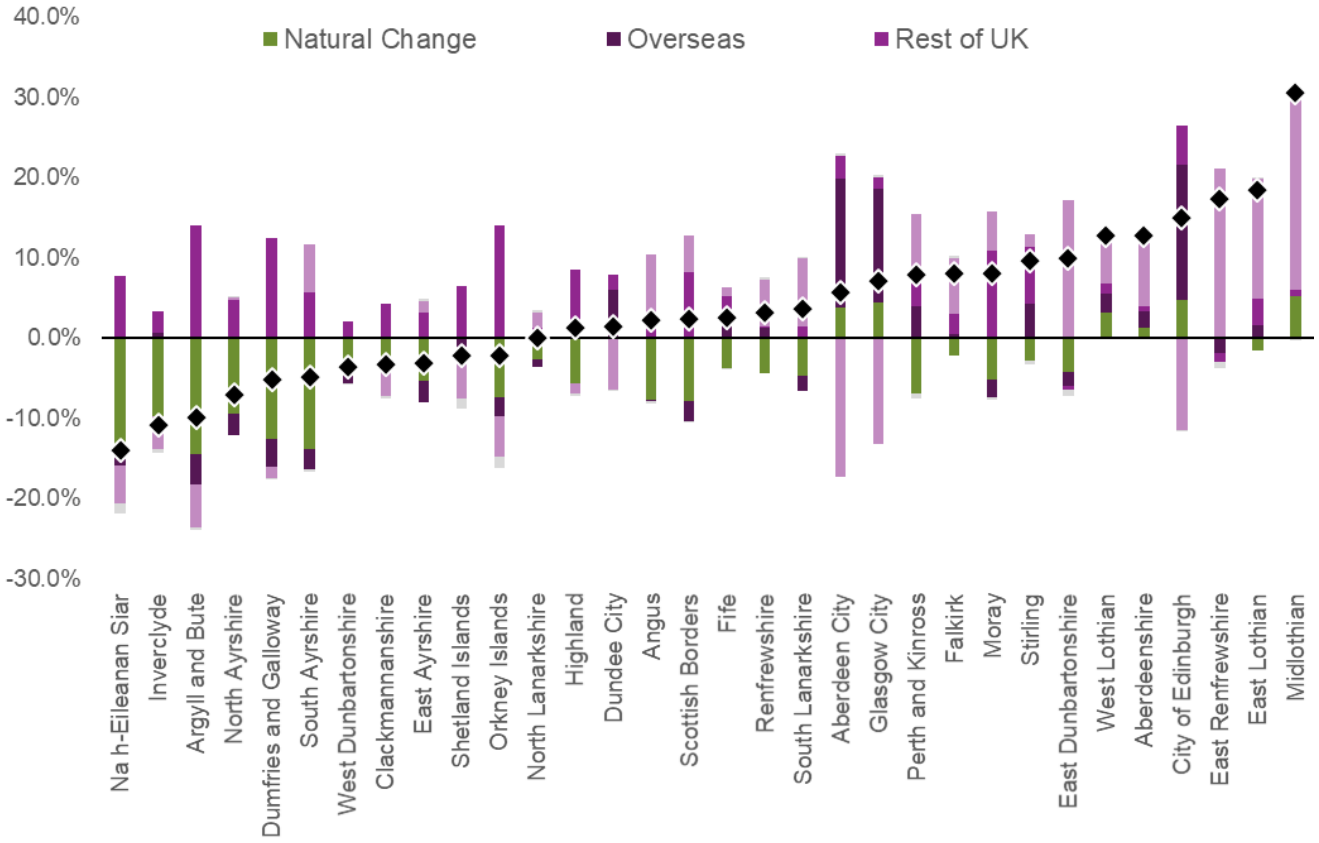
Many areas projected to see more deaths than births

Projected components of population change for Scottish areas between 2016 and 2026



Source: National Population Projections (2016-based), National Records of Scotland

Projected components of population change for Scottish areas between 2016 and 2041



Source: National Population Projections (2016-based), National Records of Scotland

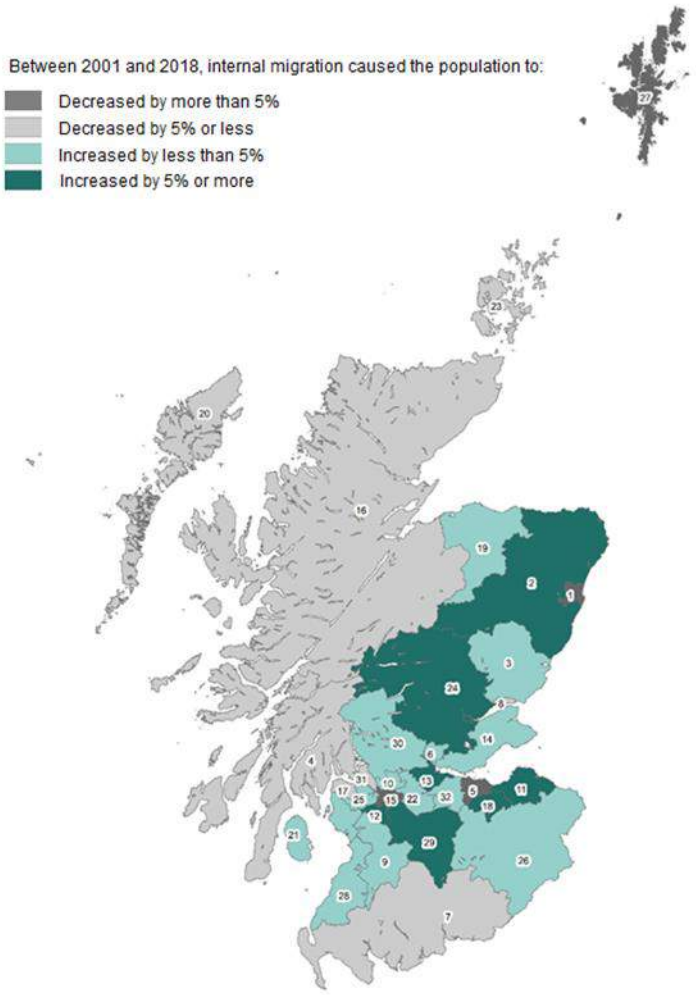
Internal migration

In general, the trends in the figure below illustrate:

- There has been net outward (internal) migration from Scotland's cities, as well as remote and rural areas.
- Suburban areas surrounding a city (or, within a commutable distance to a city by rail or motorway) have seen larger rates of internal migration.

Suburban areas have seen growth (more people arriving than leaving) whilst cities have seen more outflows (more people leaving than arriving)

Population change solely through internal migration within Scotland, 2001 to 2018



1	Aberdeen City	-10.90%
2	Aberdeenshire	6.30%
3	Angus	4.80%
4	Argyll and Bute	-4.30%
5	City of Edinburgh	-6.30%
6	Clackmannanshire	2.30%
7	Dumfries and Galloway	-1.60%
8	Dundee City	-4.00%
9	East Ayrshire	1.50%
10	East Dunbartonshire	2.60%
11	East Lothian	11.30%
12	East Renfrewshire	8.50%
13	Falkirk	6.80%
14	Fife	2.00%
15	Glasgow City	-7.20%
16	Highland	-0.40%
17	Inverclyde	-4.40%
18	Midlothian	7.90%
19	Moray	0.20%
20	Na h-Eileanan Siar	-3.10%
21	North Ayrshire	0.70%
22	North Lanarkshire	1.00%
23	Orkney Islands	-1.00%
24	Perth and Kinross	5.70%
25	Renfrewshire	1.00%
26	Scottish Borders	4.60%
27	Shetland Islands	-6.90%
28	South Ayrshire	3.70%
29	South Lanarkshire	5.60%
30	Stirling	2.10%
31	West Dunbartonshire	-2.30%
32	West Lothian	3.90%

Source: Mid-Year Population Estimates, National Records of Scotland

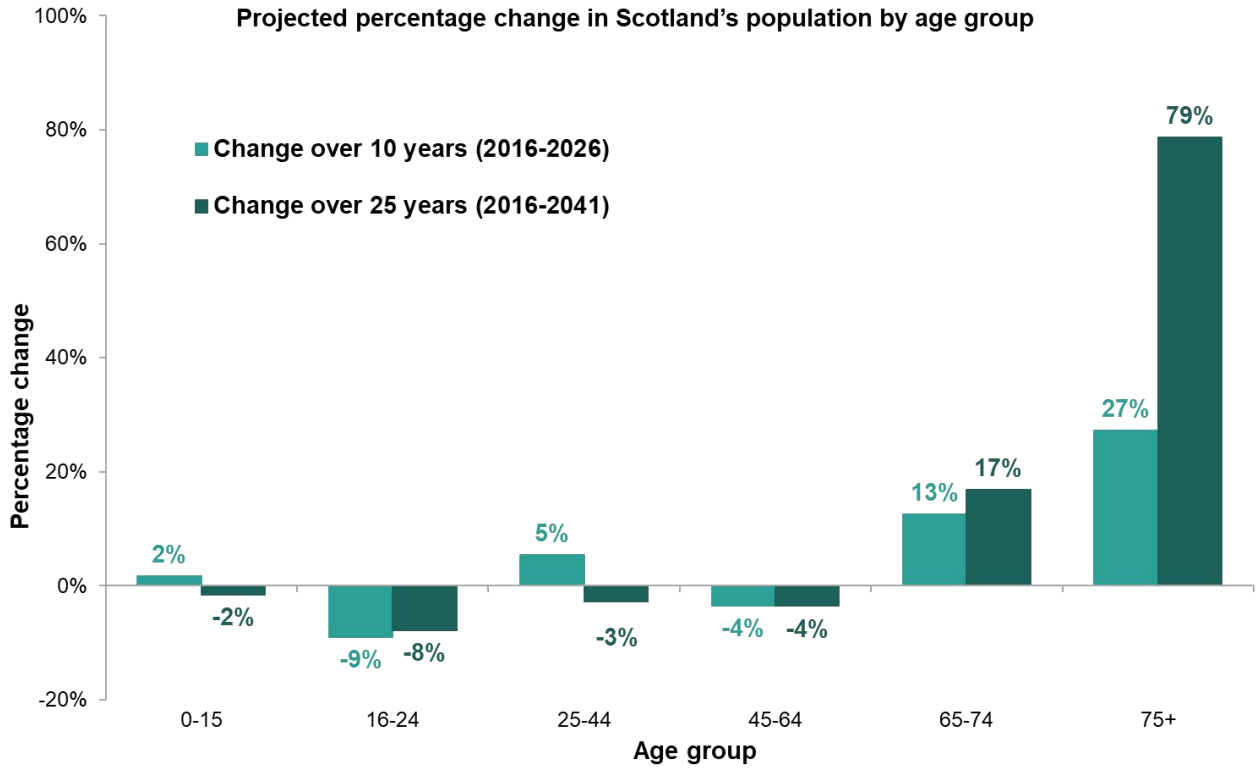
Taking the average numbers of council to council moves between 2001 and 2018, the following moves were the most common.

	Move	Average moves per year
1	Aberdeen City to Aberdeenshire	3,570
2	Glasgow City to South Lanarkshire	2,660
3	Aberdeenshire to Aberdeen City	2,230
4	Glasgow City to North Lanarkshire	1,820
5	Glasgow City to East Renfrewshire	1,760
6	South Lanarkshrie to Glasgow City	1,700
7	City of Edinburgh to Fife	1,680
8	Glasgow City to East Dunbartonshire	1,660
9	City of Edinburgh to East Lothian	1,620
10	City of Edinburgh to West Lothian	1,620

The above table is further evidence that people have been leaving the cities for suburban areas. All of the top ten most common moves were between neighbouring areas. Half of the top ten most common moves involved were either to or from Glasgow City.

Make-up of the population and how this is changing in different areas of Scotland

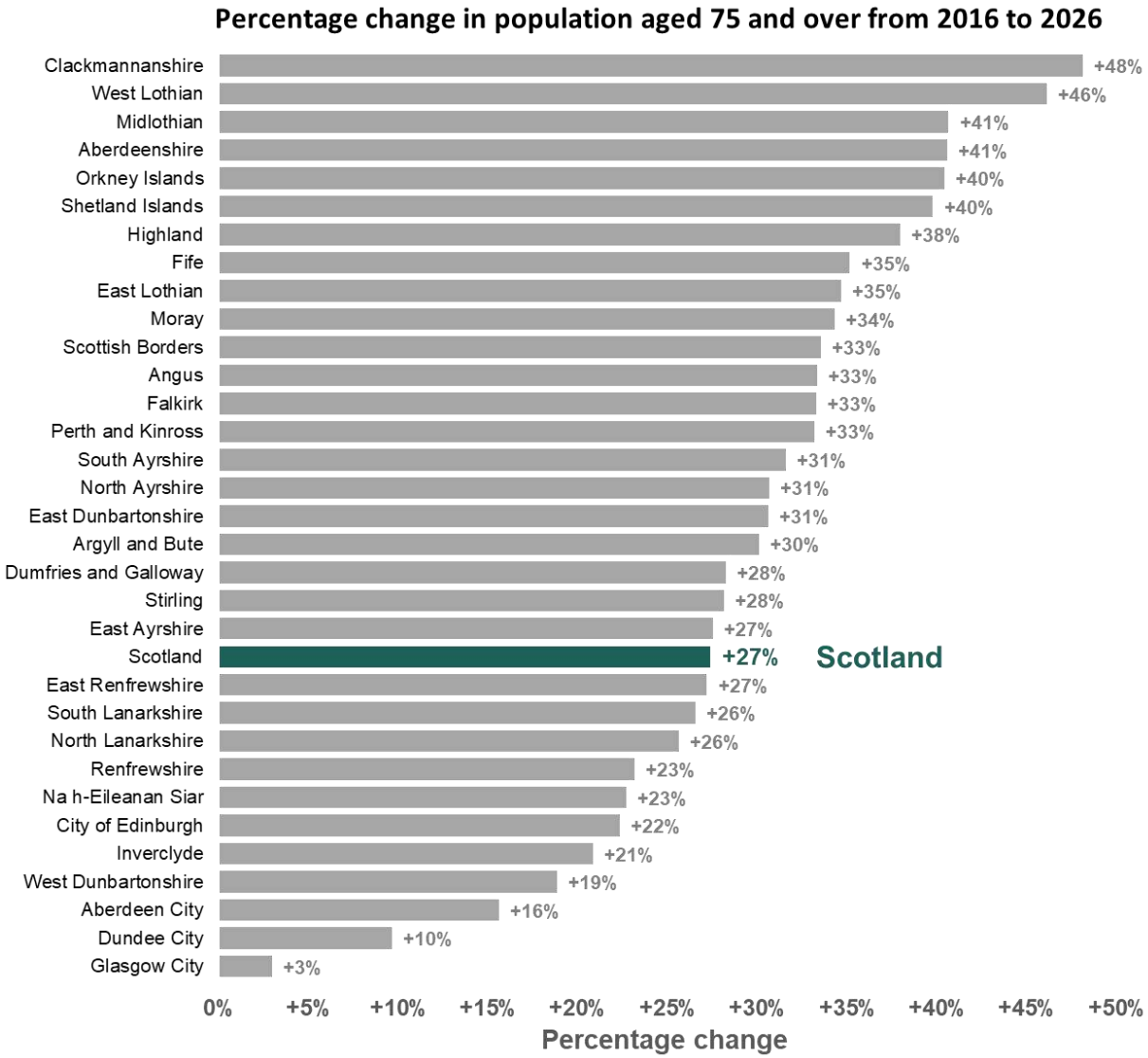
Scotland's elderly population is projected to increase



Source: National Population Projections (2016-based), National Records of Scotland

- People aged 75 and over are projected to be the fastest growing age group in Scotland. The number of people aged 75 and over is projected to increase by 27% over the next ten years and by 79% over the next 25 years.

All areas in Scotland are projected to experience increases in their elderly populations

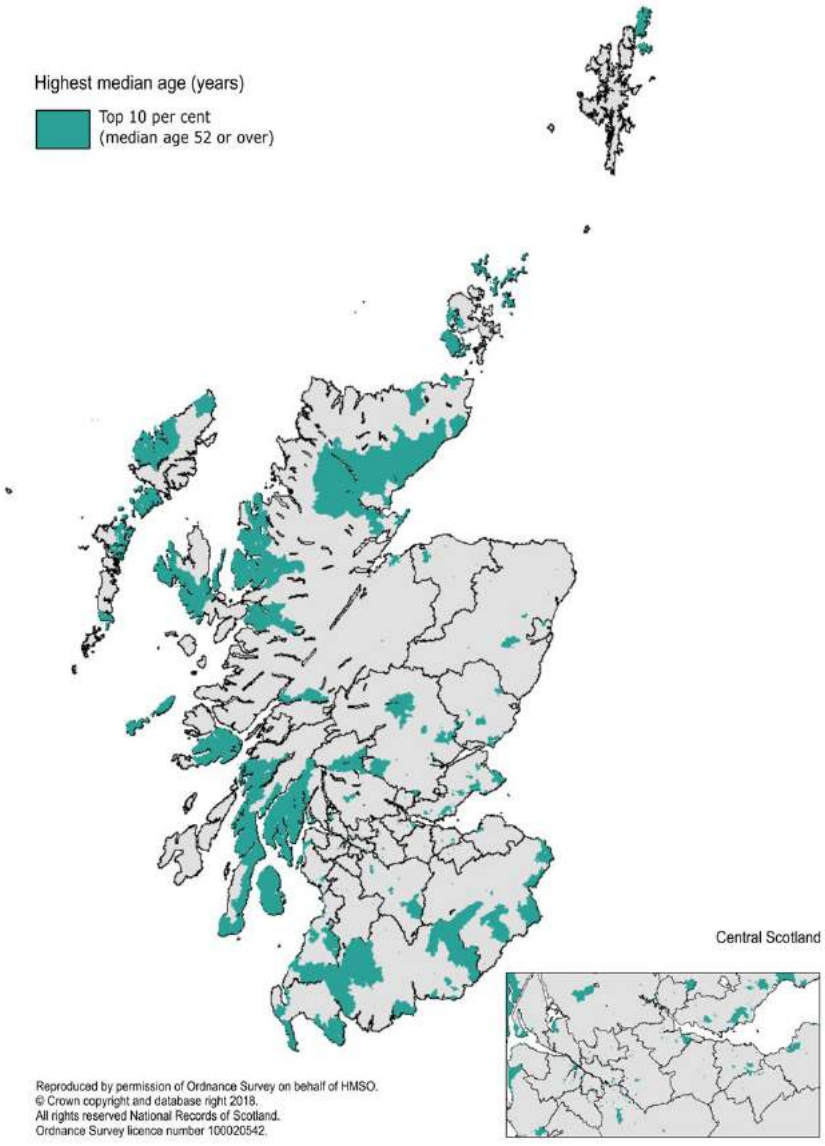


Source: National Population Projections (2016-based), National Records of Scotland

- Between 2016 and 2026, all council areas in Scotland are projected to experience an increase in their population aged 75 and over. Clackmannanshire (+48.0%) and West Lothian (+46.0%) are projected to experience the largest increases, while Dundee City (+9.6%) and Glasgow City (+2.9%) have the smallest increases.

There is variation in the age distribution of small areas across Scotland

Data zones[1] with highest median age , 2017



Note

1) Three data zones in Glasgow City with zero population have been excluded.

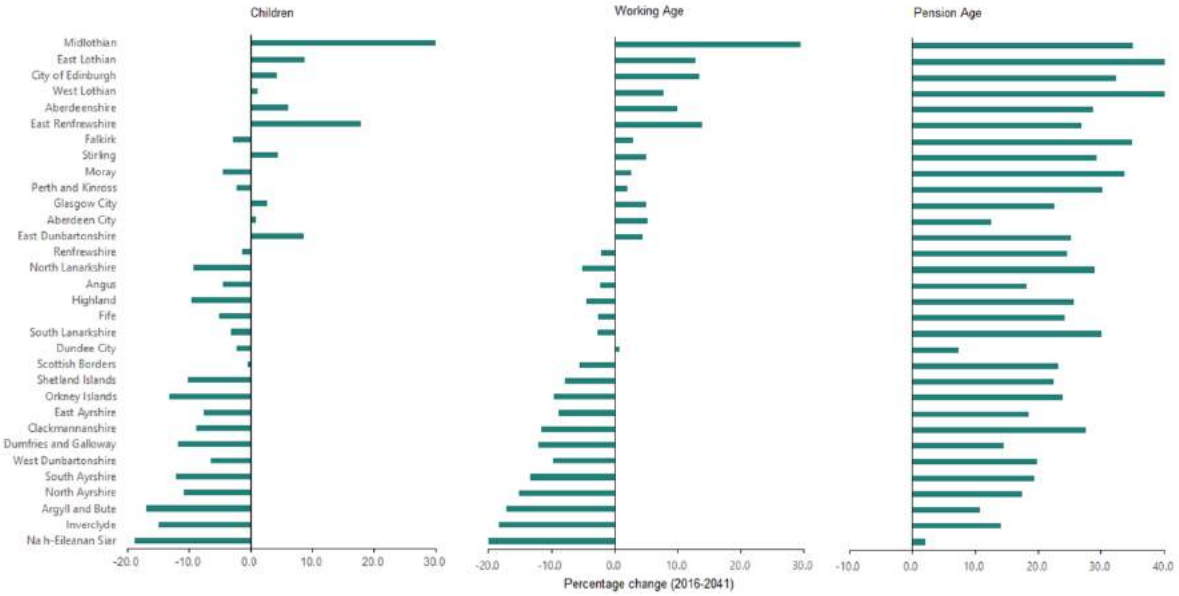
Source: Mid-Year Population Estimates, National Records of Scotland

- Data zones are a small area geography used to provide statistics at local level.
- The map above shows the data zones where the median age is in the top 10% (52 years and over)[6].
- The median age for the population of Scotland as a whole in 2017 was 42 years. But this varies considerably across data zones, with the median age

[6] Information about the median age in all data zones is available in the data for figure 2.3 from the Mid-2017 Small area population estimates publication on the NRS website.

ranging from 19 years[7] to 72 years[8]. The most common age group was 48 to 49 years, with 734 data zones having a median age fall within this range.

All council areas in Scotland projected to see increases in population of pensionable age between 2016 and 2041



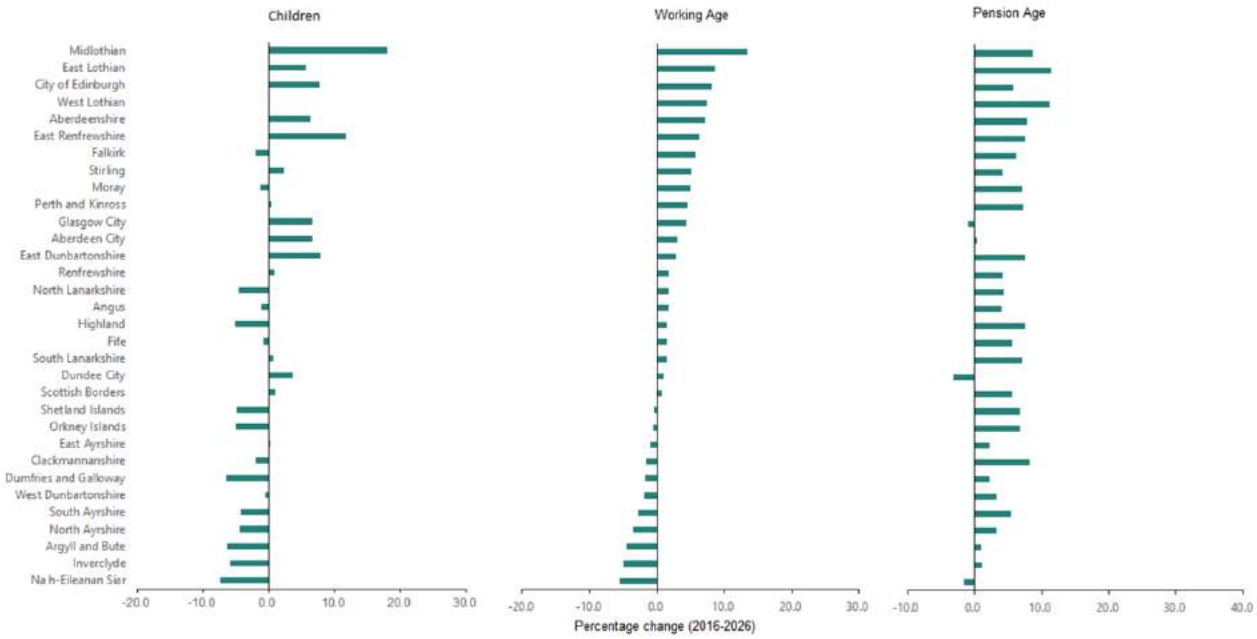
Source: National Population Projections (2016-based), National Records of Scotland

- Fourteen council areas are projected to see an increase to their working age population, with ten of these also projected to have an increasing number of children, in the twenty five years to 2041. Midlothian is projected to see the largest increase to both its working age (up 29%) population and the number of children (up 30%).

- Every council areas is projected to see a larger growth in its pension age population, compared with its working age population in the twenty five years to 2041.

Some areas are projected to see increases to the pension age population and decreases to the working age population before 2026

[7] There were 12 data zones with a median age of 21 and under. These are areas with a high student population (living either in residential accommodation or halls of residence) or data zones with some other type of large communal establishment for young people.
[8] There were 30 data zones with a median age of 60 years and over. These were mainly in popular retirement areas and data zones with accommodation for the elderly.

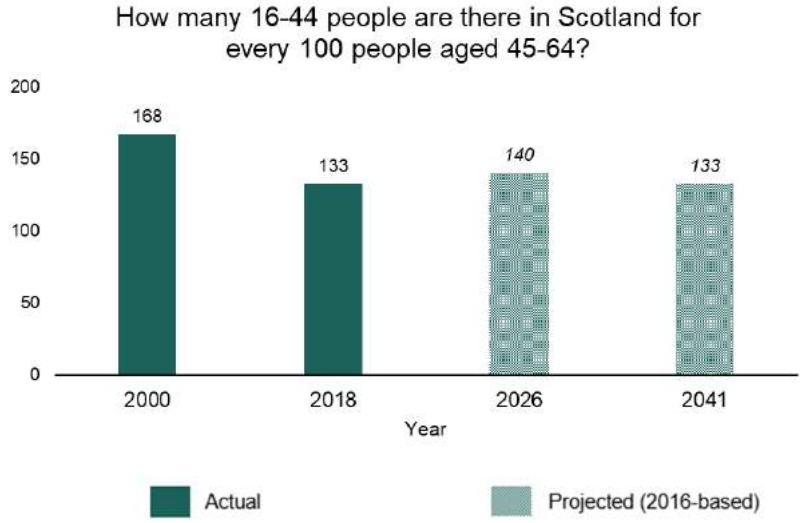


Source: National Population Projections (2016-based), National Records of Scotland

- In the ten years to 2026 the trends are quite similar, but the increases to the pension age populations are not quite to the same scale when compared with the twenty five year projections. For this projection, three areas (Glasgow City, Dundee City and Na h-Eileanan Siar) are projected to have declining pension age populations.

The working age population is ageing across all of Scotland

To look into how the working age population is ageing in Scotland, we looked at how many people aged 16-44 there are for every one-hundred people aged 45-64.



At Scotland level, there are fewer people aged 16-44 per hundred people aged 45-64 in 2018 than there were in 2000. This shows the working age population has aged since 2000, with a higher proportion of people now being in the older age group

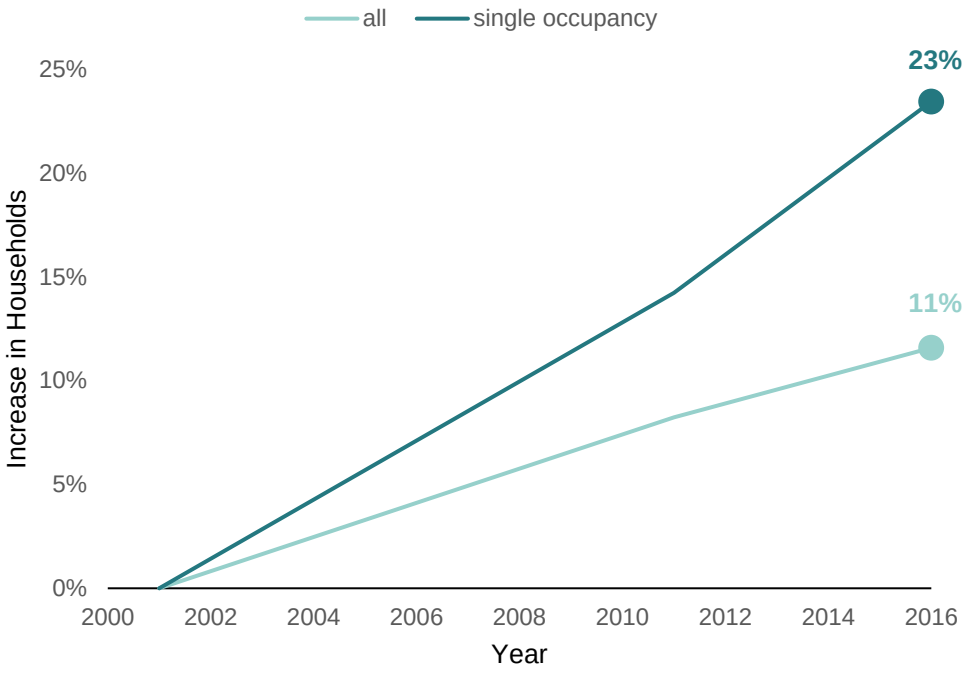
than there were previously. Projections (2016-based) suggest a similar level to 2018 can be expected in the future.

Changes in housing

Single adult households are increasing faster than would be expected simply from household growth, there is an underlying shift in how people are living.

Household numbers are generally increasing over the period 2001 to 2016 (by around 17,000 per year). This increase is primarily driven by the increasing population. The fraction of households that are occupied by single adults is also increasing, and this increase is greater than would be expected just from the general growth in households. The increase in single adult households is more pronounced for single male households (+7,600 per year) than single female households (+3,600 per year).

Increase in households by occupancy type, 2001 to 2016



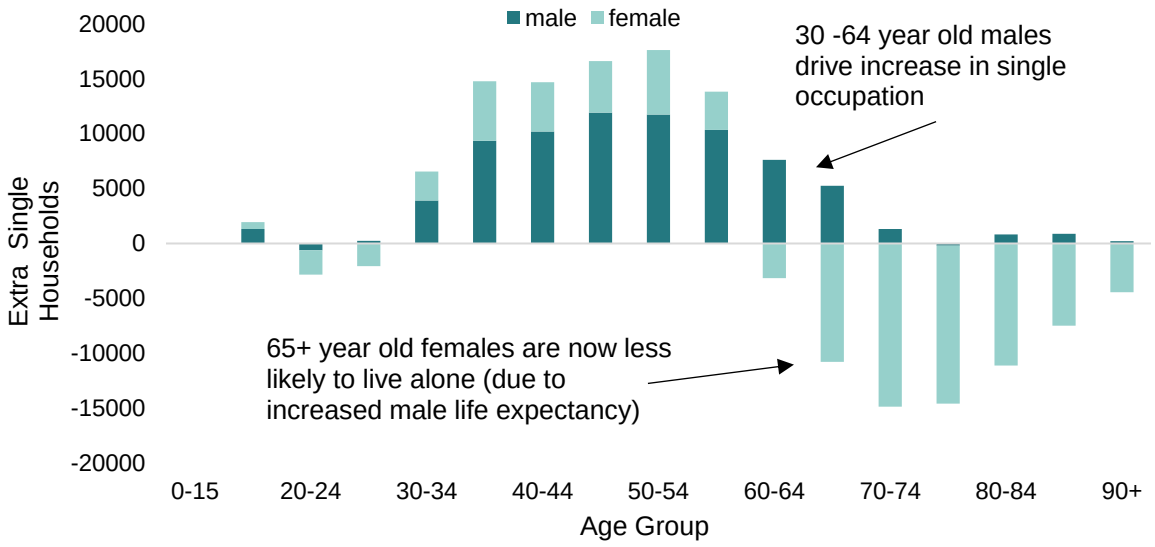
Source: Household Estimates, National Records of Scotland

What age groups contribute to the change in single adults:

The age groups that most affect single adult households are graphed below. 30-64 year old males tend to drive the increase

The graph shows the change in the number of single adult households broken down by age and sex. The graph is adjusted so that it already takes into account the overall growth in households over the period. The remaining trend shows how the underlying demographics are changing.

What groups effect single household growth most?
Graph shows extra single adult households over 15 years (2001-2016)*



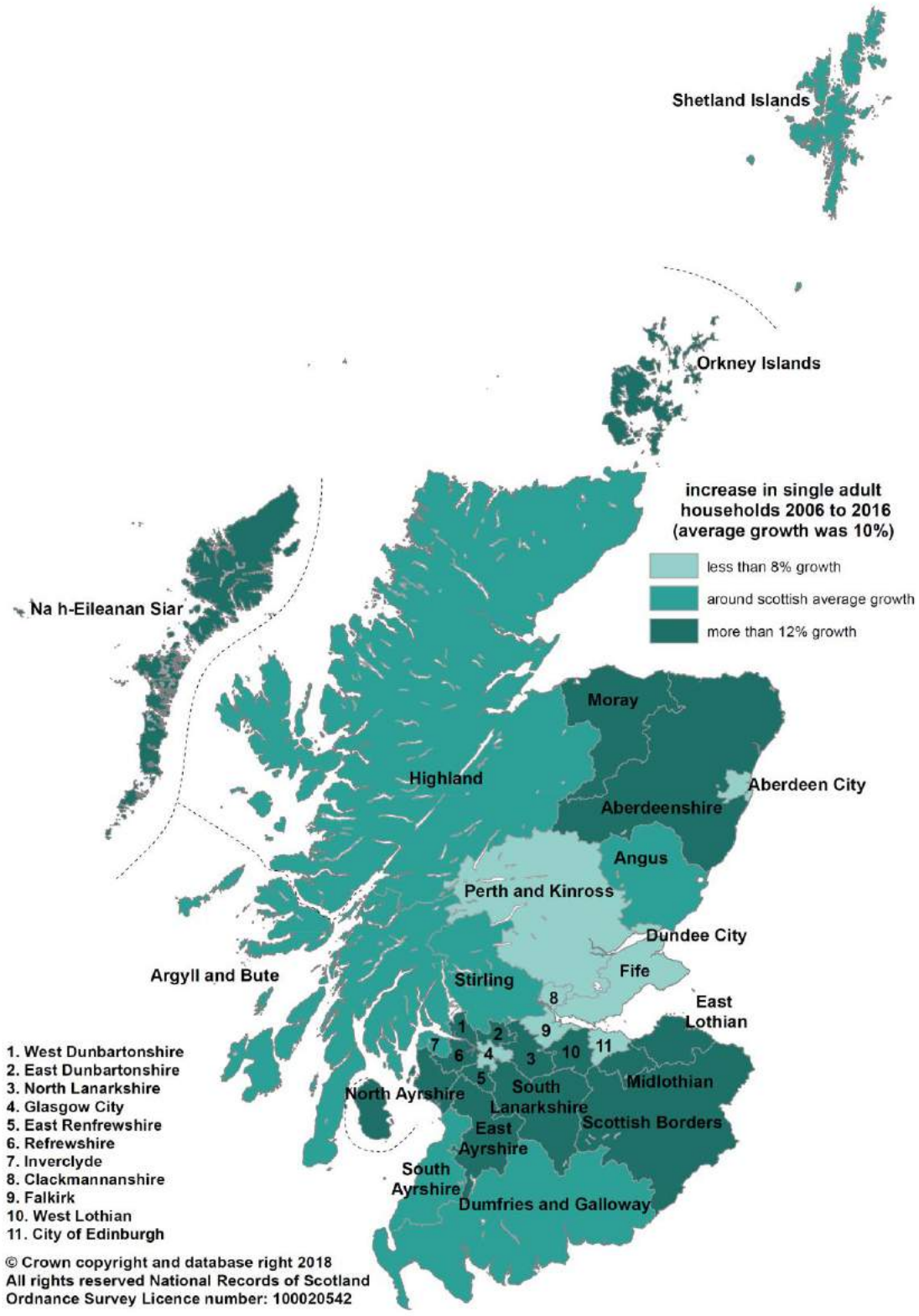
*This graph accounts for the increase and aging of population over the 15 years so the remaining changes you see are related to changes in households independent from changes in population

Source: Household Estimates, National Records of Scotland

*Note on years used: we only have the required breakdown for years that we calculated a household projection on, the last of which was 2016. A 15 year projection was used instead of a 10 year projection as there was a change in age categorisation for 2006.

The changes in single adult households across Scotland is mapped below. The increase is concentrated in the central belt.

Map showing which councils have the biggest percentage increase in single adult households over past 10 years (changes compared to Scottish average of 10%)



Source: Household Estimates, National Records of Scotland

Deprivation is strongly correlated with dwelling density, the most deprived regions have the highest density of dwellings

In terms of other trends it may be of note that there is a strong correlation between the Scottish Index of Multiple Deprivation (SIMD), which measures deprivation, and the density of dwellings. Some of this difference will be due to cities having higher density of dwellings in general (11.07 dwellings per hectare for large urban areas), although deprived areas are denser still than this.

Based on the SIMD classification there is a strong correlation between density of dwellings and deprivation (data from 2017)