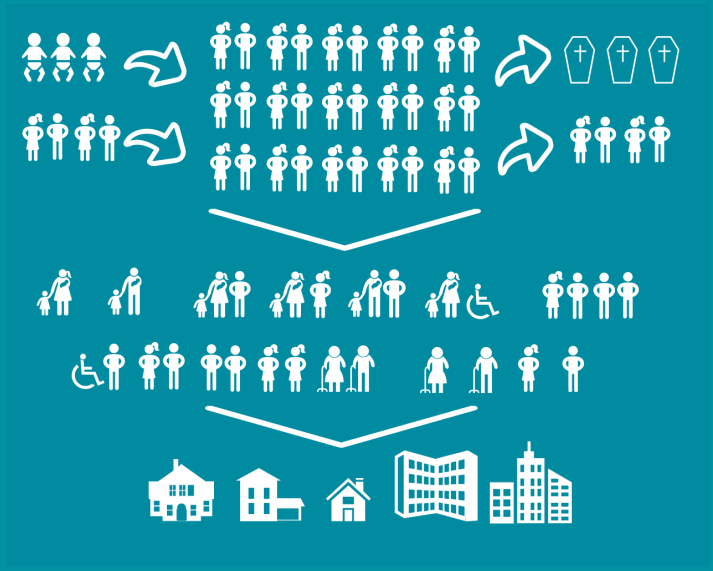
DEMOGRAPHY & HOUSEHOLDS Analysis 2017



Published May 2017

TAYplan

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Angus Council

Dundee City Council www.dundeecity.gov.uk CHANGING FOR THE FUTURE

Fife COUNCIL

PERTH & KINROSS COUNCIL

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Introduction

This document
This work looks at the demographic and household change that has occurred in the TAYplan area between 2001 and 2015 and that is projected to take place between 2014 and 2039.

This includes:
-Recent and projected population change (including the distribution of change)
-Recent, current and projected population age structure changes (including distribution)
-Components of population change
-Migration flows
-Ethnicity (including distribution)
-Recent and projected household change
-Recent and projected changes in household compostion

The data measures:
Population and household information at Local Authoritiy (LA) level and data zone level, where available. Where datazone level information is available this has been used to construct housing market area geographies.

The data does not measure:
Some of the data is only available at Local Authority level e.g Migration. This means that it is not always possible to abstract data for the North Fife part of TAYplan or the TAYplan area itself. In these circumstances data is used for the Whole of Fife.

Source data
The information comes from:

Census data (2001 and 2011):
-Ethnicity data

National Records of Scotland:
-Mid Year Population Estimates
-Mid Year Household Estimates
-2010-based Population Projections
-2010-based Household Projections
-2012-based Population Projections
-2012-based Household Projections
-2014-based Population Projections
-2014-based Household Projections
-Migration flows by origin and destination council areas
-Migration flows to and from Scotland, Rest of UK and overseas
-Net Migration by age
-Birth rates per thousand people

Higher Education Statistics Authority:
-Undergraduate and Postgraduate student numbers by domicile

Dundee and Perth Core Areas
The Strategic Development Plan (2017) refers to the Dundee Core Area and the Perth Core Area. These are descriptions used to refer to the functional urban areas for Dundee and Perth. These are defined in Policy 1 as follows:

Dundee Core Area:
Dundee City Council (including Dundee Western Gateway), and, Invergowrie, Monifieth, Tayport/ Newport/Wormit, Muirhead/Birkhill.

Perth Core Area:
Perth City, Scone, Almondbank, Bridge of Earn, Oudenarde, Methven, Stanley, Luncarty, Balbeggie, Perth Airport.

Summary

Growing population

The population of the TAYplan area and each of its constituent council areas has grown since 2002. It is projected to grow further by 2039.

The majority of the population growth was within Perth & Kinross. This is projected to continue.

Although the population is projected to grow by 2039, it is expected to do so at a lower rate than previously forecast. This is due to more up to date information from the 2011 census and more sophisticated methods of projecting migration in the 2014-based projections.

Urban focus

The majority of the population continues to live in the 20 or so largest settlements.Over half live in Dundee or Perth.

Ageing population

The population profile has been and is expected to continue to age in the future. This is because people are living longer.

Migration key driver of change

Migration is the main driver of population growth. Migration from overseas and the 16-24 age group are significant drivers of recent migration. The region's universities are significant attractors for both of these categories of migration.

Movements to and from other parts of Scotland and the rest of the UK remain significant.

All four council areas covered by TAYplan experience significant migration to and from their neighbouring council areas. Employment and housing choices are some of the drivers of this. They also share significant movements with the council areas which cover Scotland's largest settlements. Employment and education are likely drivers of these choices.

More ethnically diverse

The population has become more ethnically diverse since 2001. This is particularly the case in Dundee City and North Fife. In both cases the universities are likely to be major drivers. Other drivers may include the arrival of overseas agricultural workers, particularly from the eastern European countries who joined the EU in 2004.

Increasing number of households

The number of households is projected to increase but at a higher rate than the population increase. This is due to the effect of diminishing average household size.

More older households

Reflecting the broader trends of an ageing population the age profile for all types of household is expected to increase.

Household size falling

As people live longer they are spending an increasing share of their lives in smaller households. There is a projected increase in the number of single adult households. There are also projected increases in the number of 2 adult households.

The number of single adult households with one or more children is projected to increase.

The numbers of larger households with 3+ adults and households with 2 adults and one or more children are projected to fall.

This document

This paper is one of several Detailed Technical Information Papers prepared by TAYplan Strategic Development Planning Authority.

This paper considers issues arising from recent and anticipated demographic and household change.

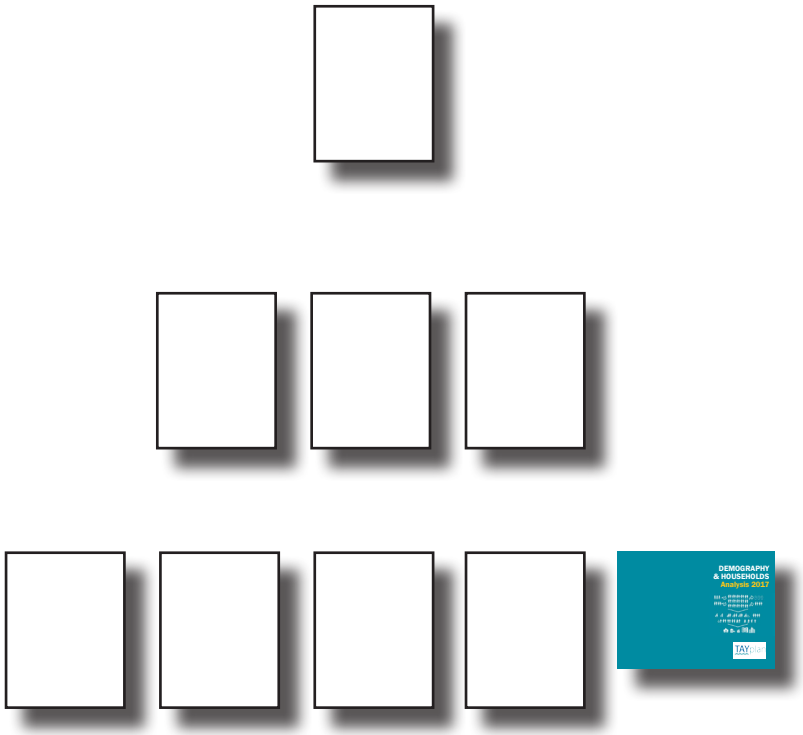
Our work focuses on local authority areas and housing market areas covered by the TAYplan Strategic Development Planning Authority.

This paper is one of several which consider different aspects of demography and housing.

This work informs...
This work has been helpful in informing our understanding of demographic change and how this influences the structure of our population for the economy and forming households.

It will also inform our Monitoring Statement, Housing Need and Demand Assessment, Strategic Environmental Assessment and subsequently the Main Issues Report and following Proposed Strategic Development Plan.

It will also feed into wider work on demography, environmental quality, the economy, and, equality and wellbeing.



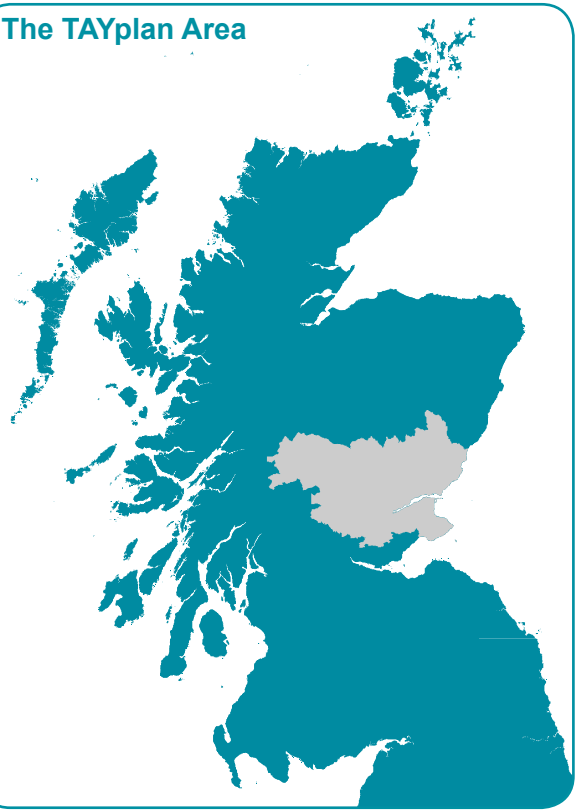
Plans and Proposals
Approved Strategic Development Plans
Proposed Strategic Development Plans
Main Issues Reports
Action Programmes

Telling the story
Topic Papers
Monitoring Statements
Equalities Impact Assessments

Detailed Technical Information
This document
Specific research papers
Statutory Assessments

Geographies we look at

The TAYplan Area

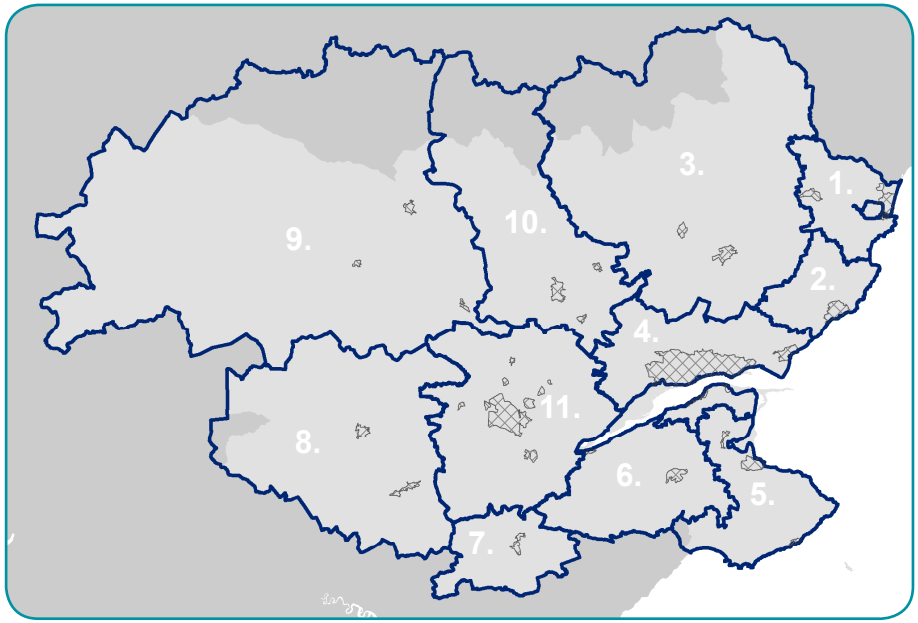


4 councils covered by TAYplan
1. Angus
2. Dundee City
3. North part of Fife
4. Perth & Kinross

11 housing market areas covered by TAYplan
1. North Angus
2. East Angus
3. West Angus
4. Greater Dundee
5. St Andrews & North East Fife
6. Cupar & North West Fife
7. Kinross
8. Strathearn
9. Highland Perthshire
10. Strathmore & Glens
11. Greater Perth

The 4 council areas that are covered by TAYplan

The 11 housing market areas that are covered by TAYplan



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Section 1: Recent & Projected Population Change

Synopsis

All 4 council areas covered by TAYplan have grown in popualtion between 2002 and 2015. Perth & Kinross has experienced the most significant growth. These trends are projected to continue into the future, albeit at differing scales.

Recent Population Change

Projected Future Population Change

Recent & Projected Population Change

These observations reflect graph 1 overleaf...

Population Growth for TAYplan Area

In 2015 the TAYplan area population was 491,300. It has increased by over 26,000 people (5.7%) since 2002. Population growth is projected to continue at a rate of 6.6%; reaching 521,920 people by 2039.

In 2002 the TAYplan population represented 9.2% of Scotland's population. By 2015 it fell to 9.1%. However it is projected to rise to 9.2% by 2039.

Ageing Population

Although growth has occured in all age groups it has been most significant in those aged 65+. This is projected to continue. Growth is also anticipated in the number of children (aged 0-15) and the working age population (aged 16-64). However, this is projected to be less significant than for those aged 65+.

Varied growth across Council Areas

Although all 4 council areas have seen population growth the 54% of the increase (2002-15), nearly 14,000 people, was in Perth & Kinross. This means that Dundee City and Perth & Kinross Council areas now have similar sized populations.

The majority of the projected growth in the TAYplan population is anticipated in both Perth & Kinross and Dundee City. The Angus population is projected to grow slightly but remain relatively constant. The North Fife population is also projected to increase.

Most people live in the 22 largest towns

78% of the TAYplan area's inhabitants live in the 22 principal settlements (map 1 below). Therefore although TAYplan area is made up of significant areas of countryside, its population is predominatly urban.

Dundee and Perth Core Areas are home to nearly half of the population. Overall Dundee Core Area accounts for over one third and this is more than the combined population of all of the other principal settlements (excluding Perth).

Map 1: Principal Settlements in the TAYplan Area

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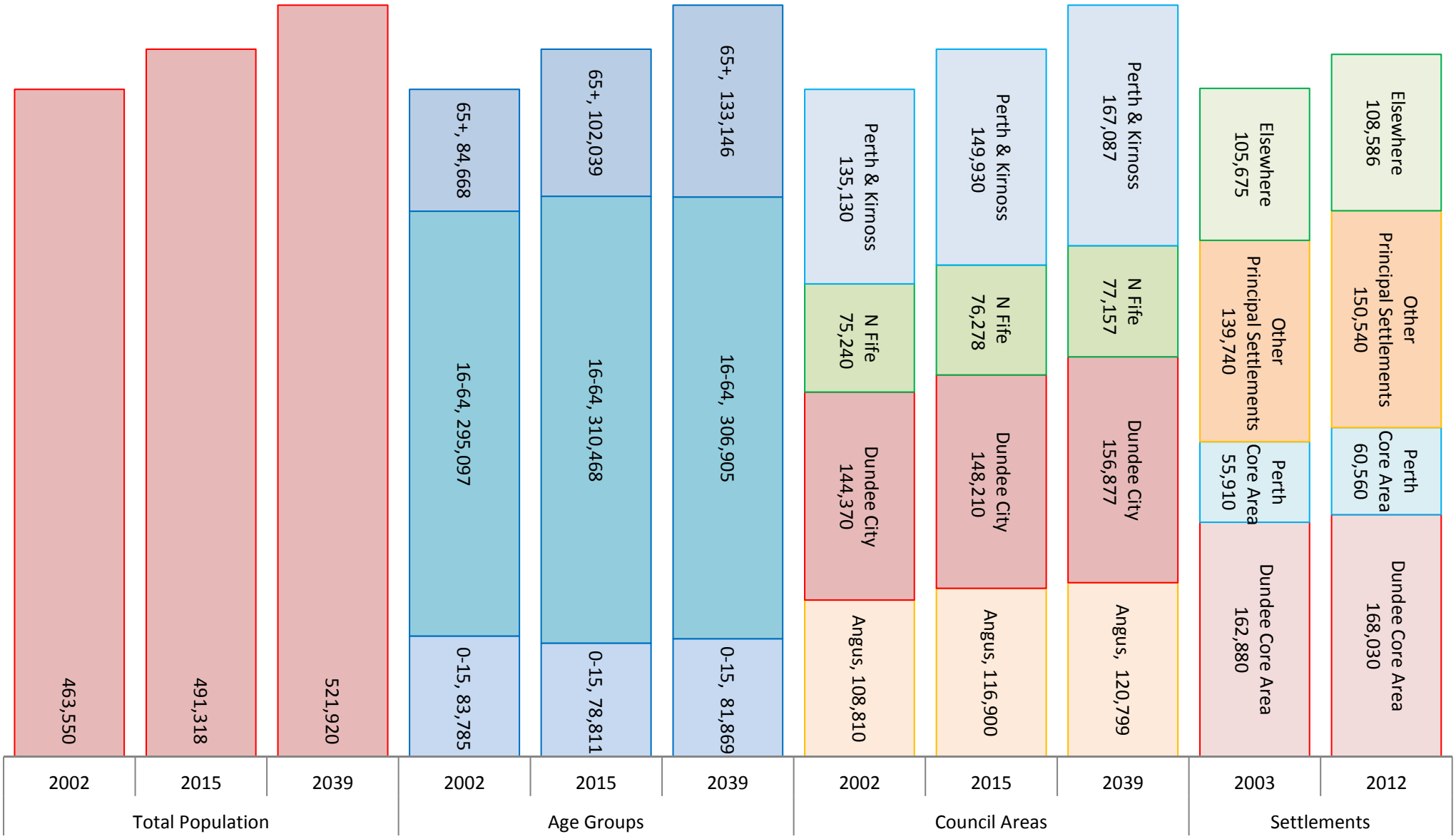
Graph 1: Recent and Projected Changes in the Population of the TAYplan Area



Source: National Records of Scotland Mid-Year Population Estimates and the 2014-based Population Projections

Recent Population Change: Housing Market Areas

Different housing market areas

Graph 2 (right) shows that the Greater Dundee and Greater Perth housing market areas contain by far the largest populations. Nearly 200,000 people live in the Greater Dundee Housing Market Area.

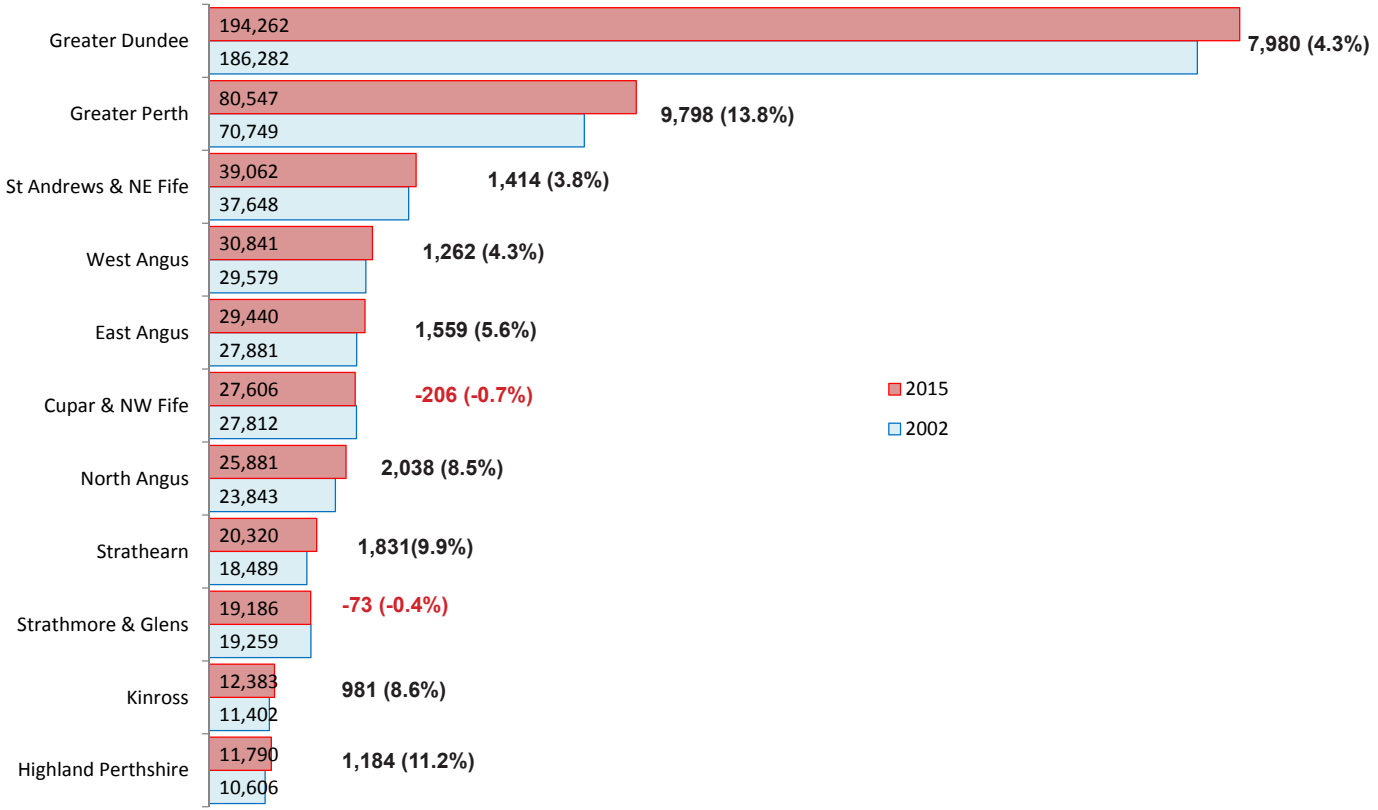
The Highland Perthshire and Kinross housing market areas both contain the smallest populations, each of just over 10,000 people. The remainder contain between 18,000 and 30,000 people with St Andrews & East Fife at nearly 40,000.

Varied change across Housing Market Areas

All housing market areas have seen growth in population between 2002 and 2015; except for Cupar & North West Fife and Strathmore & Glens. Each of these experienced a fall in population of less than 1%.

The largest proportional increases were in Greater Perth (13.8%), Highland Perthshire (11.2%), Strathearn (9.9%), Kinross (8.6%) and North Angus (8.5%).

Graph 2: Population change in housing market areas 2002 to 2015



Source: National Records of Scotland Mid-Year Population Estimates

Percentage Population Change: 2002 to 2014

This section considers Maps 2 overleaf on page 14...

The technical bit

Maps 2 (overleaf) shows the percentage change in the population of individual datazones covering the TAYplan area between 2002 to 2014. This shows the distribution and spatial significance of population change across the TAYplan area.

Maps 2 use the 2001-based datazones from 2002 to 2014 because population information has been published at this level for this time period. This coincides as far as possible with the time series information presented in Graphs 1, 2 and 3.

From 2015 onwards National Records of Scotland no longer publishes population information at 2001-based datazone level. The newer 2011-based datazones, which are slightly different geographies, only have historic time series data to 2008.

Varied picture of population change

Although the TAYplan area as a whole saw population growth, Maps 2 show that this was not the case everywhere and that some datazones saw a fall in population. Those which saw a fall in population include some in coastal North Fife, Dundee City, Central parts of Perth, parts of the Angus Glens, Arbroath, and western Perth & Kinross.

Urban periphery

The two largest settlements (Dundee and Perth) are dominated by almost identical trends. These show falling populations in specific neighbourhoods contrasted with growth in adjacent ones. They also both show peripheral growth either in settlement edge neighbourhoods or the datazones immediately surrounding the settlement.

These trends are particularly telling as the time period 2002 to 2014 covers the economic and housing boom of the early 2000s. During this time low risk aversity in mortgage lending or policies enabled many people to access the finances to move to new neighbourhoods.

Simultaneously regeneration programmes such as the removal of multi-storey flats in Dundee and the regeneration Muirton in Perth led to movement of people prior to demolition and subsequent rebuild.

The construction of housing estates in edge of settlement and village locations can also be seen.

Market preferences

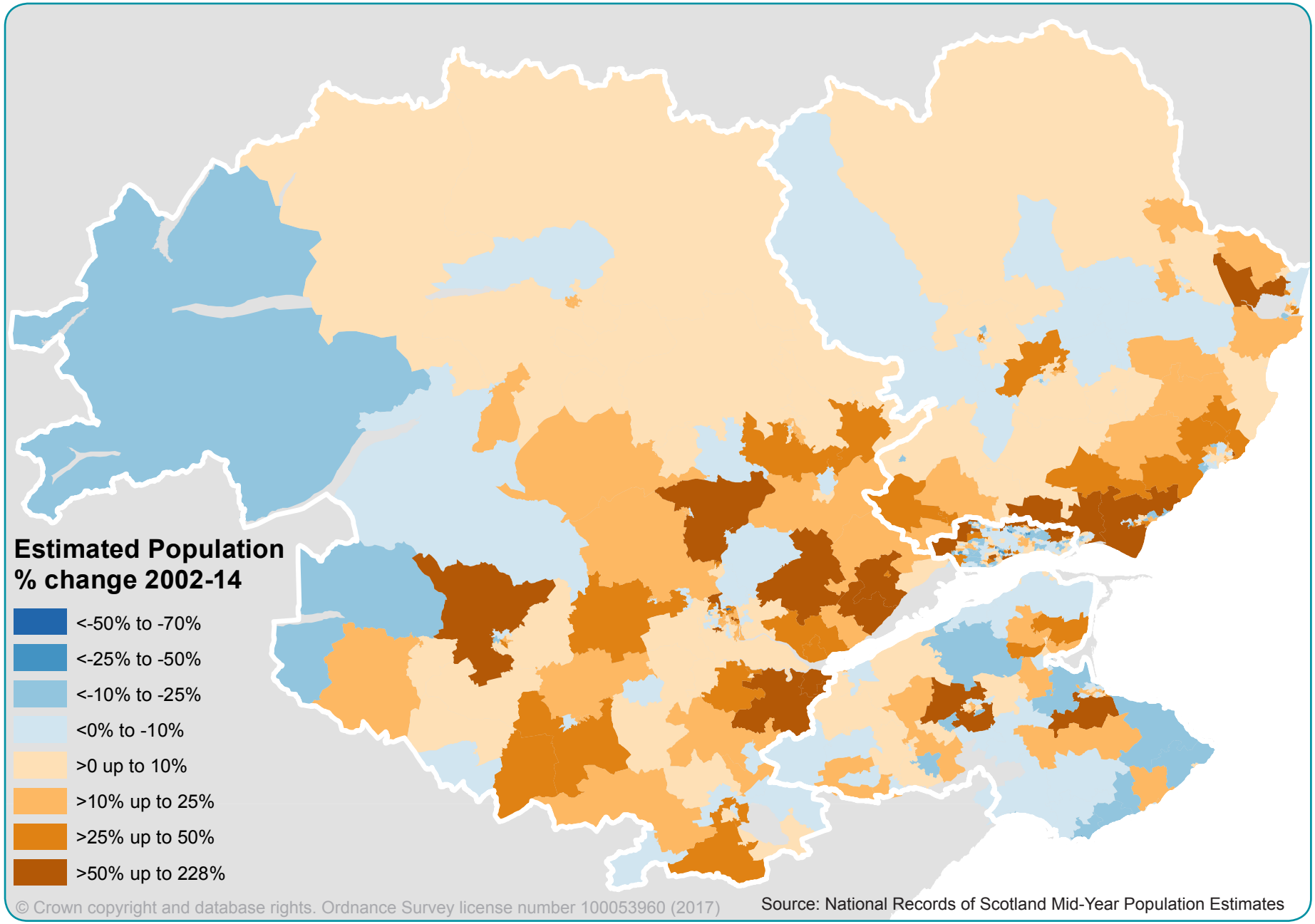
The spatial distribution of population change during a period of liberal money lending also provides a strong indication of market preferences. However, it also shows that these choices have promoted a less sustainable pattern of travel (See TAYplan's Analysis of 2011 Travel to Work data).

This information therefore suggests that there have been factors in these locations which motivated people to choose to live there. Similarly there have been factors which motivated them to leave other locations.

A sustainable pattern of development requires neighbourhoods within the largest and most well serviced settlements to exhibit the property and neighbourhood qualities seen by those areas which saw population growth. The population change illustrates people's perceptions about place quality.

This continues to be one of the central challenges for the Strategic Development Plan in delivering the vision and overcoming the place quality perception issues associated with the population change demonstrated by Maps 2.

Maps 2: Percentage change in the population at datazone level for TAYplan (2002-14)



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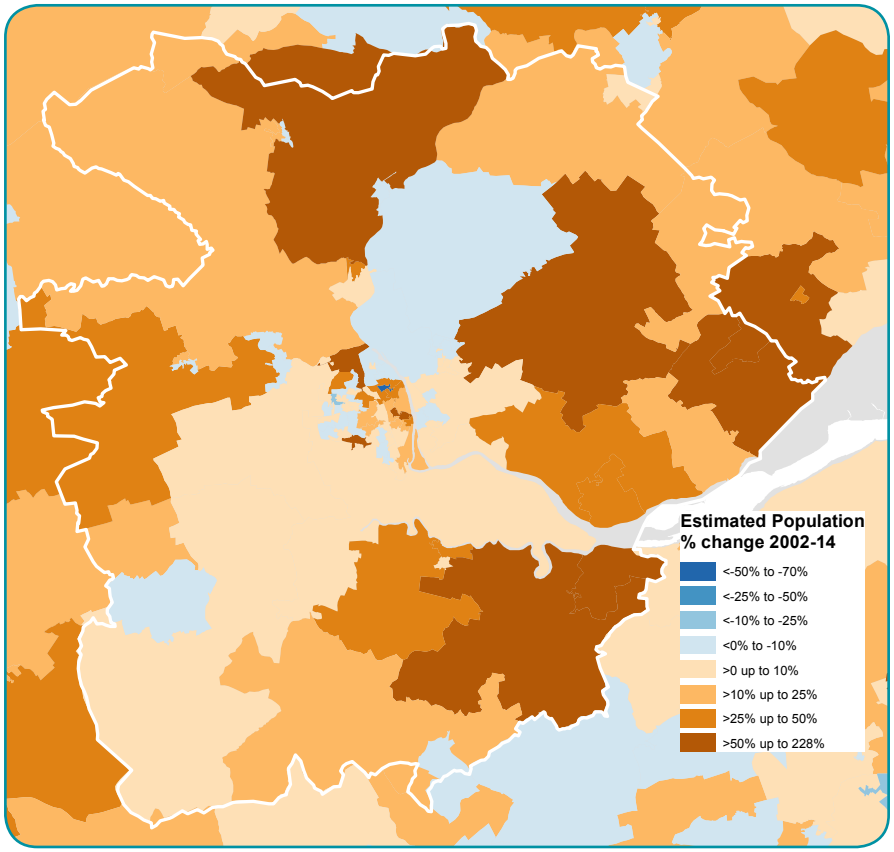
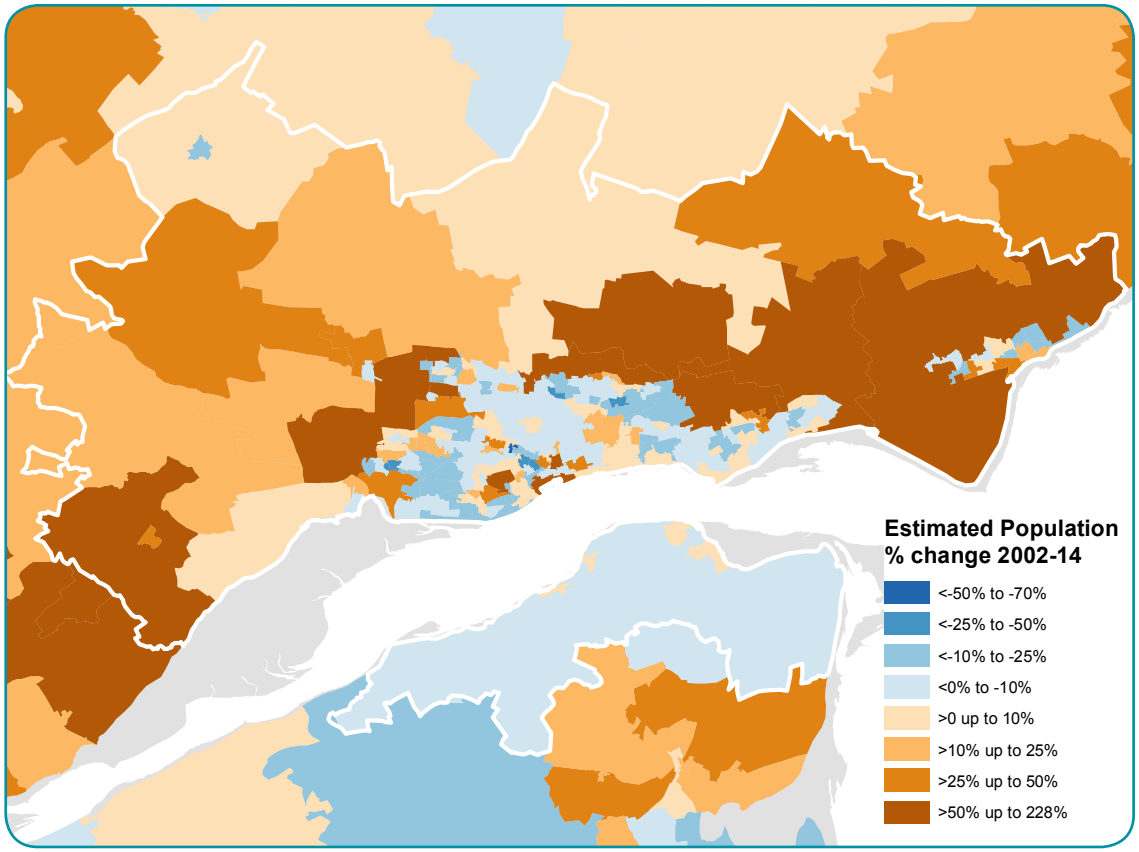
Source: National Records of Scotland Mid-Year Population Estimates

Zoom in for Perth...



Zoom in for Dundee...



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Source: National Records of Scotland Mid-Year Population Estimates

Future Projected Population Change: 2014-base

Population Projections explained

Every two years the National Records of Scotland publishes population projections. These projections consider the demographic structure and trends of the most recent 5 years and project this forwards from a given base date.

National Records of Scotland publishes a principal (or trend) projection as well as several scenario projections based on high and low fertility, high and low mortality and high and low migration.

These projections are published for Scotland, Council areas, health boards and for National Parks and Strategic Development Planning Authorities.

The most recent population projections are the 2014-based population projections.

2014-based Population Projections show...

Map 3 (right) and Graph 3 (overlead page 17) shows that population growth is projected to continue in all four council areas covered by TAYplan.

During the period 2014 to 2039 the population of the TAYplan area is projected to increase by 6.6% to 521,920. The majority of this growth continues to be anticipated in Perth & Kinross.

Perth & Kinross is anticipated to see the most significant scale of growth - 18,157 people between 2014 and 2039 (12.2%).

Growth trajectory diminishing - Graphs 4 pages 18 and 19

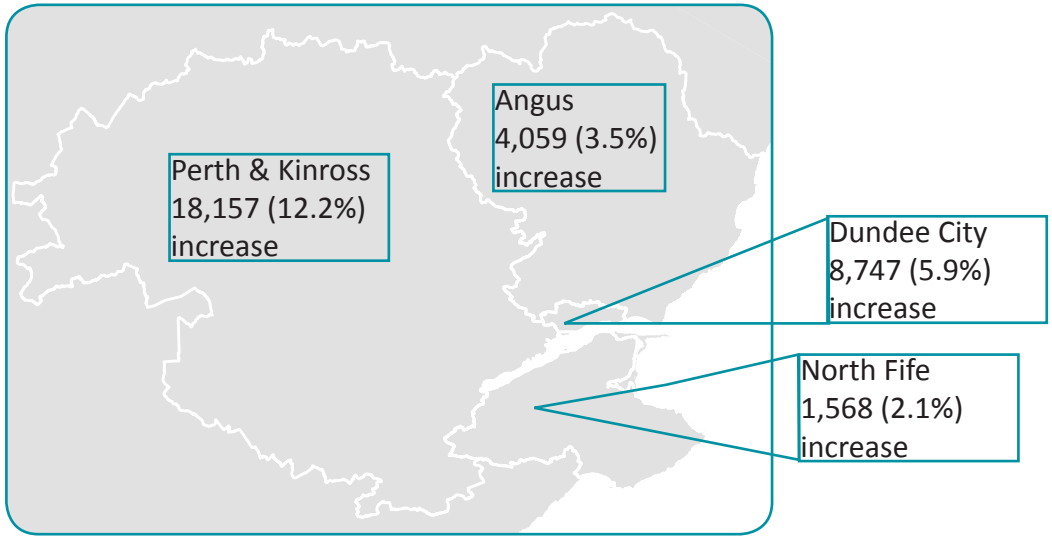
The scale of growth anticipated for TAYplan by the 2014-based projections is significantly lower than had been projected by either the previous 2010-based or 2012-based projections.

This is most significant for Perth & Kinross where the scale of projected growth has diminished compared with 2010-based projections. This is illustrated in Graphs 4 (pages 18 and 19) for all four council areas. These graphs compare recent population estimates and the trajectories of projected population growth using the 2010-based, 2012-based and 2014-based projections.

The factors driving this change in the trajectory of growth are:

- The earlier 2010-based projections were based partly on trend data from prior to the economic downturn. Subsequent changes have diminished the scale of anticipated migration.
- The accuracy of the 2012-based projections was considered to be improved in light of the 2011 Census. Previous population estimates were subsequently revised in light of the 2011 Census.
- The 2014-based projections use a new and more sophisitcated method for projecting migration. This method is internationally recognised as an improvement.

Map 3: Projected Population Change (2014-39)



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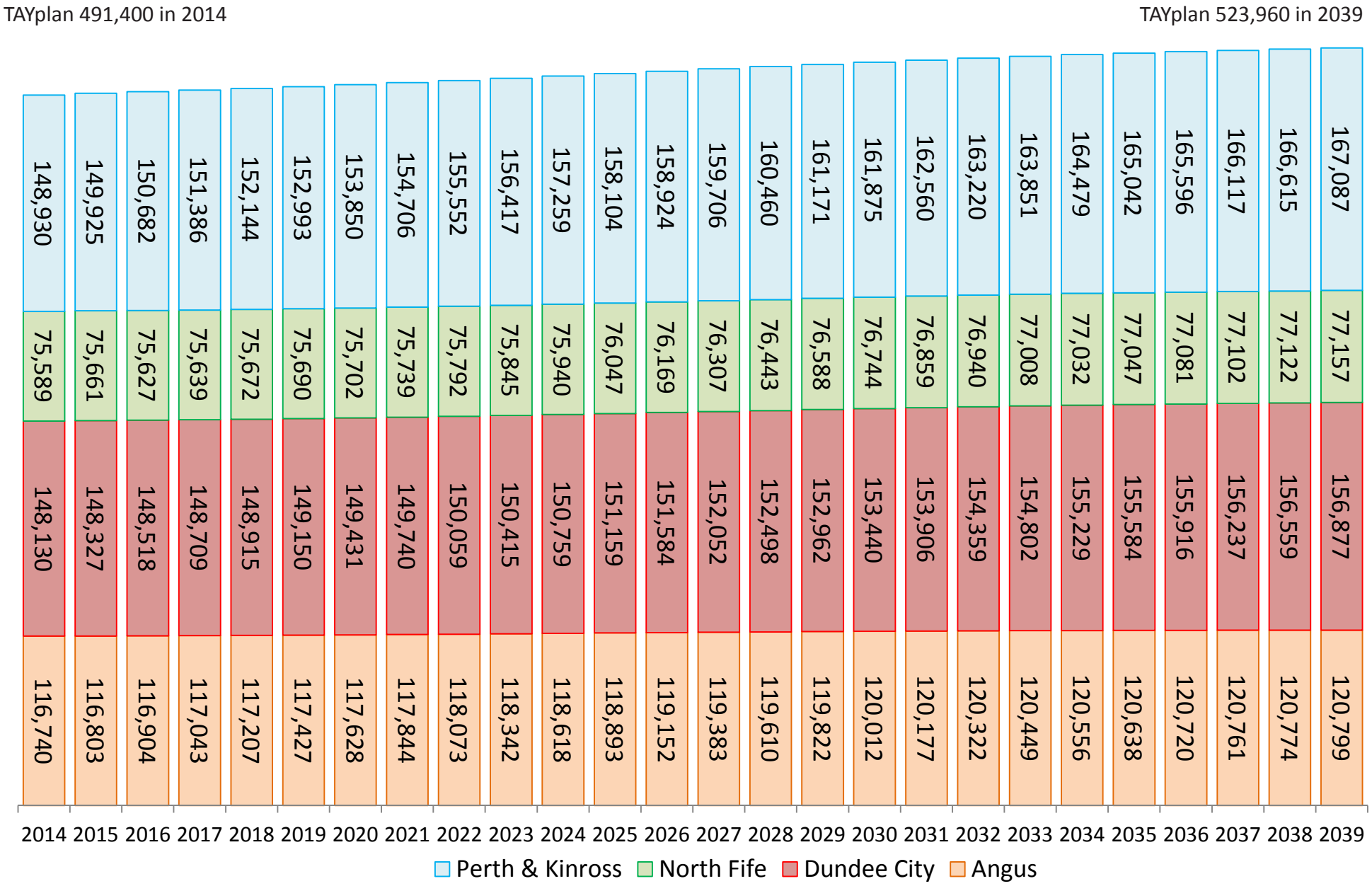
Source: National Records of Scotland 2014-based population projections

Graph 3: Projected Population Change for the Council areas covered by TAYplan (2014-39)



Source: National Records of Scotland 2014-based population projections

Angus

Following revisions to the Angus population after the 2011 Census the 2012-based projections anticipated a higher population, albeit one, which was projected to fall by the late 2030s.

More recent population growth has taken place and the 2014-based projections now anticipate the Angus population increasing by just over 4,000 people or 3.5% between 2014 and 2039.

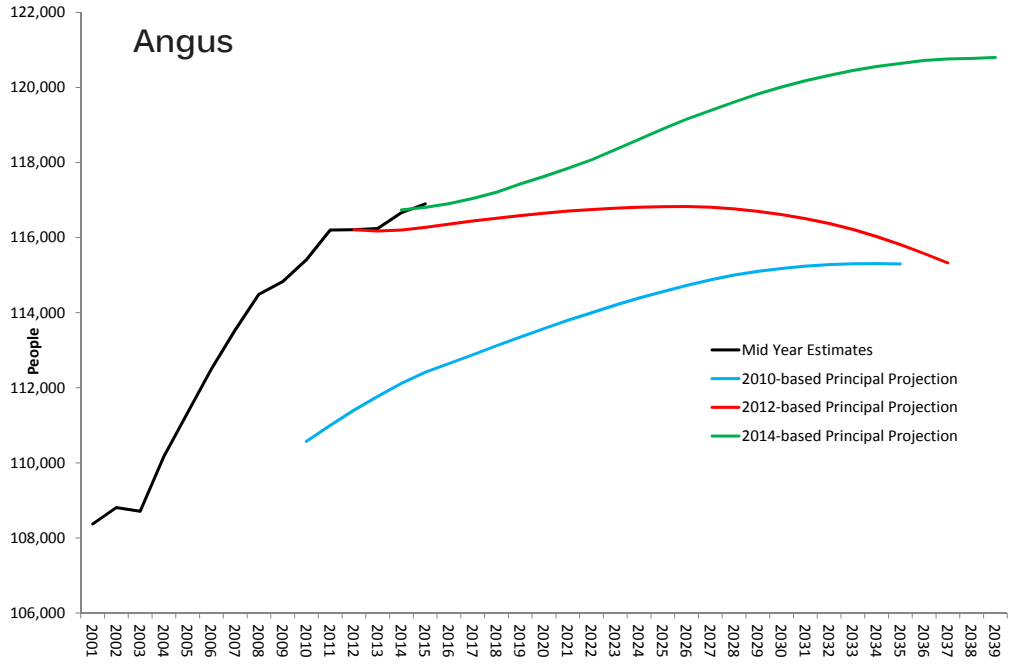
Dundee City

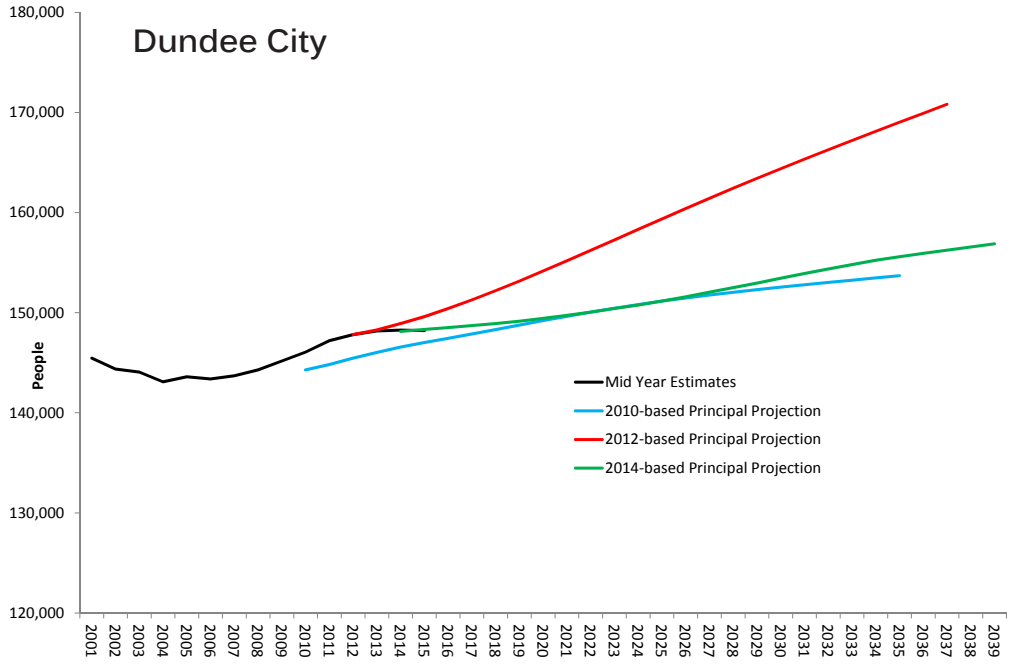
Initially the 2010-based projections anticipated moderate population growth for Dundee City by the mid 2030s. However, the subsequent 2012-based projections anticipated a significantly higher growth trajectory. The 2012-based projections anticipated around 15,000 more people, driven by higher levels of migration.

The more recent 2014-based projections now anticipate the Dundee City population to increase at a level much more similar to that of the 2010-based projections. It is understood that the changes in the way migration is considered by the projections has played a major role in this.

Therefore the Dundee City population is anticipated to grow by almost 8,750 people or 5.9% between 2014 and 2039.

Graphs 4: Comparing projected population growth for the 2014, 2012 and 2010-based projections...





Source: National Records of Scotland 2014-based, 2012-based and 2010-based population projections and the 2001 to 2014 mid year population estimates

North Fife

Following revisions to the population after the 2011 Census the 2012-based projections anticipated a steeper population growth trajectory compared with the 2010-based projections. However, it was expected to result in a similar size of population by the mid 2030s.

More recent 2014-based projections now anticipate the North Fife population will grow at a lower rate - around 1,570 people or 2.1% between 2014 and 2039.

Perth & Kinross

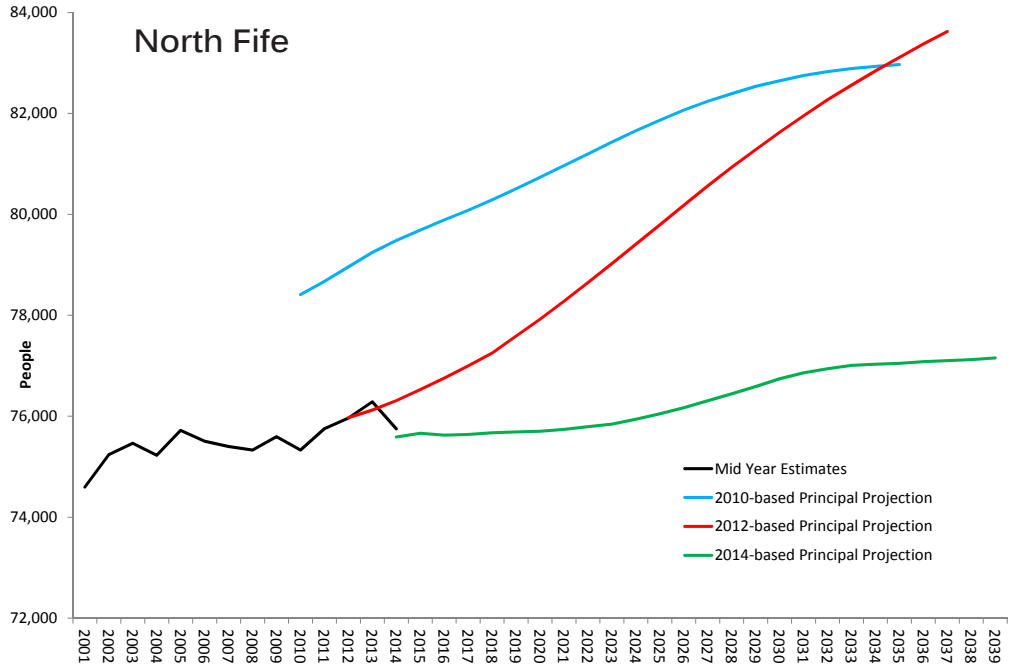
Although consistently forecast to grow the trajectory of population growth has fallen in both the 2012-based and 2014-based projections compared with the 2010-base.

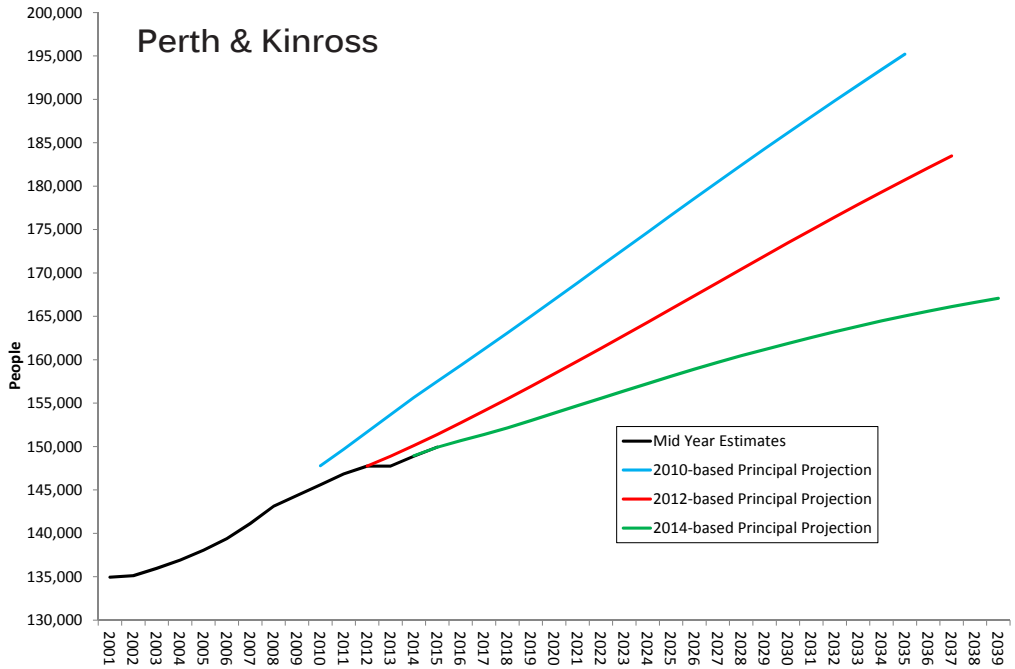
This means that the 2014-based projections would lead to a growth of around 30,000 people fewer for Perth & Kinross compared with the 2010-based projections. Although growth continues to be forecast this is a significant change in the trajectory.

This change is likely to have been driven by post economic-boom trends, increasing accuracy following the 2011 Census, and, the more recent changes in the way migration is projected. These points are all siginificant because growth in Perth & Kinross has been strongly driven by migration.

The 2014-based projections now anticipate that the Perth & Kinross population will grow at a lower rate of 18,157 people or 12.2% between 2014 and 2039.

Graphs 4: Comparing projected population growth for the 2014, 2012 and 2010-based projections...





Source: National Records of Scotland 2014-based, 2012-based and 2010-based population projections and the 2001 to 2014 mid year population estimates

Section 2: Population Age Structure

Synopsis

The population has, and will continue to age as people live longer. This means the population structure has been and is expected to continue to age.

The universities play a major role in attracting young people (aged 16-24) to the area. The distribution of these age groups reflects, to some extent, proximity to the universities.

The highest concentrations of children aged 0-15 are within or close to the region's largest settlements.

Current Population Age Structure

Changing Population Age Structure

Recent Changes in Age Structure

Projected Changes in Age Structure

Population Pyramids

Changes in Age 16 to 24

Current Population Age Structure

Population Age Structure explained

In any population there are people of different age groups.

Understanding population age structure is important for knowing how many new households are likely to form in the future - this tells us about how many new homes we will need to plan for.

It also helps us to understand the dependency ratio. This is the working age population versus those of childhood and pensionable age.

The age structure also helps us to understand the risks and opportunities facing our economy and society now and in the immediate future. For example a large number of adults entering retirement age over the next decade or so will have multiple impacts. There will be job opportunities in the vacant posts, there will be losses of expertise, there will be changes in spending habits as pension schemes pay out retirement dividends.

There will also be care issues as an arguably fitter and healthier population lives longer, but also experiences health care and social care needs at a collective scale previously not experienced by society.

Scotland Age Structure vs TAYplan in 2015

Graph 5 (right overleaf) compares the population age structure of Scotland with that of the TAYplan area and its constituent council areas. The age structure profiles share some similarities with Scotland for those aged 45 and above, albeit with varying proportions for each council area.

For Dundee City the age profile differs from the Scottish average for most age groups, with slightly lower proportions of children aged 0-15, higher proportions of young people aged 16-30, lower proportions of people aged 35 to 74 and similar proportions aged 75+

Angus and Perth & Kinross share very similar age profiles to one another and to Scotland. They differ from Scotland with lower shares of young people aged 20 to 40 and higher shares aged 45+.

North Fife shares a similar age profile to Dundee City for children aged 0-15 being below the Scottish average and young people aged 20-24 being above it. In contrast, however, North Fife experiences a lower than average share of population aged 25 to 54. For age groups over 55 North Fife shares a similar profile to Angus and Perth & Kinross, which is higher than the Scottish average.

Children and Young People

For Dundee City and North Fife there are slightly lower proportions of children aged 0-14 and distinctly higher than average proportion of those aged 15-19 and aged 20 to 24. It is likely that the Universities of Dundee, Abertay and St Andrews play a significant role in influencing this higher than average proportion of 'young people'.

For Angus and Perth & Kinross there is no equivalent peak for the 15-24 age groups; which are notably lower than the Scottish level. There are no universities in Angus and the University of Highlands and Islands in Perth does not appear to have had the same demographic influence as the universities in Dundee and North Fife.

For Dundee City there are also distinctly higher proportions of people in the 25 to 34 age groups compared with the Scottish averages for these. In the other council areas this is lower, and notably so for North Fife.

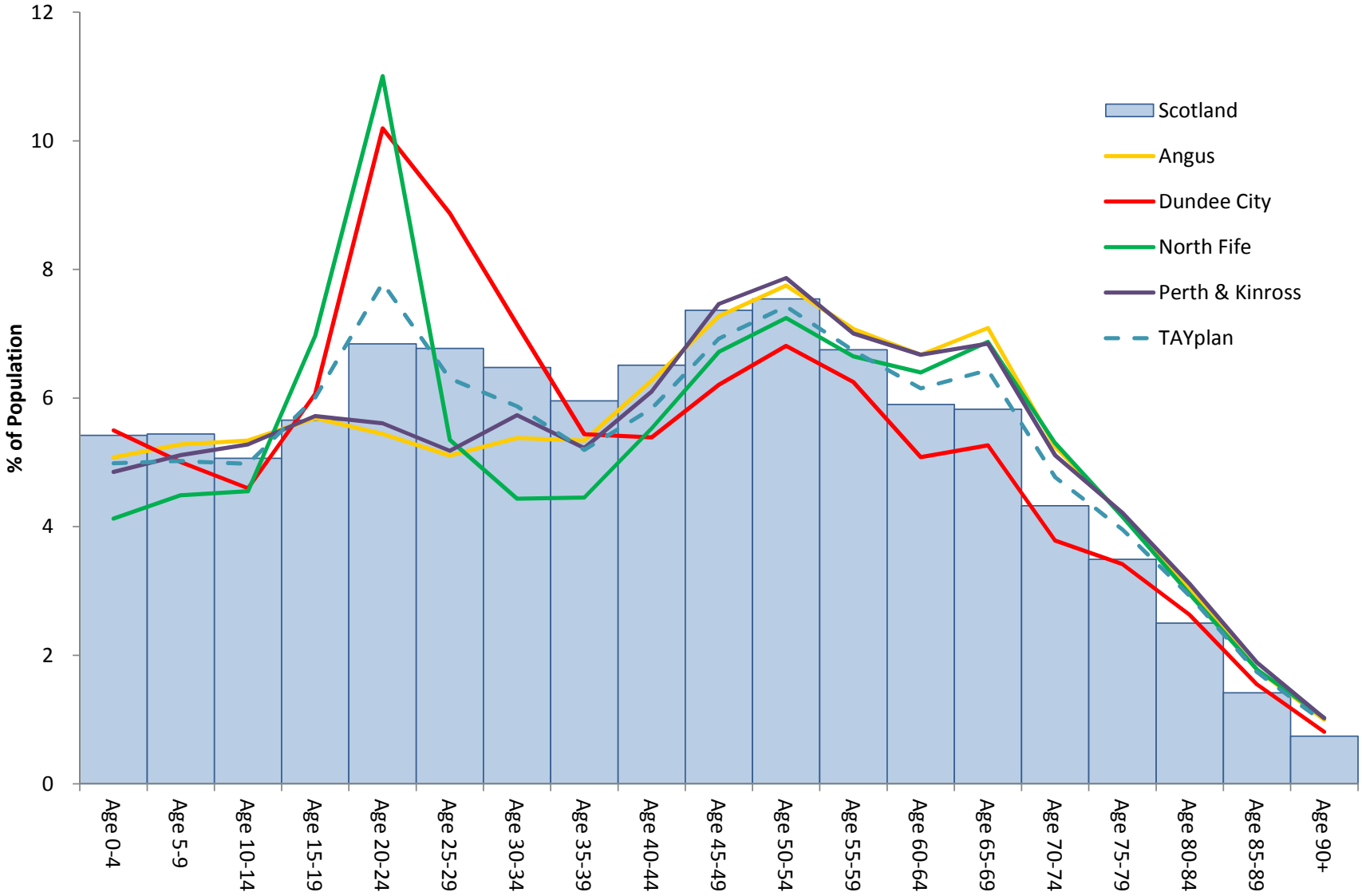
Pensionable age groups

The pension age is currently 65 for men and women and this will increase to 67. For Dundee City those aged 65 to 74 represent a lower share of the population than for Scotland and those aged 75+ a very similar share. For the other three council areas covered by TAYplan there is a slightly higher proportion for all age groups of 65+.

TAYplan overall

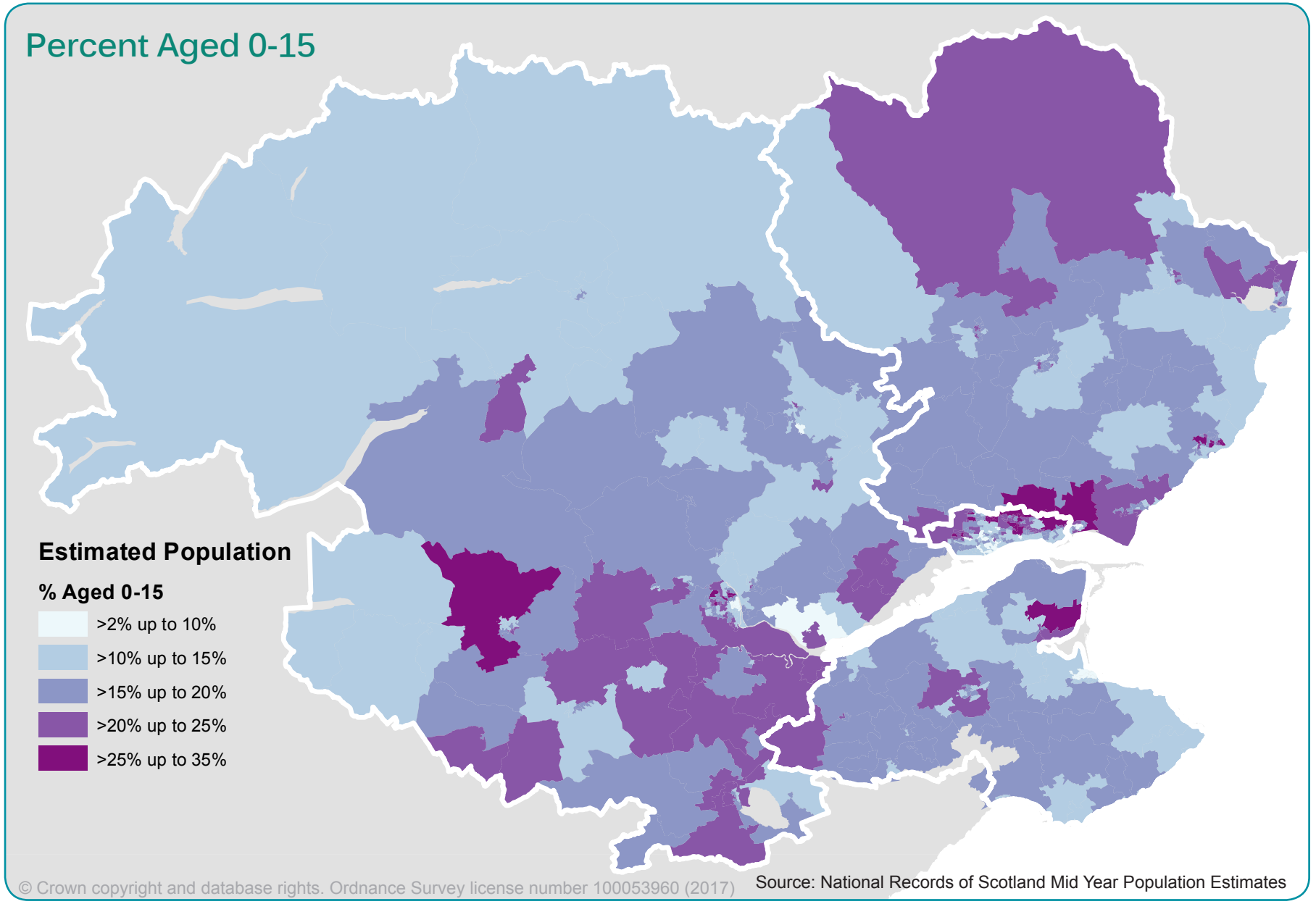
There is a higher than average proportion of young people aged 20 to 24. There is a similar proportion of working age population albeit slightly lower for those aged below 50. There is a slightly higher share of those aged 65+.

Graph 5: Population age structure 2015 compared - Scotland, TAYplan and constituent council areas

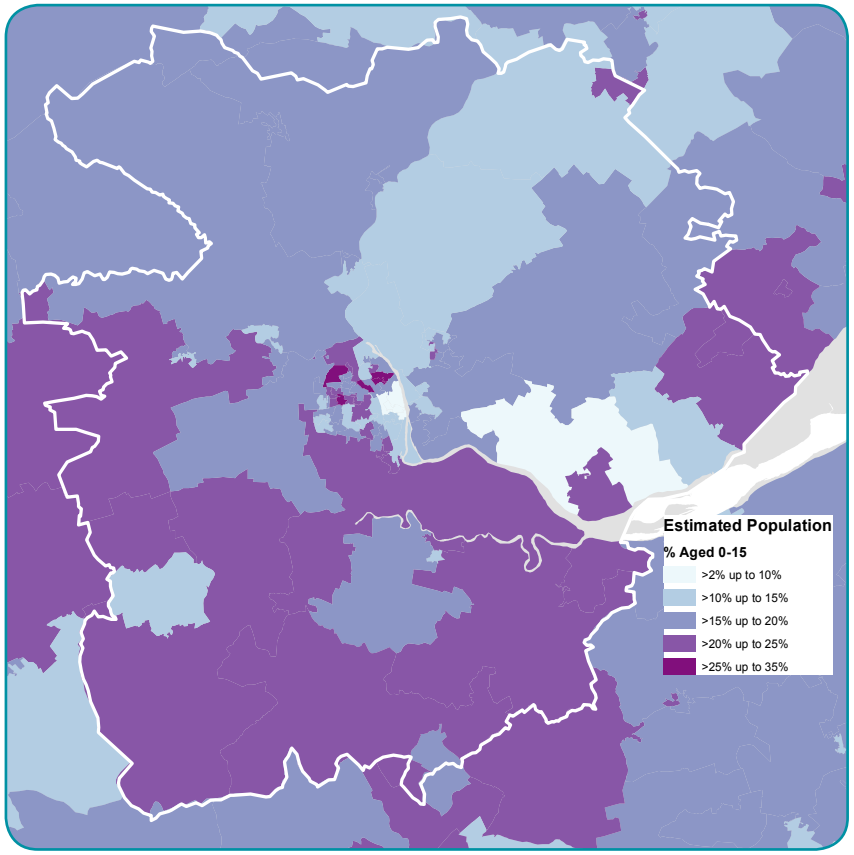


Source: National Records of Scotland Mid-Year Population Estimates

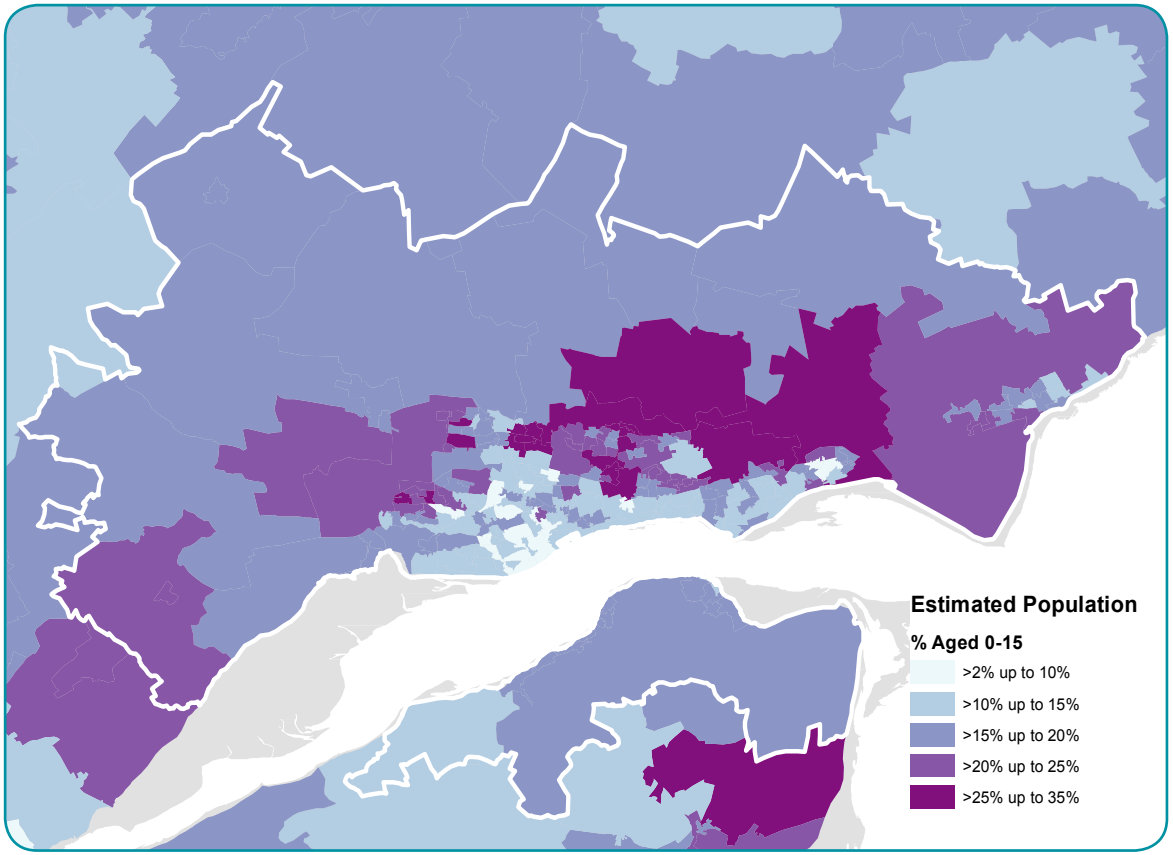
Maps 4: Population distribution by age group for children aged 0-15 in 2015



Zoom in for Perth...



Zoom in for Dundee...



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Source: National Records of Scotland Mid Year Population Estimates

Maps 4 show the percentage of people living in each datazone who are aged 0 to 15 years old. This helps us to understand where there are concentrations of school age children and therefore where families/family groups are living.

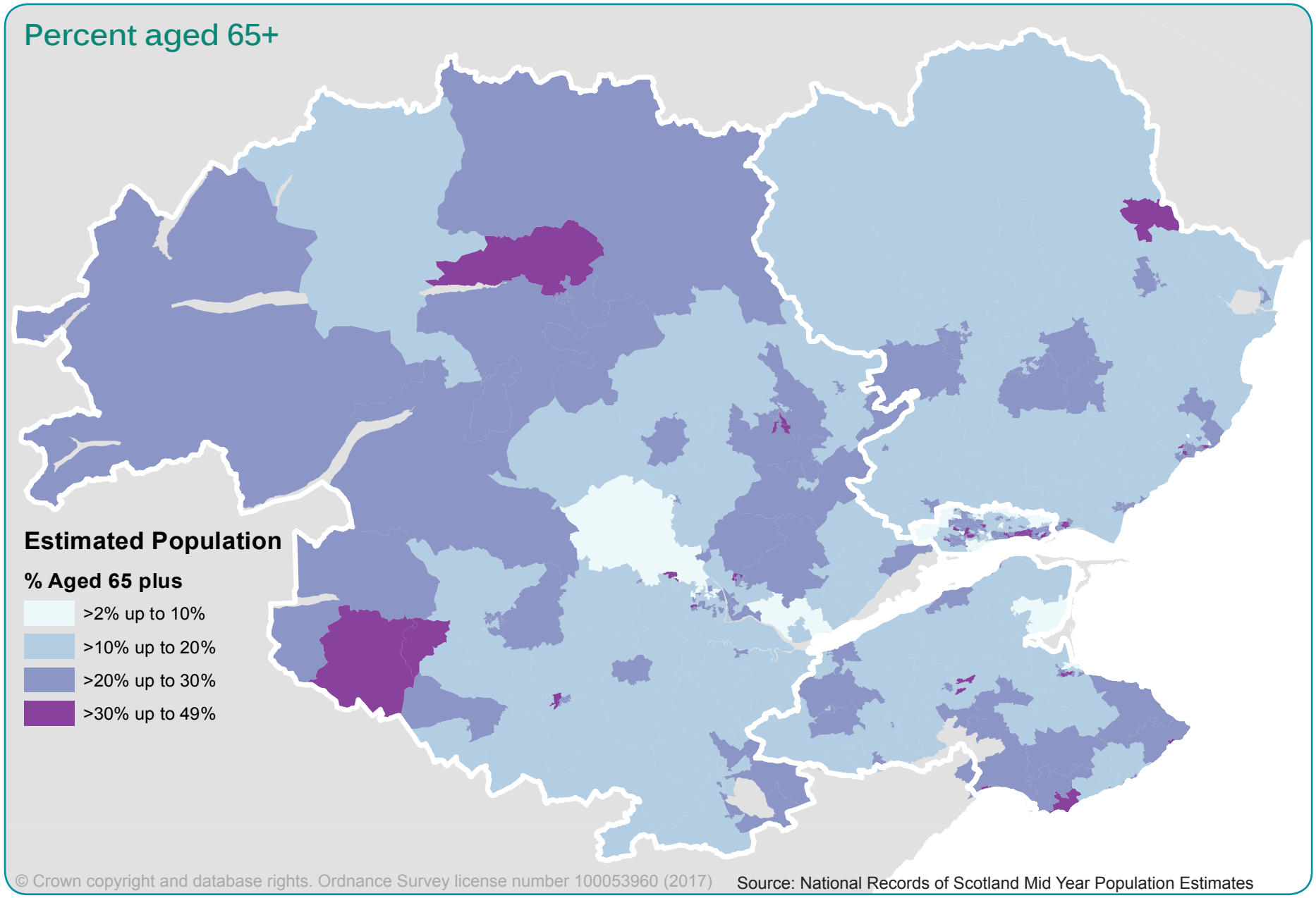
There are some school aged children in every datazone across the TAYplan area. In general datazones in countryside areas tend to contain the lowest proportions of school aged children.

The highest concentrations of between 20% and 35% are in specific neighbourhoods of Dundee and Perth, other principal settlements and some countryside datazones.

For Dundee and Perth peripheral neighbourhoods tend to have the highest concentrations of school aged children. These are likely to represent the suburban parts of the cities.

Although the reasons for these distributions may be complex the availability of family housing, proximity to schools and specific school catchments are factors. Similalry parents and older children continuing to live in the family home after children are aged over 15 may also affect the age distribution in specific neighbourhoods.

Maps 5: Population distribution by age group for people aged 65+ in 2015



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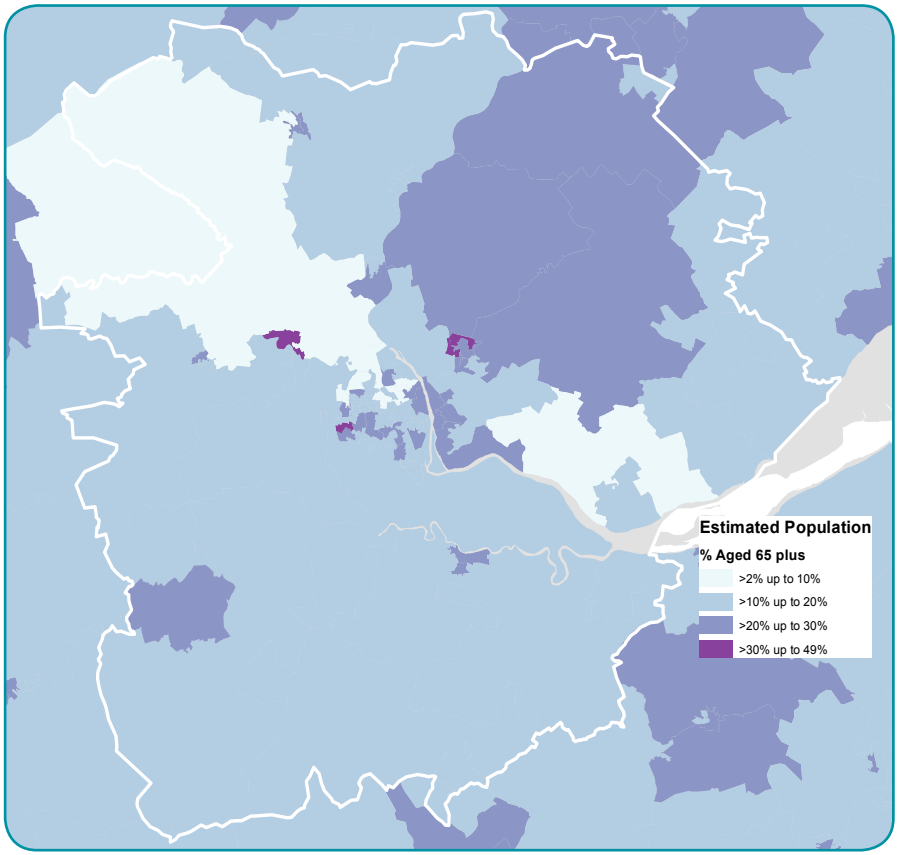
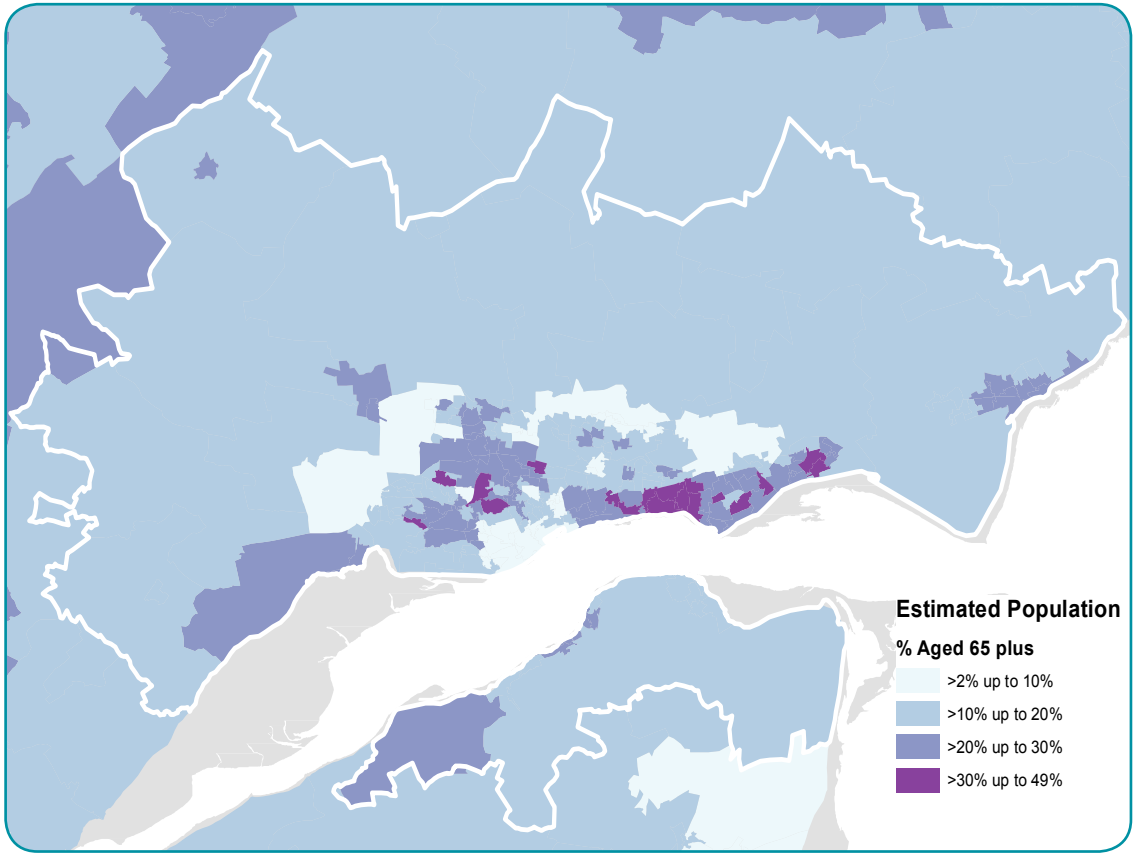
Source: National Records of Scotland Mid Year Population Estimates

Zoom in for Perth...



Zoom in for Dundee...



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Source: National Records of Scotland Mid Year Population Estimates

Maps 5 show the percentage of people living in each datazone who are aged 65 years and over. This is a proxy for pensionable age groups; although some people retire earlier and others continue working beyound age 65.

The lowest concentrations of people aged 65+ are in Leuchars, peripheral parts of Dundee and Perth and central Dundee. The Leuchars situation may be explained by the presence of significant numbers of active military personnel and their dependents. Central Dundee contains high proportions of those aged 16-24 (see Maps 6).

The highest concentrations of those aged 65+ are located in datazones covering specific neighbourhoods of Dundee and Perth Core Areas; these include Lochee, Broughty Ferry and Monifieth. There are also concentrations in Arbroath, Blairgowrie, Cupar and St Andrews.

High concentrations are also evident in datazones covering Edzell in Angus, Comrie in Perth & Kinross, Highland Perthshire and some parts of the East Neuk of Fife. This may reflect, amongst other things, the concentration of residential/ care homes or choices about where to live when retired. It may also reflect the financial choices available to people of other age groups when purchasing homes. Some of these areas have high concentrations of second homes.

Changing Population age structure: 2002, 2014 & 2039 compared

This information
Graph 6 (right) shows the percentage age structure of the population in 2002, in 2014 and the projected population for 2039 for the three age groups:
- Children (aged 0-15);
- Working age (aged 16 to retirement age); and,
- Pensionable age (retirement age and above).

Interpretation
It is possible for there to be an increase in the number of people in one age group over time but for this same age group to fall as a percentage of the overall population. This can happen when the total population increase is driven by significant growth in another age group, thus altering the population age structure.

Overall
The majority of the population is made up of people who are of working age in all three years (Graph 6 - right) and in all locations. However, this age group shrank as a proportion of the population between 2002 and 2014. It is also projected to fall further by 2039.

The population has aged between 2002 and 2014. It is projected to continue to age by 2039. The smallest share of the population is children. The proportion of the population who are children fell between 2002 and 2014. By 2039 it is projected to fall less sharply or remain static.

Scotland vs TAYplan
In Scotland and in the TAYplan area there has been a fall in the proportion of the population aged 0-15 (children) and in the proportion of those aged 16-64 (working age). There has also been an increase the proportion of those of aged 65+ (pensionable ages).

By 2014 one fifth of the TAYplan population was aged 65+. This continues to be slightly higher than for Scotland overall.

The percentage of the TAYplan population that were children aged 0-15 and who were aged 16-64 in 2014 also fell compared with 2002. The proportion of the population represented by each of these age groups continues to be similar but slightly lower for TAYplan than the Scottish average

Council areas - children age 0-15
The proportion of the population made up of children aged 0-15 fell between 2002 and 2014 for all four council areas covered by TAYplan. In each instance these represent a similar or lower proportion of the population when compared with the Scottish average.

For Angus and Perth & Kinross this fall is projected to continue by 2039. For Dundee City and North Fife is projected to remain static by 2039. For Angus and North Fife the proportion of the population made up of children is projected to be lower than the Scottish average in 2039. For Dundee City and Perth & Kinross it is projected to be identical.

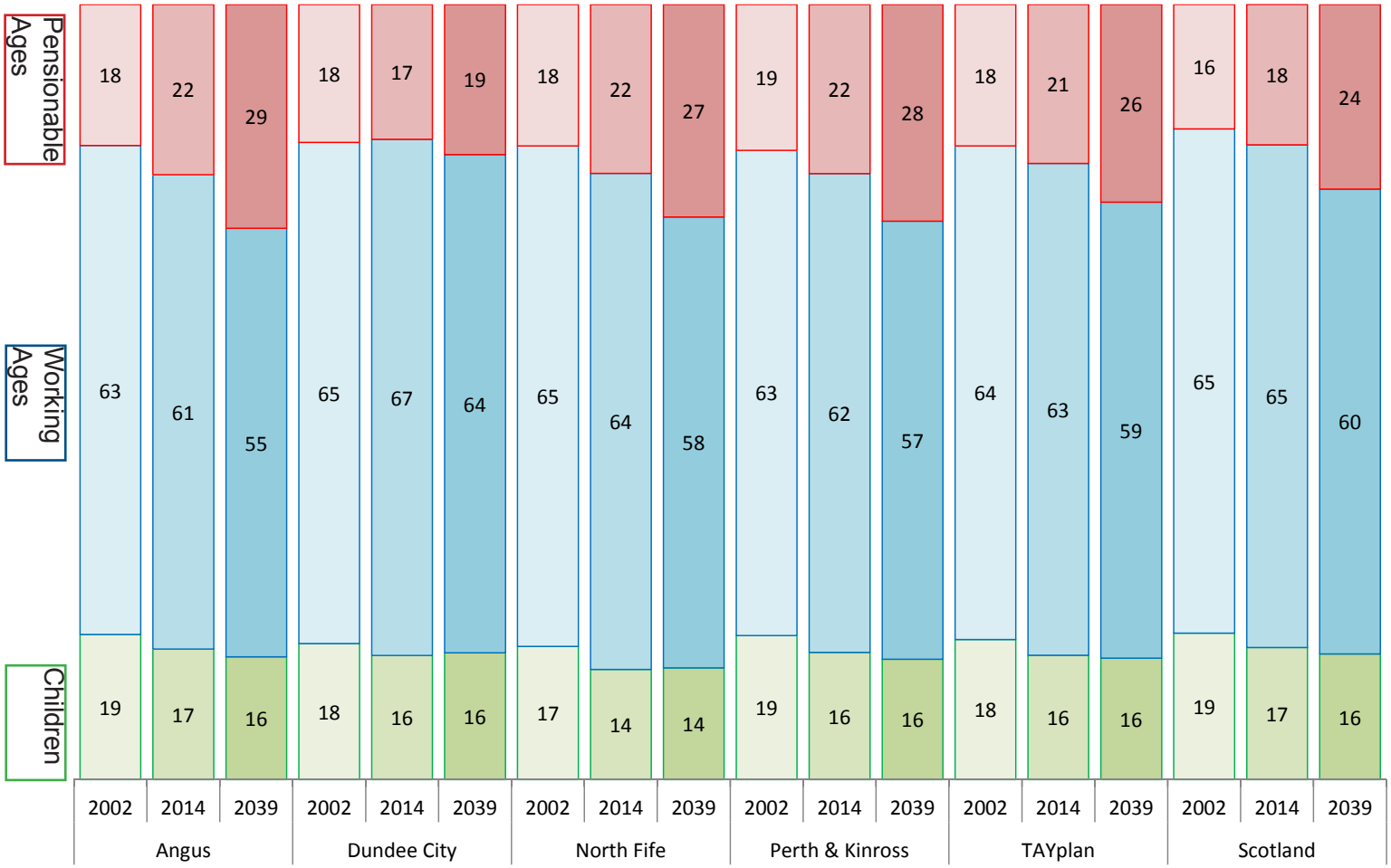
Council areas - working age 16-64
All four council areas saw a fall in the share of the population aged 16-64 between 2002 and 2014 except for Dundee City. In Dundee City the proportion aged 16-64 rose slightly between 2002 and 2014.

In Angus, North Fife and Perth & Kinross the percentage of the population aged 16-64 in 2002 and in 2014 was below the Scottish average. For Dundee City this was also true in 2002 but the increase in 2014 led to a higher proportion than Scotland for this age group.

By 2039 the proportion of all four council areas (and TAYplan as a whole) made up of 16-64 year olds is projected to fall further and to continue to be below the Scottish average.

Council areas - pensionable age 65+
The proportion of population aged 65+ increased for Angus, North Fife and Perth & Kinross from 2002 to 2014. In each instance and each of the years this was higher than the equivalent for Scotland. For Dundee City the percentage of the population aged 65+ fell slightly between 2002

Graph 6: Change in age structure 2002-14 compared - Scotland, TAYplan and constituent council areas



Source: National Records of Scotland mid-year population estimates and 2014-based population projections

Note: Although the pensionable age for women was 60 in 2002 the age 65 has been used as a proxy for overall retirement and to compare people of this age group with 2014. In 2039 the pensionable age will be 67 based on current legislation.

and 2014, such that it was lower than the Scottish average in 2014.

Angus is projected to see the most significant scale of ageing in the profile of its population. Angus, North FIfe and Perth & Kinross are each expected to see proportions of the population aged 65+ in 2039 that are notably higher than the Scottish average. For Dundee City the projected growth in this age group is more muted and is notably below the Scottish average for the projection in 2039.

Overall at council level

Although there have been some variations in the scale of recent and projected change there is a clear trend across all 4 council areas covered by TAYplan.

This trend is one of an ageing population, albeit that the ageing is most significant outside of Dundee City. This situation is projected to drive the aging of the whole TAYplan population projected to 2039.

Housing Market Areas

Graph 7 (page 31 - right) compares the proportional age structure of the population in 2002 and 2015 for Scotland, TAYplan and its consttuent housing market areas. This continues to be based on three age groupings.

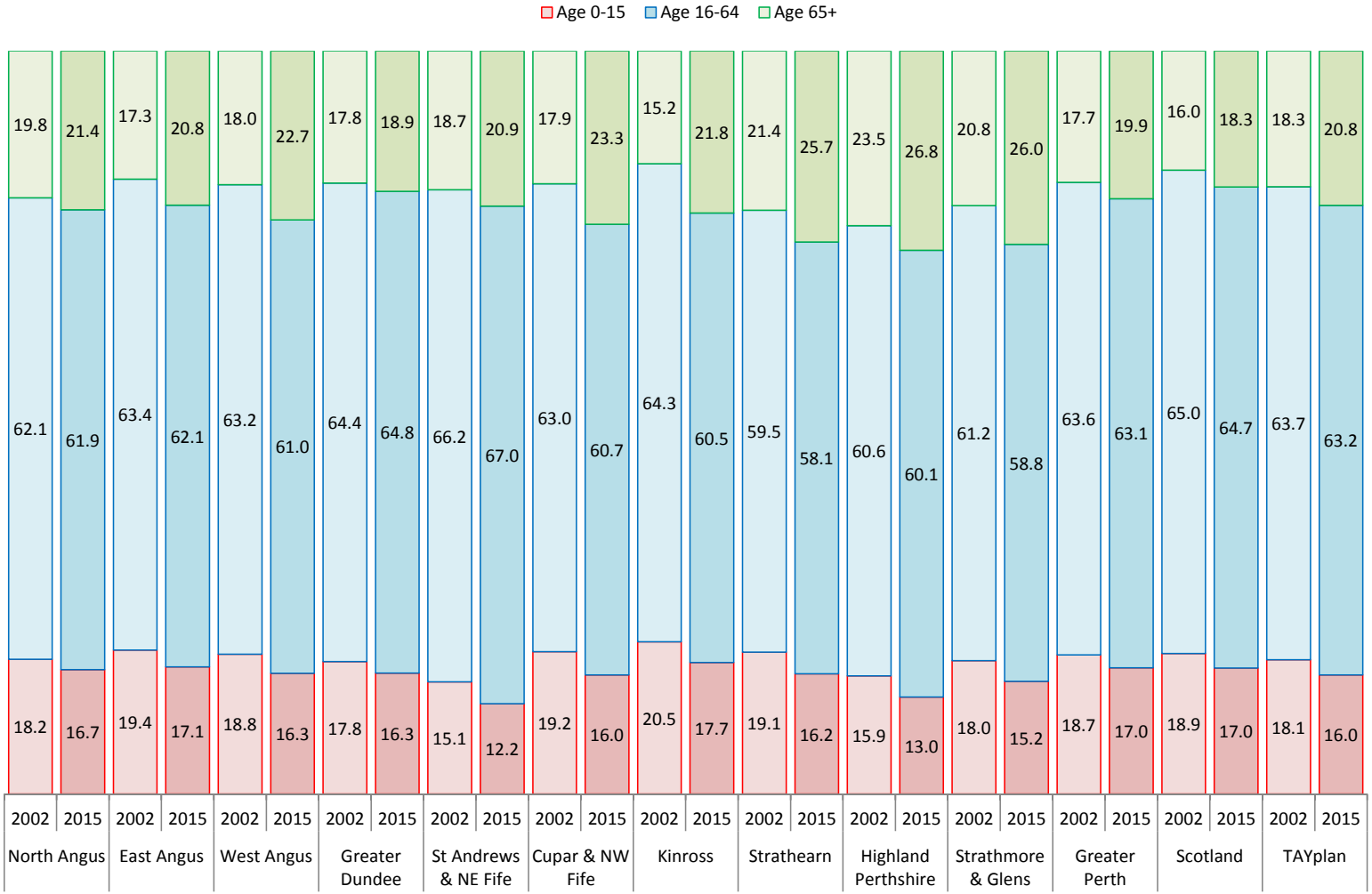
No information is available for 2039 because the population projections are not prepared at housing market area level or at the level of datazones.

In almost all cases the housing market areas reflect the trends of their respective council area. The percentage of the population aged 65+ for many housing market areas exceeds the Scottish average considerably. This is particularly apparent in housing market areas that contain small settlements and sparesly populated areas. Consequently many of these same housing market areas also have proportions of the population aged 16-64 and 0-15 that are also considerably lower than the Scottish average.

These trends are less pronounced in the Greater Dundee and Greater Perth Housing Market Areas. These cover the two largest urban areas and their surroundings. The population age profile in these areas is more reflective of the Scottish average.

St Andrews and East Fife exceeds the Scottish average for those aged 16-64 but has the lowest proportion of children aged 0-15. This could be disproportionately influenced by the age structure impact of the University of St Andrews and the garrison at nearby Leuchars.

Graph 7: Change in age structure 2002-15 compared - Scotland, TAYplan and constituent housing market areas



Source: National Records of Scotland Mid-Year Population Estimates

Note: Although the pensionable age for women was 60 in 2002 the age 65 has been used as a proxy for overall retirement and to compare people of this age group with 2015.

Recent changes in age structure: 2002 to 2015

The technical bit

Graph 8 (right page 33), Graph 9 (page 35) and Graph 10 (page 37) are each considering the percentage change for each age group at council or housing market area level. This differs from the analysis on pages 28 to 30 (above) which compared the proportional mix of age groups within the population in different years.

Graph 8... right overleaf on page 33

Population Change 2002-15

The total populations of Scotland and TAYplan each grew by around 6% between 2002 and 2015. However, this varied across the TAYplan area.

Both Angus and Perth & Kinross saw the most significant growth (7.4% and 11% respectively) between 2002 and 2015. North Fife and Dundee City saw the lowest proportional growth (1.4% and 2.7% respectively).

Variations in age profile change

There was a greater percentage fall in number of children aged 0-15 for TAYplan (2002 to 2015) compared with Scotland. However both saw similar percentage changes in their respective numbers of people aged 16-64 and 65+.

For Angus, North Fife and Perth & Kinross there were substantial increases in population aged 65+. Each also experienced a comparatively smaller proportional increase in the 16-64 aged population and decreases for children aged 0-15. For North Fife there was distinct and substantial fall in the percentage of children aged 0-15 and substantial growth in those aged 65+.

This suggests a generally ageing population in Angus and Perth & Kinross and a particularly pronounced ageing of the population in North Fife. For Dundee City there was a significant proportional drop in the population aged 0-15 and a comparatively low increase in those aged 65+. The percentage change in those aged 16-64 was similar to the Scotland and TAYplan averages.

Council Areas Overall

This suggests that there was an ageing of the population between 2002 and 2015 with a more pronounced geographical focus in Angus, Perth & Kinross and North Fife. The ageing of the population has been driven by both an increase in those aged 65+ but also a decrease in children aged 0-15.

Graph 9 overleaf on page 35...

covering housing market areas

The examination of housing market area provides a helpful insight into how pronounced changes have been for different parts of each council area covered by TAYplan. It also tells us about the whole urban area of Dundee for the Greater Dundee Housing Market Area.

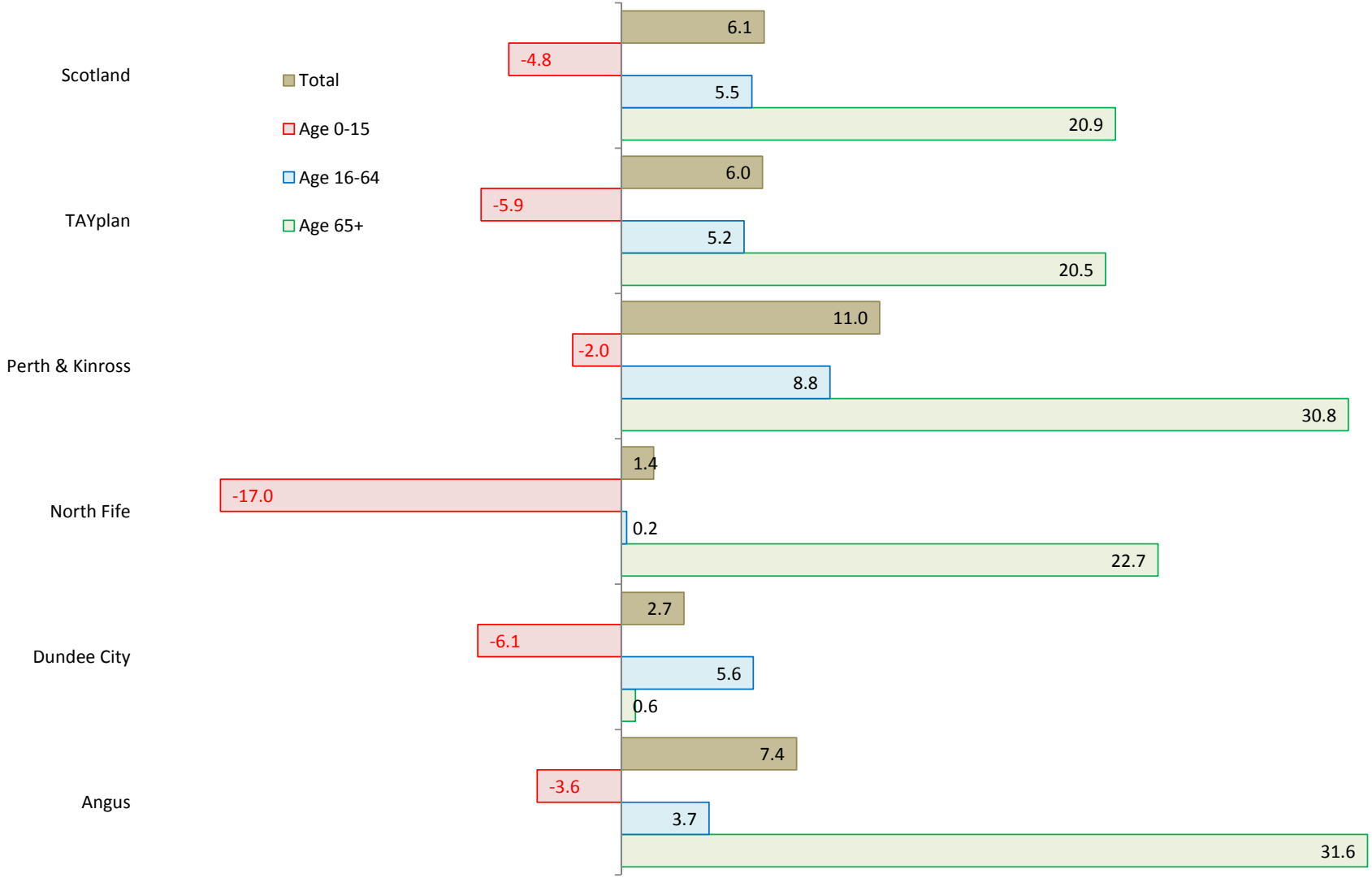
Perth & Kinross Housing Market Areas

The general trends observed across Perth & Kinross are apparent within its constituent housing market areas. Each experienced falls in the number of children aged 0-15 and increases in the number of people aged 65+ that were more significant than the Scottish or TAYplan average.

The Kinross Housing Market Area in particular saw an increase of over half in the number people aged 65+. Strathmore & Glens saw the most significant percentage fall for Perth & Kinross in those aged 0-15.

The exception is Greater Perth, which includes the whole urban area of Perth and its surroundings. Here there was an increase in all three age groups, albeit highest amongst those aged 65+. This differs from the Scottish and TAYplan trend for children aged 0-15 but exceeds it for those aged 65+.

Graph 8: Percentage change in age structure by age category between 2002 and 2015 compared - Scotland, TAYplan and constituent council areas



Source: National Records of Scotland Mid-Year Population Estimates

Note: Although the pensionable age for women was 60 in 2002 the age 65 has been used as a proxy for overall retirement and to compare people of this age group with 2015.

Angus Housing Market Areas

Both West Angus and East Angus demonstrate similar trends to those seen for Angus as a whole. Each experienced falls in the number of children aged 0-15 and increases in the number of people aged 65+ that were more significant than the Scottish or TAYplan average. This was most pronounced for West Angus.

The exception is North Angus, which saw growth in all three age groups, albeit most significant in the age 65+. The growth in the age 65+ group here was less pronounced than the Scottish average. The growth in the number of children aged 0-15, albeit comparatively low, differs from the Scottish and TAYplan trend.

North Fife Housing Market Areas

The general trends observed across North Fife are apparent within its constituent housing market areas. Each experienced considerable falls in the number of children aged 0-15 (up to 3 times the Scottish average). There were increases in the number of people aged 65+ but these were only more significant than the Scottish or TAYplan average in Cupar & North West Fife. Whilst still significant the growth in the age 65+ population for the St Andrews & North East Fife Housing Market Area was lower thean the Scottish and TAYplan averages.

This suggests that the ageing of the population between 2002 and 2015 in North East Fife was more strongly driven by a reduction in children aged 0-15 as a share of the population than it was elsewhere.

Greater Dundee Housing Market Area

Greater Dundee is the only housing market area to cover more than one council. It also covers the whole urban area of Dundee and its surroundings.

Compared with Dundee City in Graph 8; this shows a lower fall in the number of children aged 0-15, a smaller rise in those aged 16-64 and a higher rise in those aged 65+.

For this to be the case suggests that the urban area of Dundee and its surroundings, that are outside of Dundee City, experienced higher proportional growth in the number of children aged 0-15 and in those aged 65+. This therefore suggests important spatial dynamics in the population age profile of the urban area of Dundee and its surroundings.

Spatial variations pronounced

Those housing market areas containing the region's smaller settlements experienced population growth but they also aged. This was driven by both a fall in the number of children aged 0-15 and an increase in number of people aged 65+. These experiences were more significant than the Scottish average and were more pronounced in the most sparesely populated parts of the region.

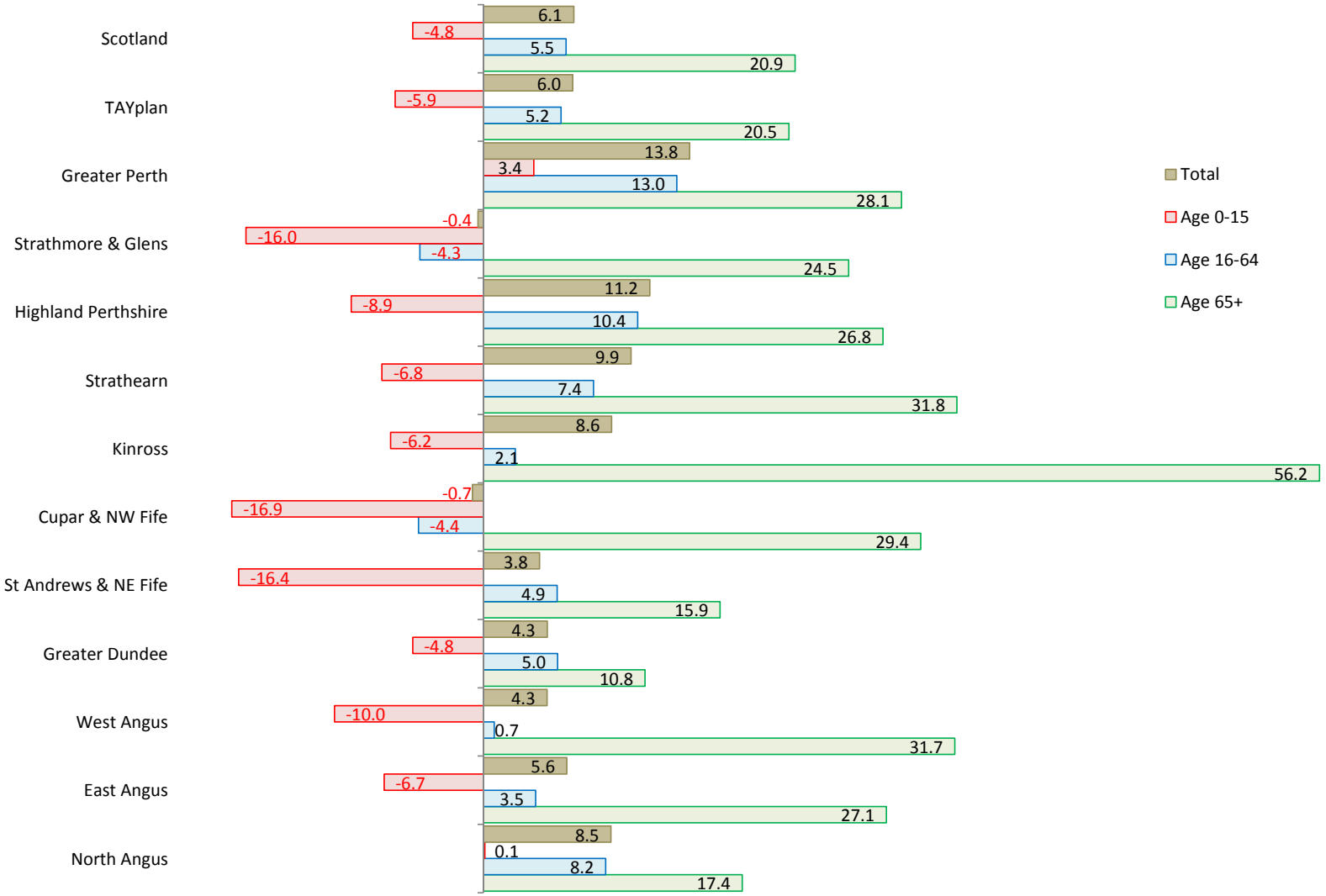
The housing market areas containing the largest urban areas of Dundee and Perth differ from this and also from each other. Both continued to experience an ageing population between 2002 and 2015 but to a lesser extent than other housing market areas.

For Greater Perth the principal driver was an increase in those aged 65+. For Greater Dundee the principal driver was a fall in the number of children aged 0-15 coupled with a comparatively lower increase in those aged 65+.

This also illustrates an important spatial dynamic between Dundee City (the council area) which represents the majority of urban Dundee, and its suburbs and surroundings that are within neighbouring council areas. These suburbs and neighbouring areas experienced a higher growth in those aged 65+ and a lower fall/higher growth in children aged 0-15.

North Angus, which contains Brechin and Montrose, is similar in character to many housing market areas covering small towns. However, it does not exhibit the same age profile changes.

Graph 9: Percentage change in age structure by age category between 2002 and 2015 compared - Scotland, TAYplan and constituent housing market areas



Source: National Records of Scotland Mid-Year Population Estimates

Note: Although the pensionable age for women was 60 in 2002 the age 65 has been used as a proxy for overall retirement and to compare people of this age group with 2015.

Projected changes in age structure: 2014 to 2039

Graph 10... overleaf

Projected Population Change 2014-39

Graph 10 (overleaf right) considers the percentage change in the population of each age group as projected by the 2014-based population projections for the period 2014 to 2039. It is only possible to consider this for Scotland, TAYplan and the council areas it covers. This is because the projections are not carried out for housing market areas or datazones.

Variations in age profile change

Each of the geographies in Graph 10 is projected to see an increase in population. They are also all projected to experience a fall in the number of children aged 0-15. The TAYplan area is projected to see a fall of 5.9%, which is marginally higher than the 4.8% fall projected for Scotland as a whole.

The projected fall in population aged 0-15 is most significant for North Fife which is projected to see a 17% drop. The lowest proportional drop is in Perth & Kinross which is 2%.

Both Perth & Kinross and Angus are each projected to see a percentage fall in the population aged 0-15 that is lower than for Scotland. For Dundee City and for North Fife it is higher.

All of the geographies are also projected to see an increase in the population aged 16 to 64. For Perth & Kinross and Dundee City this exceeds the TAYplan and Scottish averages. For Angus and North Fife it is below these averages.

For Dundee City the projected growth in the population aged 16-64 is more significant than the projected growth in the population aged 65+.

All the geographies are projected to see an increase in the population aged 65+. For Angus and North Fife this is the principal driver of population growth.

For North Fife growth in the population aged 65+ offsets projected fall in those aged 0-15 and comparatively limited projected growth in those aged 0-15. For Angus this is similar although the proportional increase in the those aged 16-64 and aged 65+ is higher than for North Fife and the fall in those aged 0-15 is less.

Perth & Kinross is projected to see the highest projected percentage change in those aged 65+. However, its overall projected population growth is also complemented by comparatively significant projected increases in the population aged 16-64. Together these more than offset the comparately low fall in those aged 0-15.

For Angus, North Fife and Perth & Kinross the projected growth in those aged 65+ exceeds the projected levels for Scotland and TAYplan.

Overall

The growth projected for those aged 65+ is a critical driver in the projected population growth of Angus, North Fife and Perth & Kinross.

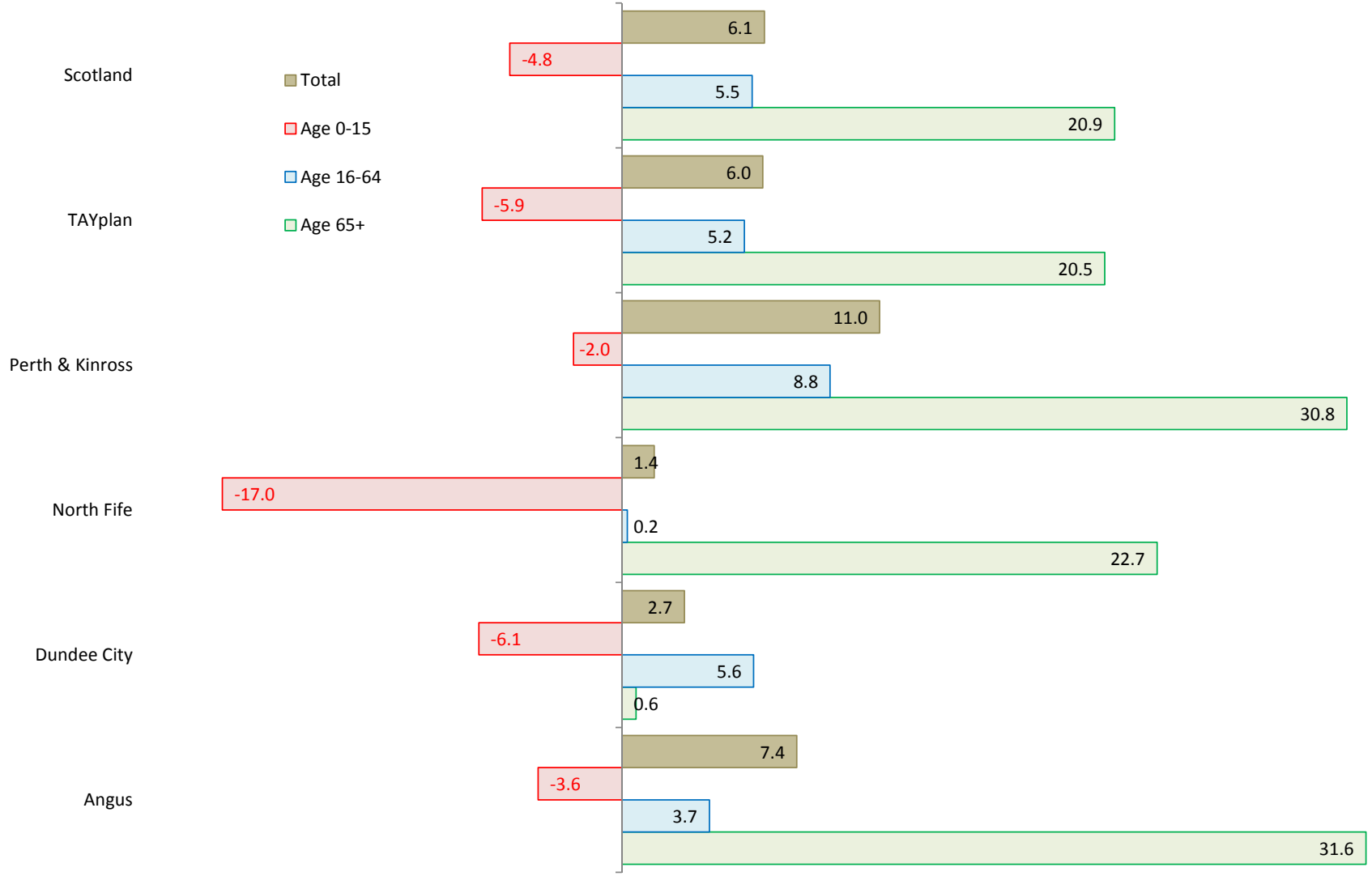
This is pronounced in North Fife because of the comparatively low projected growth in those aged 16-64 and the significant projected fall in those aged 0-15.

Population growth in Perth & Kinross is driven by growth in both the 16-64 and aged 65+ age groups. This is similarly the case for Angus.

For Dundee City it is the growth of the 16-64 age groups that drive projected population growth and a comparatively lower level of growth in those aged 65+.

CHECK WHETHER THIS IS ACTUALLY PROJECTED

Graph 10: Percentage change in age structure by age category projected between 2014 and 2039 compared - Scotland, TAYplan and constituent council areas



Source: National Records of Scotland Mid-Year Population Estimates

Note: Although the pensionable age for women was 60 in 2002 the age 65 has been used as a proxy for overall retirement and to compare people of this age group with 2015.

Graphs 11: Population Pyraminds 2014 vs 2039

Graphs 11 - Population Pyramids (right and overleaf)

The population pyramids (right and overleaf) show the single year age structure of the population for TAYplan, Scotland and the council areas covered by TAYplan for 2014 and the projected position for 2039. Both are based on the 2014-based Population Projections.

Reading the Population Pyramids

The solid bars show the population in 2014 and the outlined bars show the projected population structure in 2039.

Ageing Population

Scotland and TAYplan are projected to age in a relatively similar way. The four council areas are projected to age differently by 2039. There is also a considerable ageing of the population across Scotland and the TAYplan area as those currently in their late 40s and early 50s become pensionable ages.

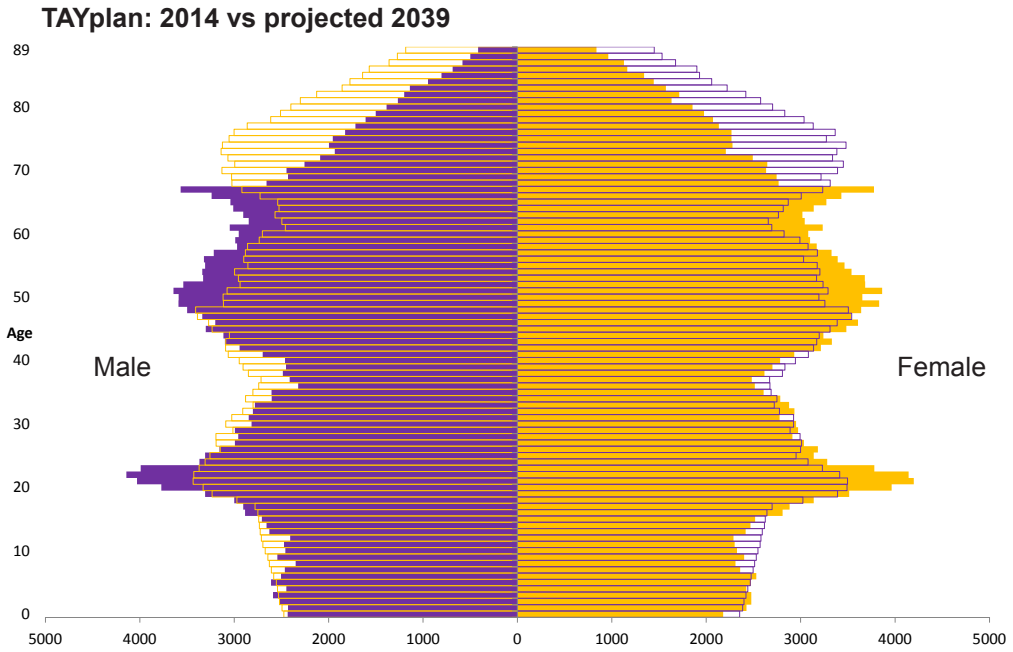
Young people

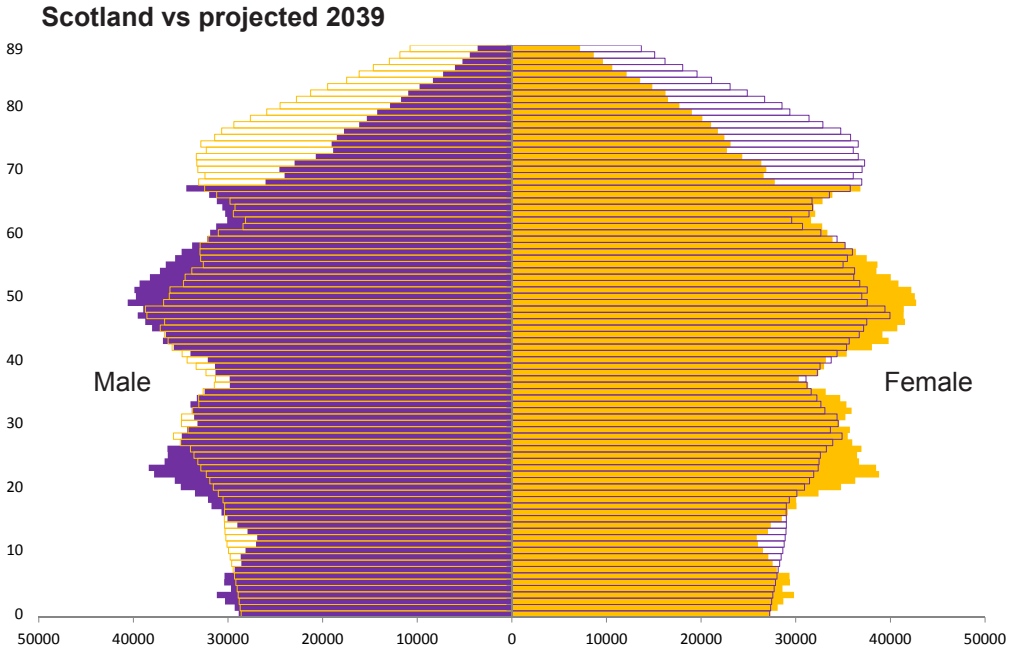
TAYplan, Dundee City and North Fife have pronounced but diminishing spikes in the 16 to 25 age groups. University students will be amongst these. This is projected to be less pronounced by 2039.

Council areas covered by TAYplan

The 2014 age structures for Angus and Perth & Kinross are both similar to the Scotland profile rather than the TAYplan structure. This is largely due to the lower shares of those aged in their late teens and early 20s. This continues to 2039 with both areas projected to see a significant ageing of the population.

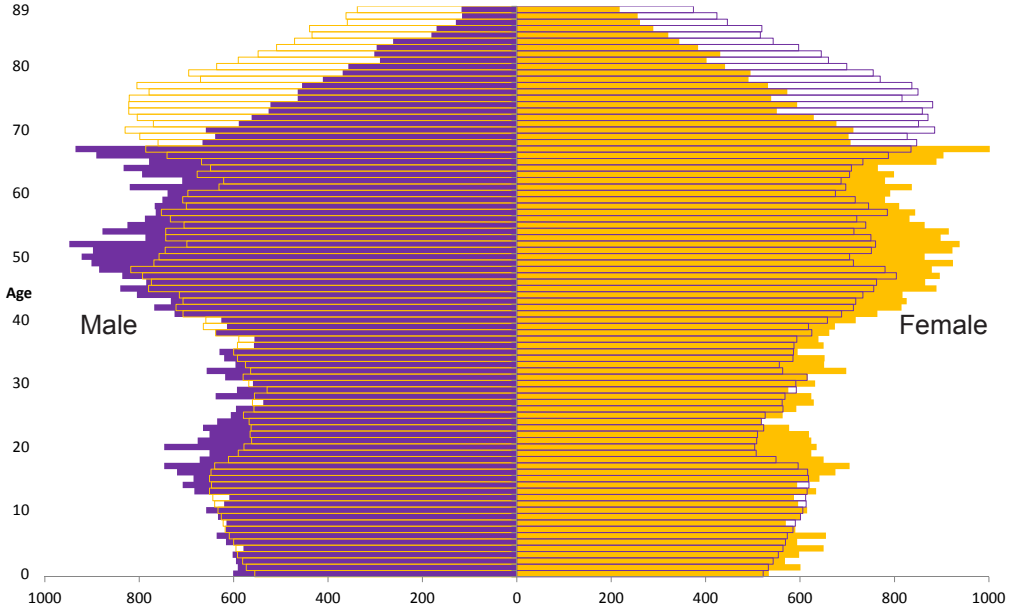
North Fife and Dundee City each have very significant and distinct shares of the population in their late teens and early 20s. The presence of universities in these areas is likely to be the explanation for this. Dundee City, however, has and is projected to have a more significant population aged above 25 but below 65 than the other geographies.





Source: National Records of Scotland 2014-based population projections

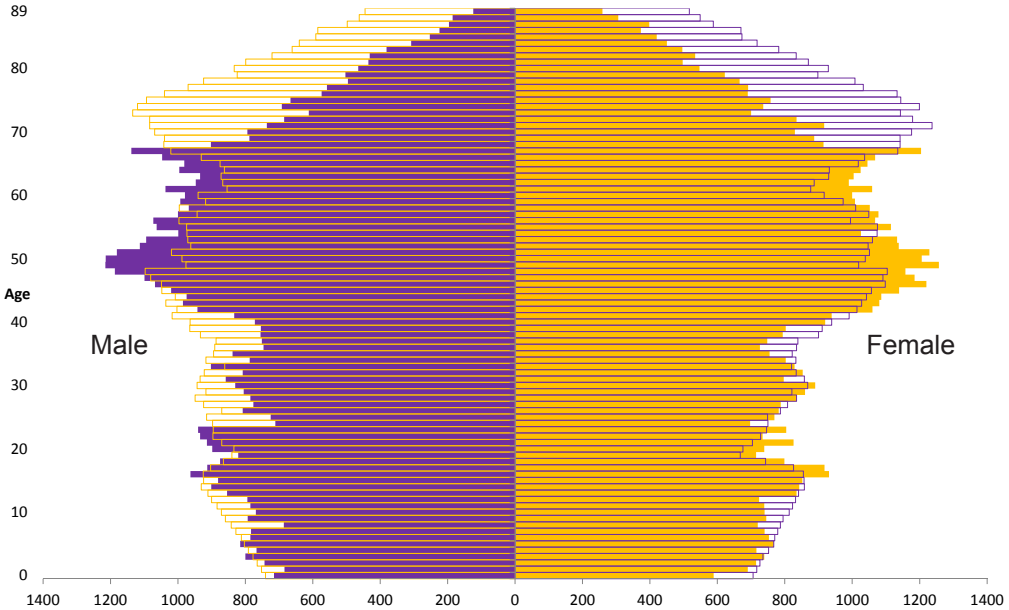
Angus vs projected 2039



Dundee City vs projected 2039

North Fife vs projected 2039

Perth & Kinross vs projected 2039



Source: National Records of Scotland 2014-based population projections

Changes in ages 16-24

The 16-24 age group is of particular interest because it is the typical age range during which people leave school and go into work, to further or higher education or other post education training.

The TAYplan area has 4 universities and it is particularly interesting to understand their impact on the distribution of people within this age range. Although 16-24 is not the only age at which people attend these universities, it does reflect a direct route through education from school to higher education. It is also recognised that not everyone of this age attends university. However, this age group is a helpful proxy.

Graph 5 on page 21 identifies significant variations in the scale and proportion of the overall population that is made up of the 16-24 age group for council areas covered by TAYplan. It is plausible that the university presence in Dundee and St Andrews, in particular, has a significant impact on the population aged 16-24 and thus the overall mix.

Changes in the population aged 16-24

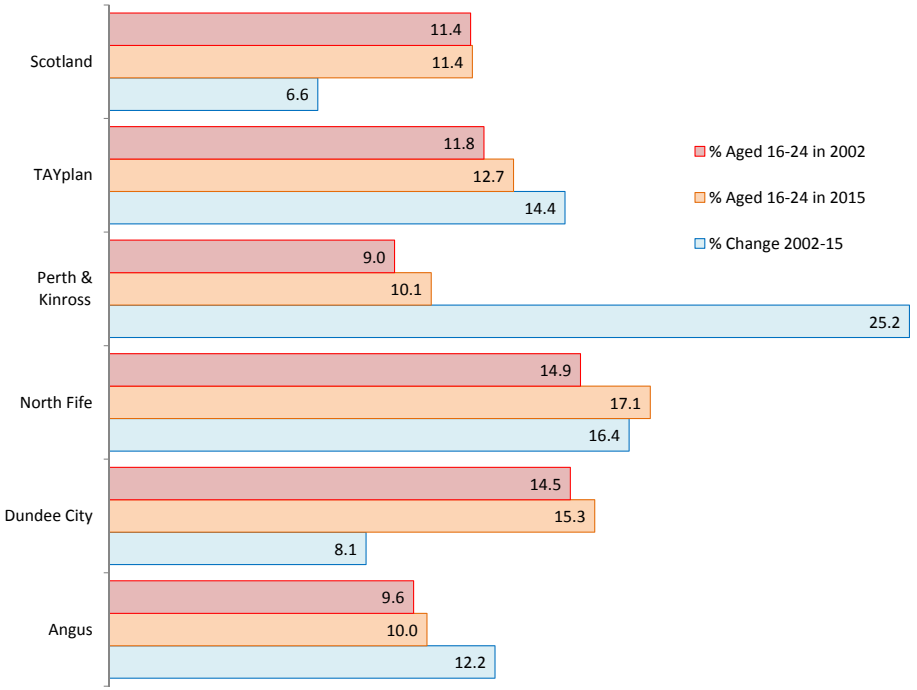
Graphs 12 (right) and 13 (overleaf) show the proportion of the population aged 16 to 24 in 2002 and 2015. They also show the percentage change in this age group between these years.

For Scotland the proportion of the population aged 16-24 was the same in 2015 as it had been in 2002. However, the number of people in this age group increased by 6.6%.

For TAYplan the number of people aged 16-24 increased by over 14%. This is more than double the factor of increase for Scotland. Similarly the percentage of the population, already higher than for Scotland in 2002, increased further by 2015.

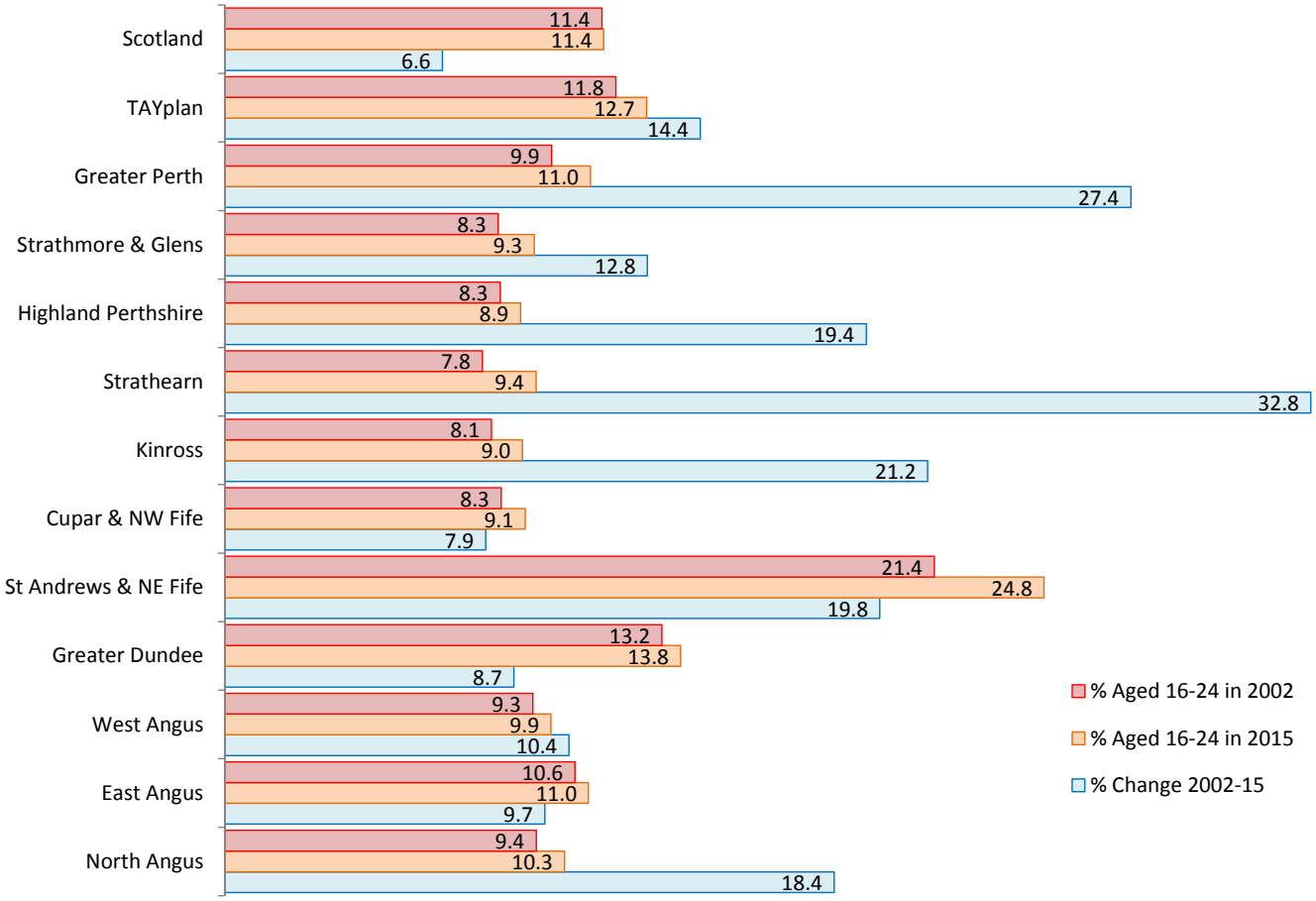
Similar trends were apparent for all council areas covered by TAYplan suggesting that growth in these age groups has been more significant in the TAYplan area than the Scottish average. The increases in the age group were most significant in Perth & Kinross.

Graphs 12: Changes in the proportion of the population aged 16 to 24 in 2002 and 2015 compared - Scotland, TAYplan and council areas



Source: National Records of Scotland Mid Year Population Estimates

Graphs 13: Changes in the proportion of the population aged 16 to 24 in 2002 and 2015 compared - Scotland, TAYplan and housing market areas



Source: National Records of Scotland Mid Year Population Estimates

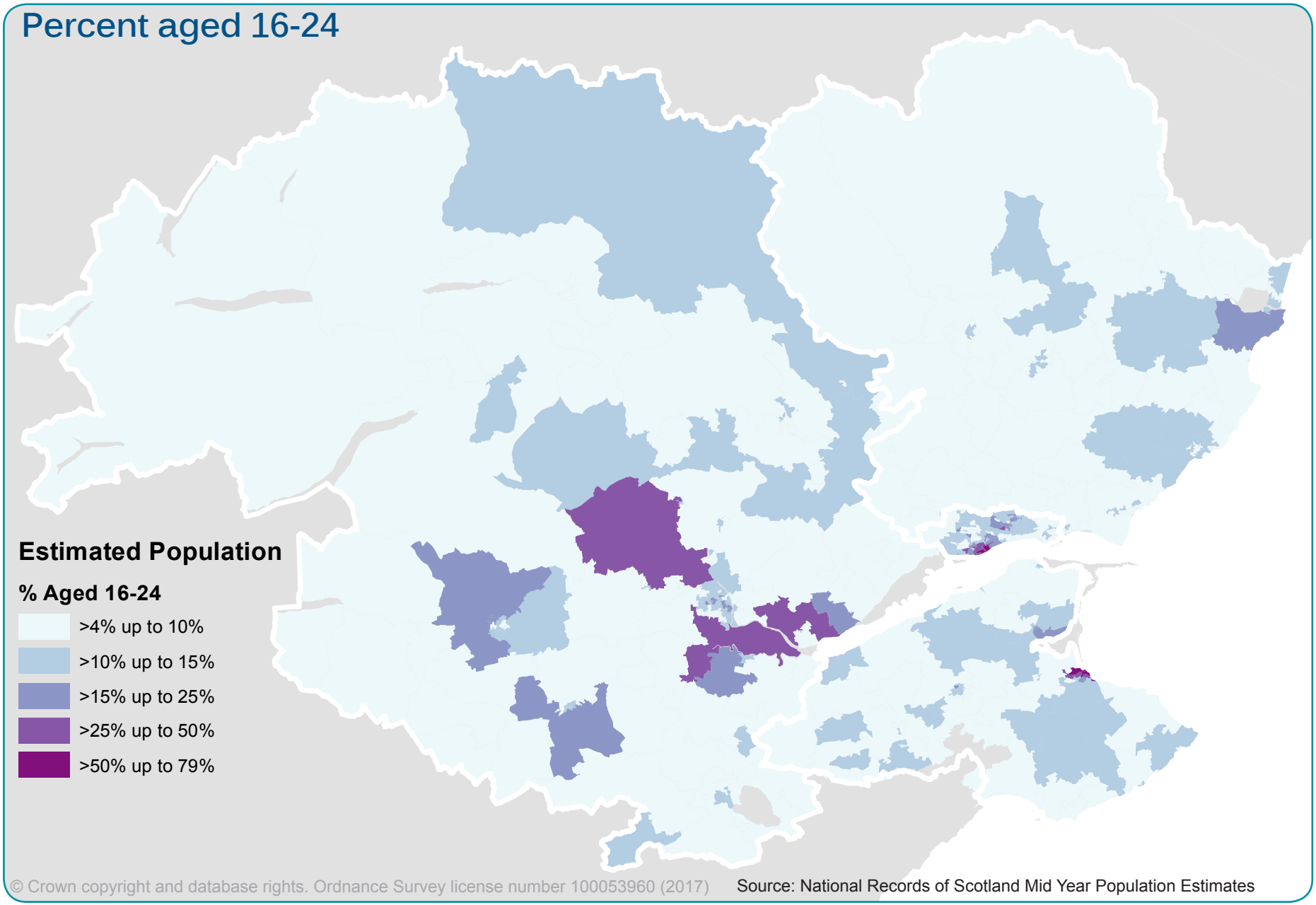
At housing market area level the highest proportional shares of the population made up of people aged 16-24 were in the Greater Dundee and St Andrews & East Fife Housing Market Areas. St Andrews & East Fife in particular is significant representing almost one quarter of the population by 2015.

It is plausible to suggest that the concentration of university students in St Andrews and Dundee maybe major contributors to this.

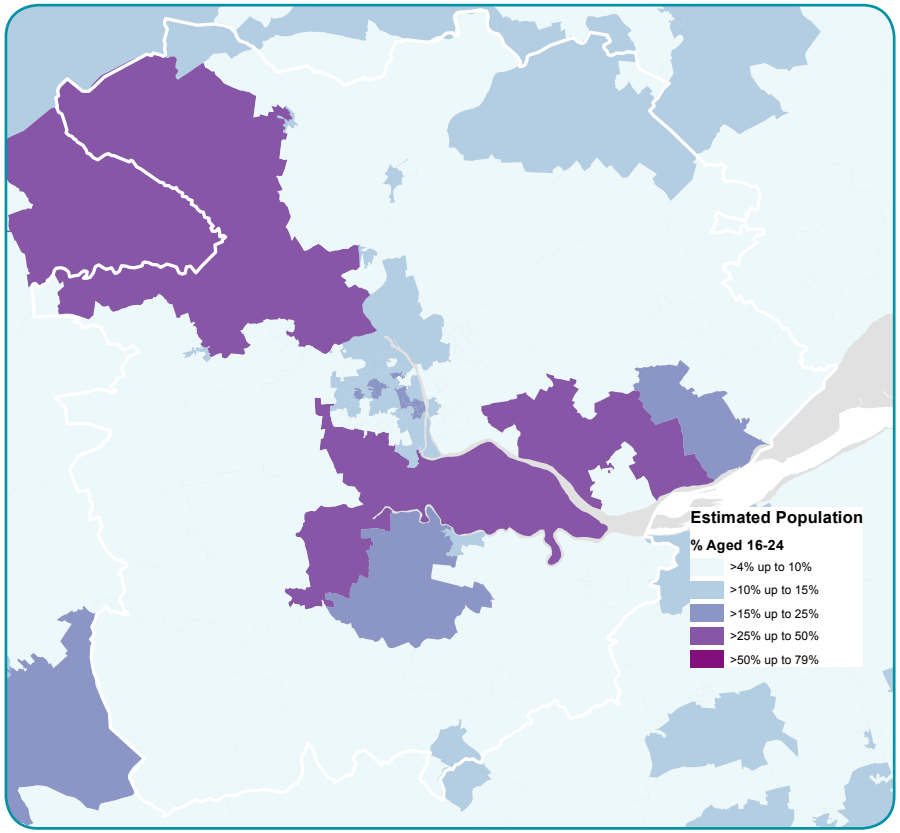
The most significant percentage increases in the population aged 16-24 were in Strathearn, Greater Perth, Kinross Housing Market Areas. Significant growth also took place in St Andrews & East Fife, Highland Perthshire and North Angus.

The increasing student numbers at the Universities of St Andrews and the Highlands and Islands Perth Campus may play a role (see page 44). However, many of these housing market areas are not home to universities. Therefore this may mean that more students are living at home whilst studying. Alternatively this may reflect some of the challenges faced by young people in finding affordable accomodation. There may also be other explanations for this.

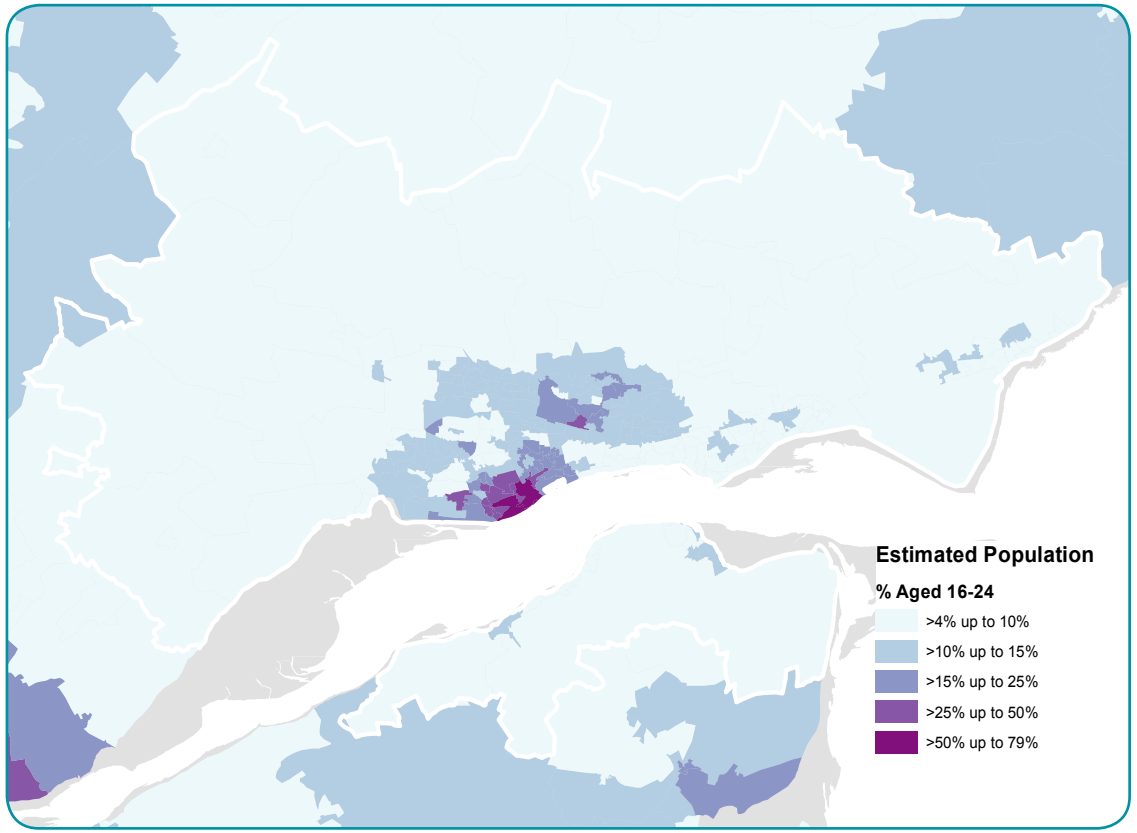
Maps 6: Population distribution by age group : 2015



Zoom in for Perth...



Zoom in for Dundee...



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Maps 6 show the percentage of people living in each datazone who are aged 16 to 24 years in 2014 based on the National Records of Scotland Mid Year Population Estimates.

For all datazones at least 10% of the population is aged 16 to 24. However there are some very significant and distinct concentrations where between 50% and 79% of the population are aged 16 to 24.

These areas include central Dundee and central St Andrews. This is likely due to student populations of the unversities of Dundee, Abertay and St Andrews living in close proximity to each campus.

Other locations within Dundee include datazones with known university accomodation but which is not in the central area. High concentrations of people within this age group are also in the areas surrounding Perth. This could include concentrations of agricultural workers accomodated on farms.

Smaller but notable concentrations elswhere include military facilities at Condor in Arbroath and Leuchars in North Fife. Both of which contain concentrations of service personnel aged between 16-24 who live on-base.

Other concentrations may reflect family housing, showing where families with older children live.

Changes in the University Population

Graph 14 (right) shows the total number of full time and part time students on undergraduate and postgradute courses at universities with a presence in the TAYplan area.

Students numbers at the region's universities grew steadily from 2003/04 to 2010/11. However, this growth has slowed between 2010/11 and 2014/15.

For the University of Dundee this represents a slight fall and for Abertay a return to similar levels as in 2003/04. For St Andrews this reflects a continuing increase.

The figures for the University of the Highland's and Islands have steadily increased. It is not possible to determine from these figures what share are permanently based at the Perth Campus versus others. Nor is it possible to determine how many are on distance learning courses.

These changes now mean that there are approximately 20,000 students attending two universities in Dundee and over 10,000 students attending university in St Andrews.

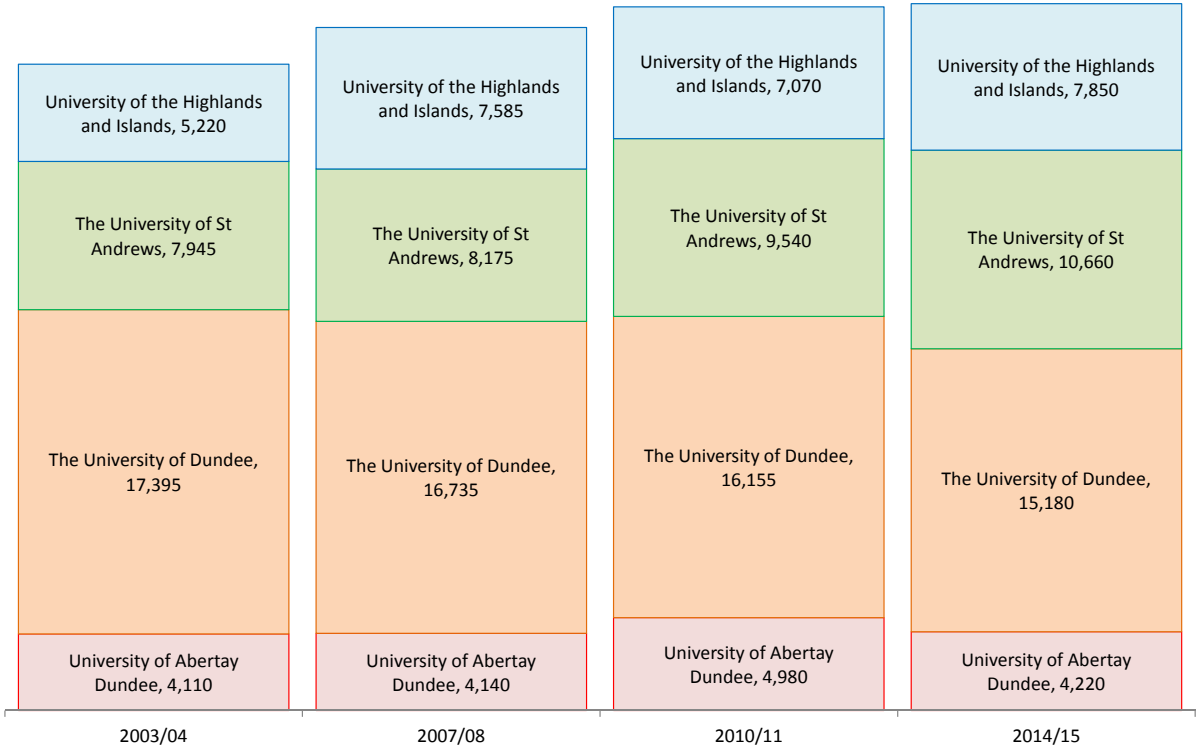
Students by domicile

Graph 15 (right overleaf) compares changes in the total number of students by domicile for each university over the same years.

This shows that students at the region's universities were principally from UK. The University of the Highlands & Islands consistently had the lowest share of international students (less than 4%) for each year.

Both universities in Dundee attracted international students. Although numerically higher those at the University of Dundee represent a lower proportion than those at the University of Abertay. However, this fell in the most recent year for Abertay. The

Graph 14: Number of postgraduate and undergraduate students attending TAYplan area universities 2003/4 to 2014/15



Source: Higher Education Statistics Authority

Note: University of the Highlands and Islands figures cover all campuses including Perth and distance learning courses

University of Dundee saw a higher share of international students from non-EU countries where as Abertay saw most international students from within the EU.

The University of St Andrews has seen both the largest numerical and proportional share of international students. This has risen from 29.4% in 2003/04 to 47.2% in 2014/15. This growth has been dominated by international students from outside of the EU. Non-EU students represented just over one fifth of students in 2003/04 and now account for one third.

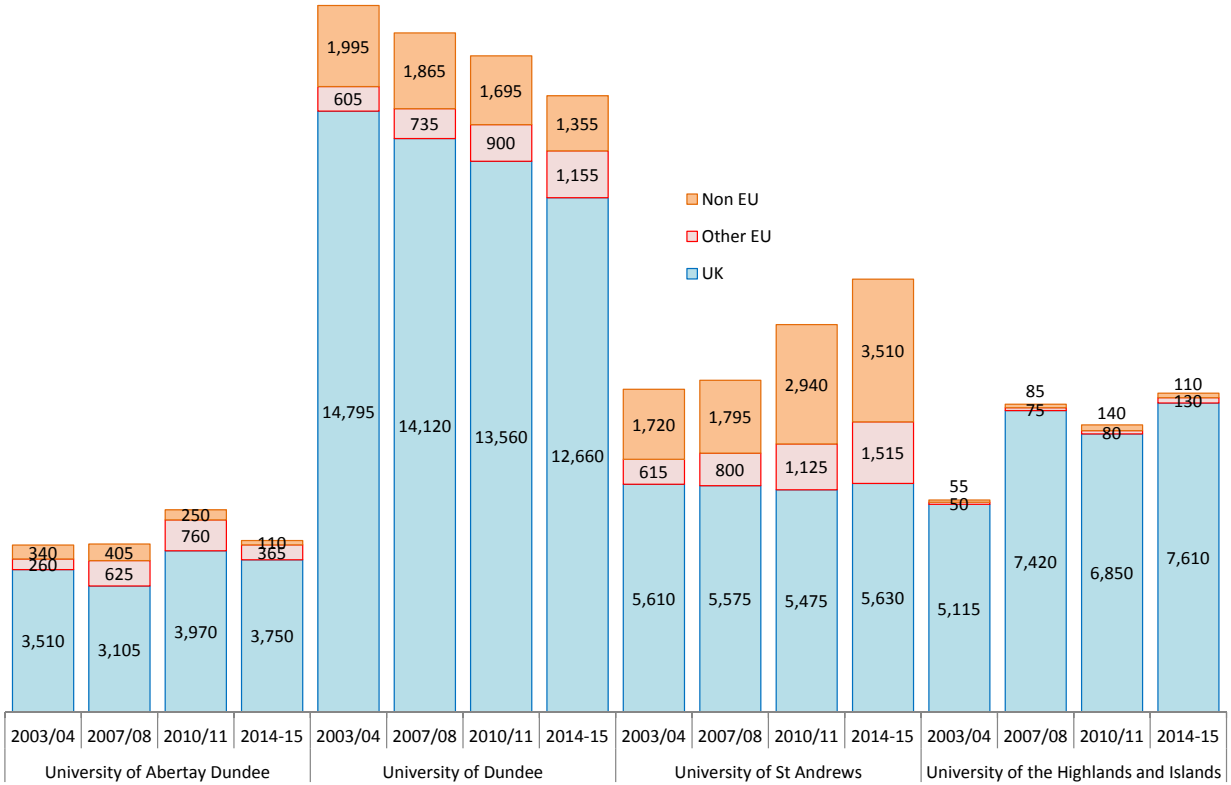
Overall this suggests that there were 3,605 international students in Dundee (both universities) in 2010/11. At the University of St Andrews there were 4,065 international students in 2010/11.

Graph 23 (page 66) describes changes in ethnicity between 2001 and 2011. This shows the most marked increases in non-white British ethnicity was apparent in North Fife and Dundee City. The above quoted figures for international students in 2010/11 show that the universities were a major driver in the changes in ethnic diversity within the TAYplan area.

This is further reinforced by the correlation between concentrations of population aged 16-24 (maps 6 on pages 42 and 43) and the lowest concentrations of white British ethnicity in Maps 9 (pages 68 and 69).

It is important to also note the White British has been used as a proxy and that many students who are UK nationals may not be white British or may not define themselves as white or British.

Graph 15: Number of postgraduate and undergraduate students attending TAYplan area universities 2003/4 to 2014/15



Source: Higher Education Statistics Authority

Note: University of the Highlands and Islands figures cover all campuses including Perth and distance learning courses

Section 3: Components of population change

Synopsis

Migration is the most significant driver of population growth in all council areas covered by TAYplan. For Angus and Perth & Kinross this has offset negative natural change.

Components of population change

Distribution of natural change

Changing Birth Rates

Components of population change

Factors driving population change

Population change is driven by natural change (births minus deaths) and net migration (people arriving minus people leaving). Each year National Records of Scotland publishes council level information on births, deaths and net migration as part of the Mid-Year Population Estimates. These are called the components of population change as shown in Graphs 16 below and overleaf.

Angus

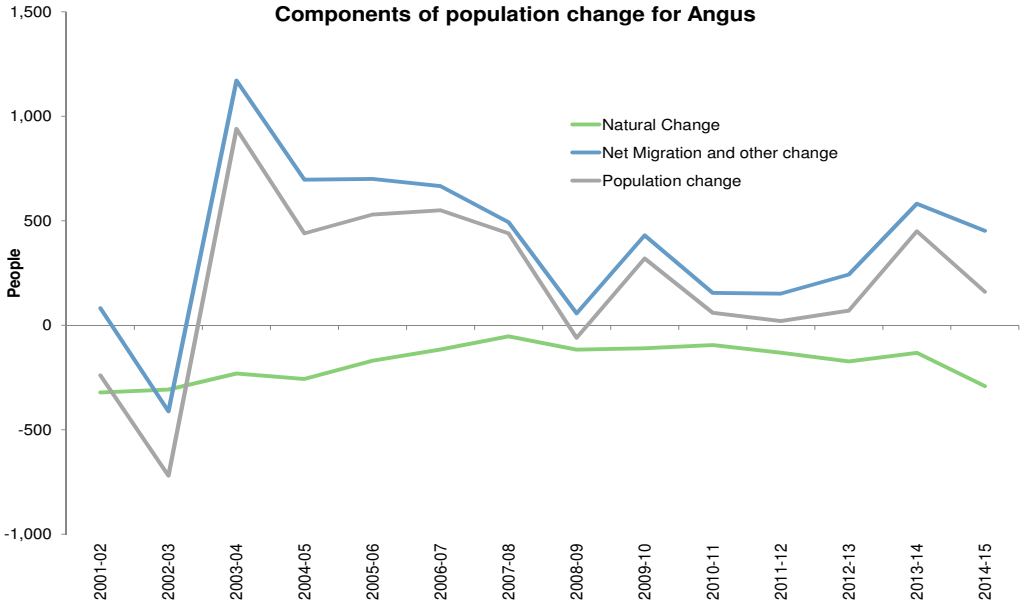
Natural change in Angus was negative throughout the period 2001 to 2015. This was offset by positive net migration almost all of the years. This net migration peaked in 2002-03 and was responsible for driving population growth across Angus during this period.

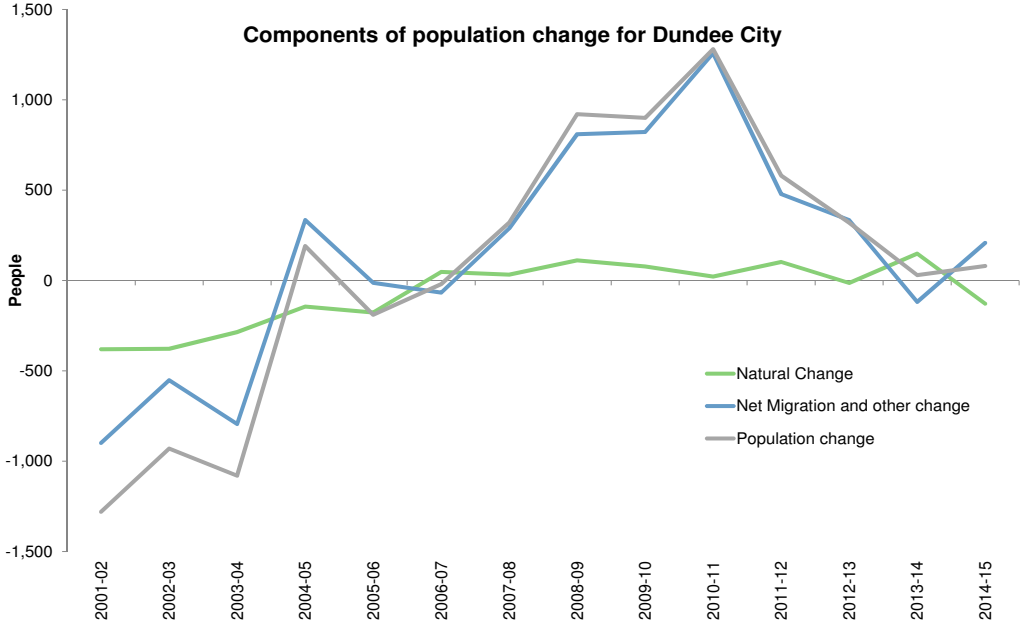
Dundee City

Natural change for Dundee City was negative until 2006/07 and then became positive until 2014/15. Similarly; in the same order of time net migration shifted from being negative to positive between 2004/05 and 2006/07. This shifted Dundee City from a falling to a growing population. Growth peaked in 2010/11. Thereafter natural change fluctuated around zero and net migration fell. This drove population growth to comparatively lower levels in the most recent years.

Dundee City's population change has therefore been driven by both natural change and net migration changes. However, it is net migration that has made the most significant impact.

Graphs 16: Components of Population Change for Council Areas (2001/02 to 2014/15)





Source: National Records of Scotland Mid Year Population Estimates

Whole of Fife
Data is only available for the whole of Fife and not for North Fife. This therefore gives an indication of the influence of natural change and net migration for the parts of Fife that are within and also outwith the TAYplan area.

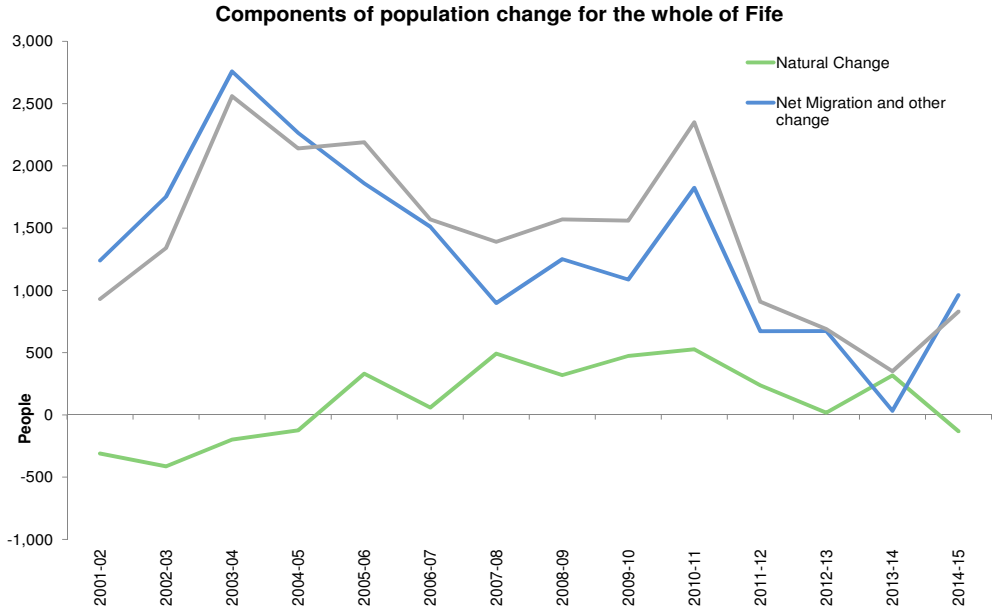
In the Whole of Fife net migration was positive for the entire period 2001-15, albeit at considerably lower levels in more recent years. This has been the key driver of population growth for the whole of Fife; firstly by offsetting negative natural change up to 2005/06 (and in the most recent year) and laterly by supplementing positive natural change thereafter.

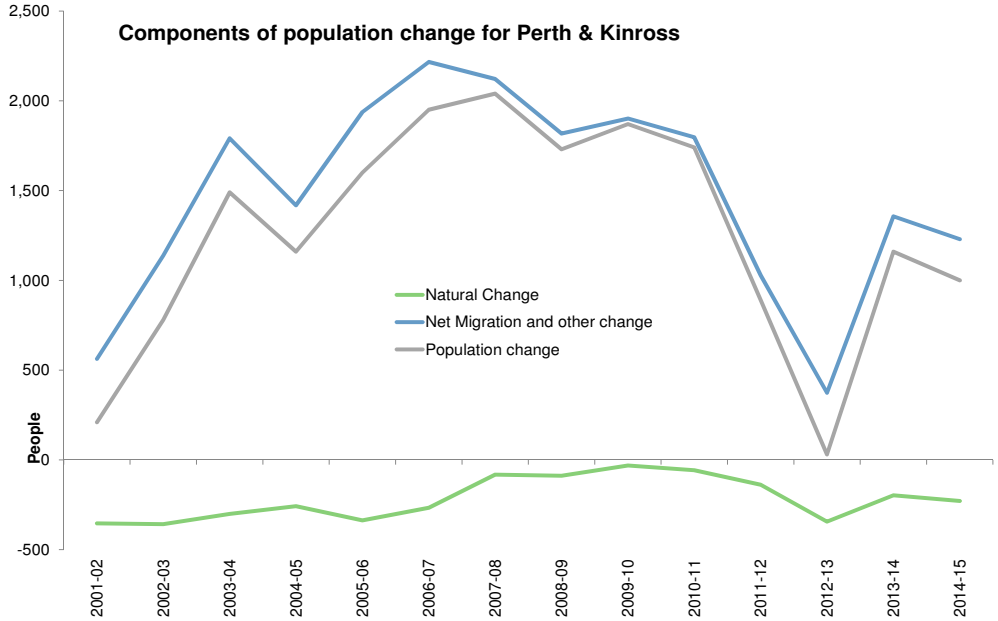
Perth & Kinross
In Perth & Kinross net migration has been consistently high compared with other council areas across the period 2001 to 2015. This coincides with a period of slightly fluctuating but consistently negative natural change.

Therefore in spite of negative natural change Perth & Kinross has seen significant positive net migration offset negative natural change to give a growing population. There was a dramatic fall in net migration in 2012/13 which recovered slightly the following year.

Drivers vary across TAYplan council areas
Between 2001 and 2015 migration was the dominant driver of population change, which either overcame or supplemented natural change dependent on council area.

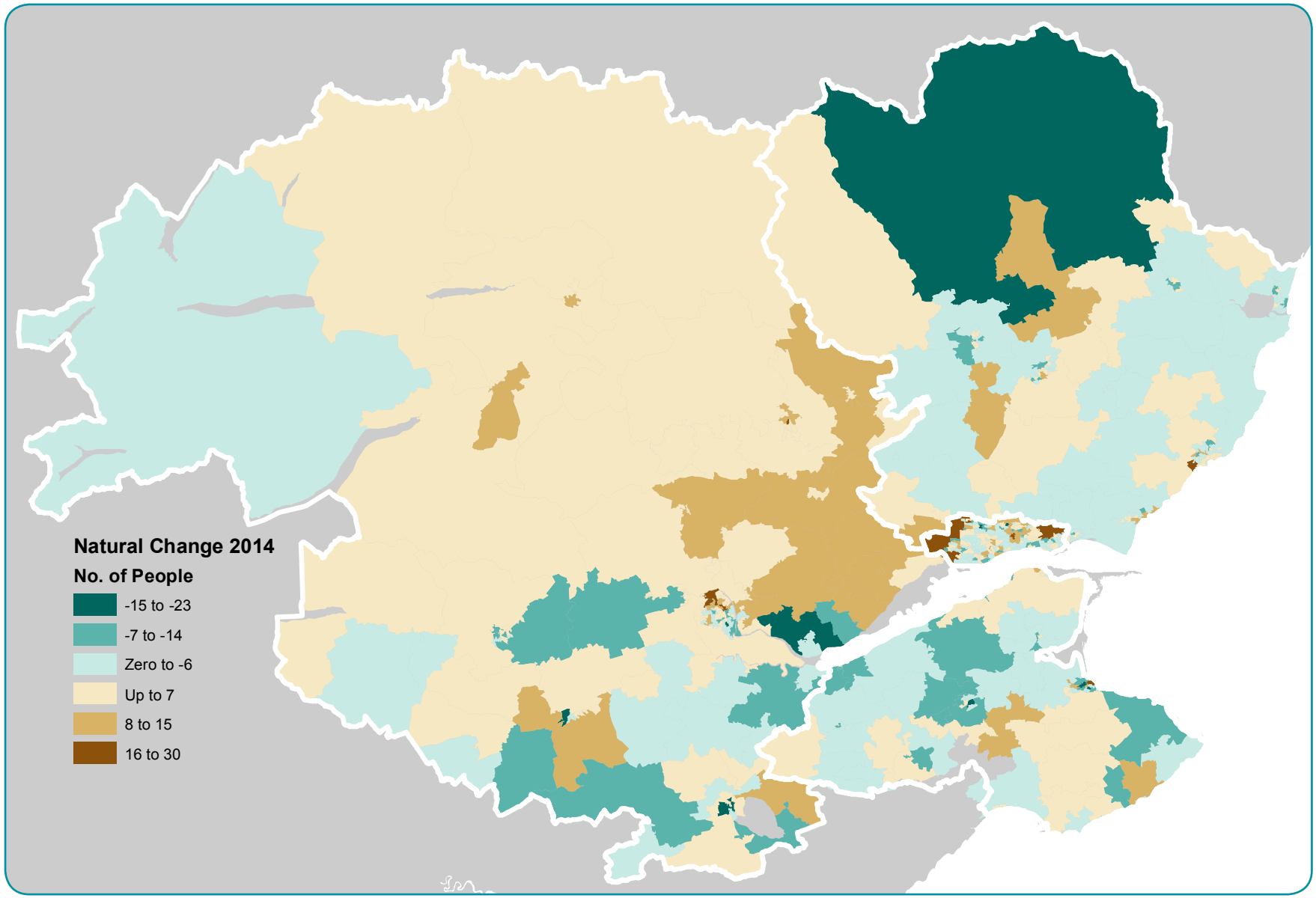
Graphs 16: Components of Population Change for Council Areas (2001/02 to 2014/15) continued...





Source: National Records of Scotland Mid Year Population Estimates

Maps 7: Distribution of natural change 2014



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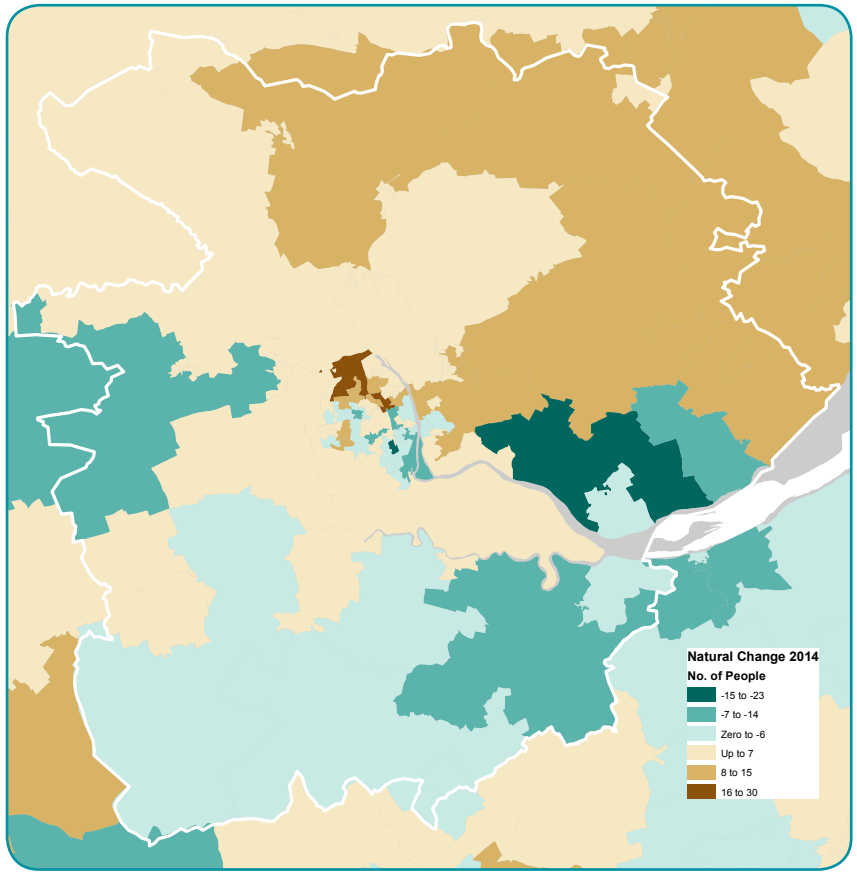
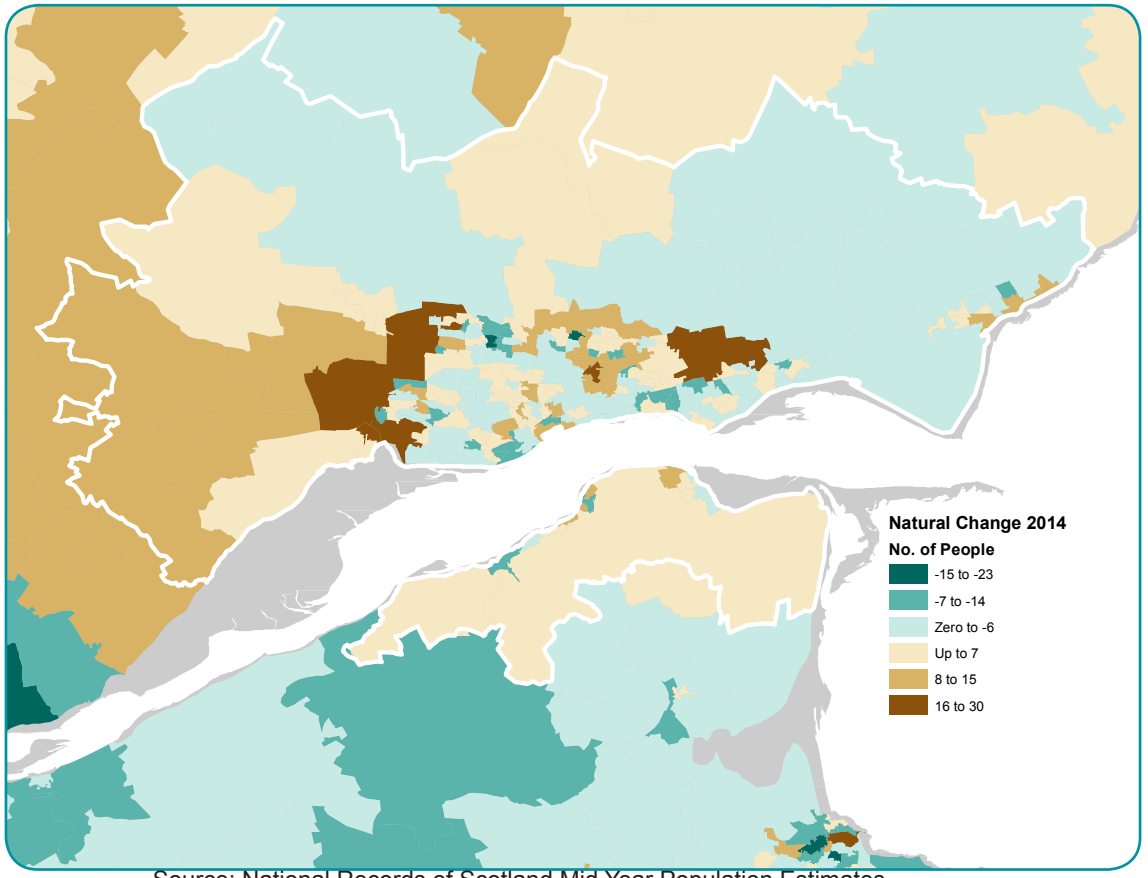
Source: National Records of Scotland Mid Year Population Estimates

Zoom in for Perth...



Zoom in for Dundee...



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Source: National Records of Scotland Mid Year Population Estimates

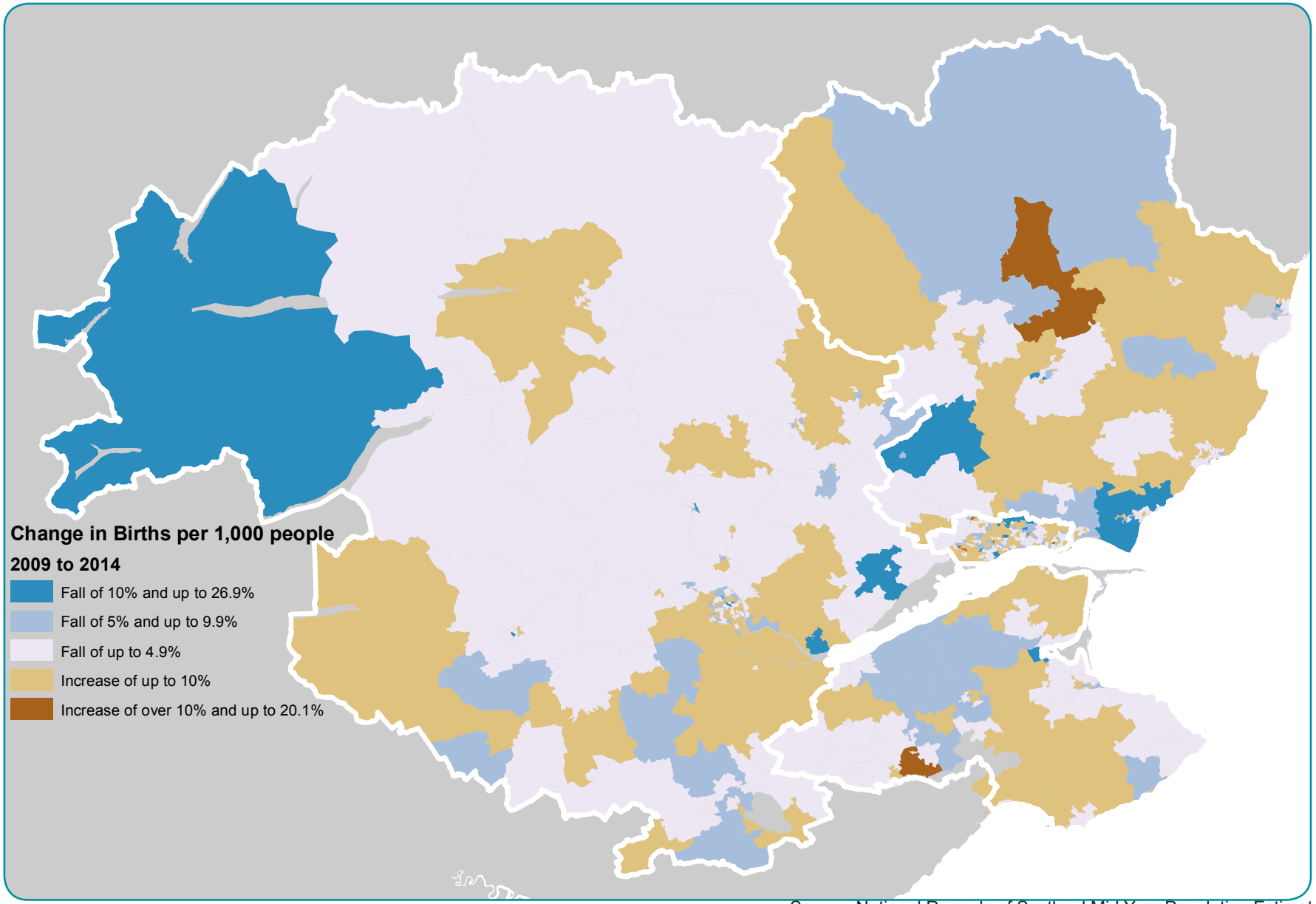
Maps 7 show natural change in 2014 (the number of births minus the number of deaths) at datazone level across TAYplan. This tells us where natural change has been positive and negative in 2014 and the comparative significance of this.

There are variations in both positive and negative natural change across all four council areas covered by TAYplan. In other words council level natural change is the consequence of numerous different levels of natural change rather than one dominant pattern.

The most significant levels of negative natural change are in the Angus Glens, the Kinross area, the western Carse of Gowrie and some neighbourhoods of Perth, Dundee and St Andrews. In these area there were significantly more deaths than there were births in 2014. This could be the result of e.g. a comparatively elderly population with higher mortality risk and fewer households having children.

The highest levels of positive natural change are largely in peripheral neighbourhoods of Dundee and Perth and in St Andrews. In these areas there were significantly higher births than deaths. This suggests relatively low mortality rates; perhaps from a comparatively younger population that also has comparatively higher levels of fertility.

Maps 8: Changing birth rates per 1,000 people 2009 to 2014



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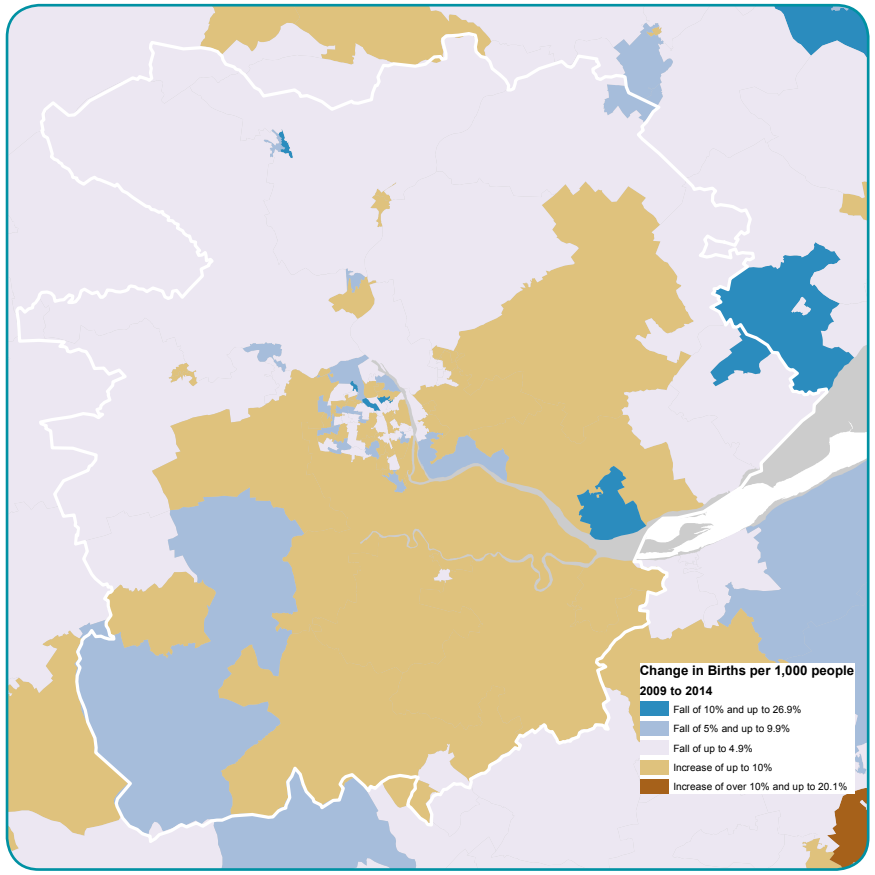
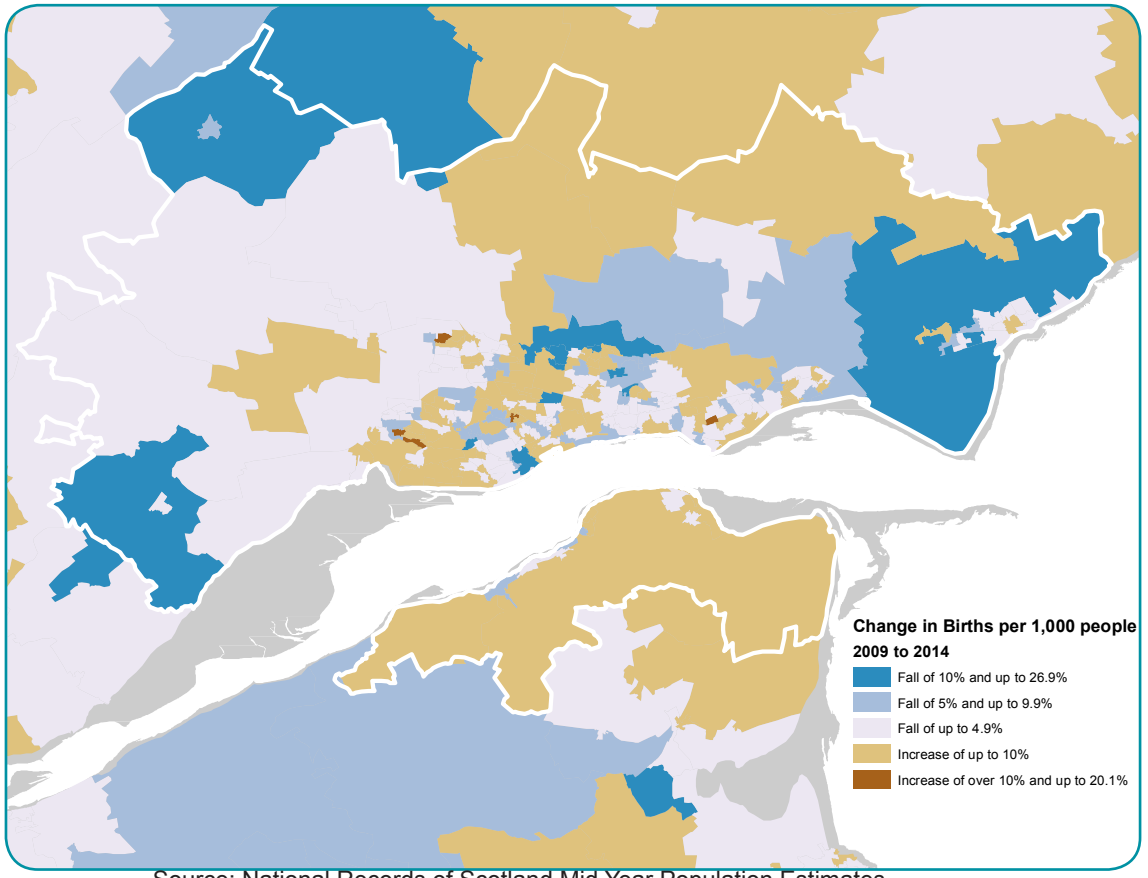
Source: National Records of Scotland Mid Year Population Estimates

Zoom in for Perth...



Zoom in for Dundee...



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Source: National Records of Scotland Mid Year Population Estimates

Maps 8 show the change in the birth rate (the number of live births per thousand people) at datazone level across TAYplan between 2009 and 2014.

Unsurprisingly some datazones have seen a fall in their birth rate and others that have seen it increase. Often these areas may neighbour each other.

Although the age at which mothers give birth will vary the highest levels of fertility are amongst those aged in their 20s and 30s. Rising and falling birth rates could be the consequence of age group distribution. This may also be related to the distribution of housing type/size. A fall in birth rate could also reflect where already established families remain in an area but do not have additional children.

Birth rates increased in some suburban and central parts of Dundee and Perth and their surroundings, central Arbroath as well as countryside areas and other principal settlements.

Significant falls in birth rates can be seen in parts of Highland Perthshire, parts of Perth and Dundee, around Carnoustie, central Carse of Gowrie, Leuchars and parts of Forfar.

Section 4: Migration

Synopsis

Migration from overseas and those aged 16-24 are amongst the most significant drviers of migration trends.

The local authiorites in the TAYplan area each see significant migration movement between themselves and their neighbours as well as Scotland's cities and their surroundings.

Compnents of net migration

Gross Migration Flows

Net migration by Age

Migration between local authorities

Components of Net Migration

Graphs 17 (below and overleaf) illustrate the components of net migration between Scotland, Rest of the UK and Overseas, as both origins and destinations.

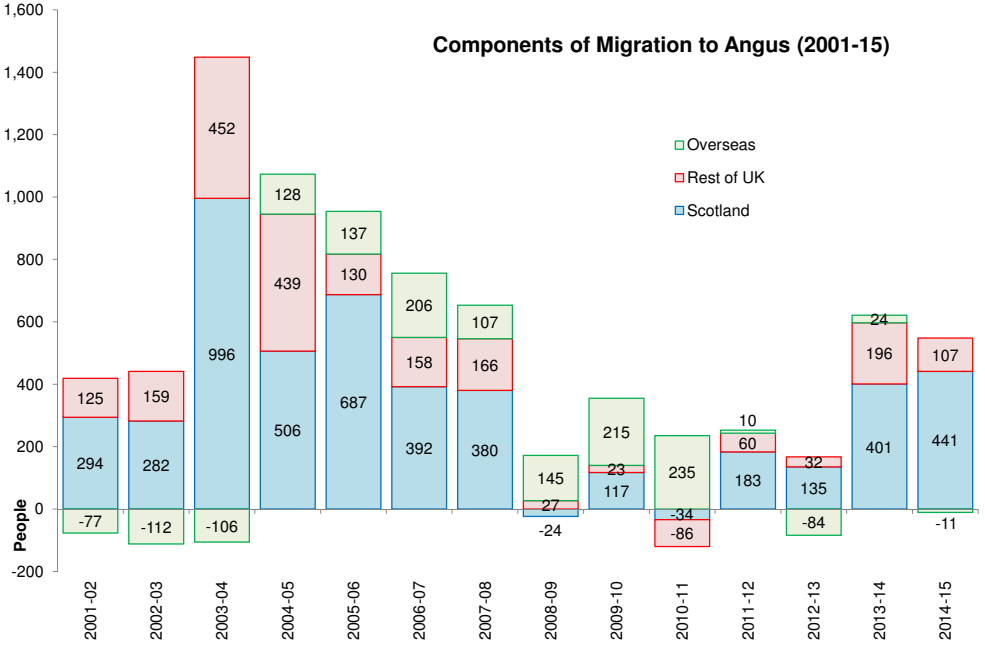
Angus
Prior to 2008/09 positive net migration was most significant from locations elsewhere in Scotland followed by the rest of the UK. From 2004/05 to 2010/11 net migration from overseas became positive - coinciding with the date of accession to the EU of several eastern European countries.

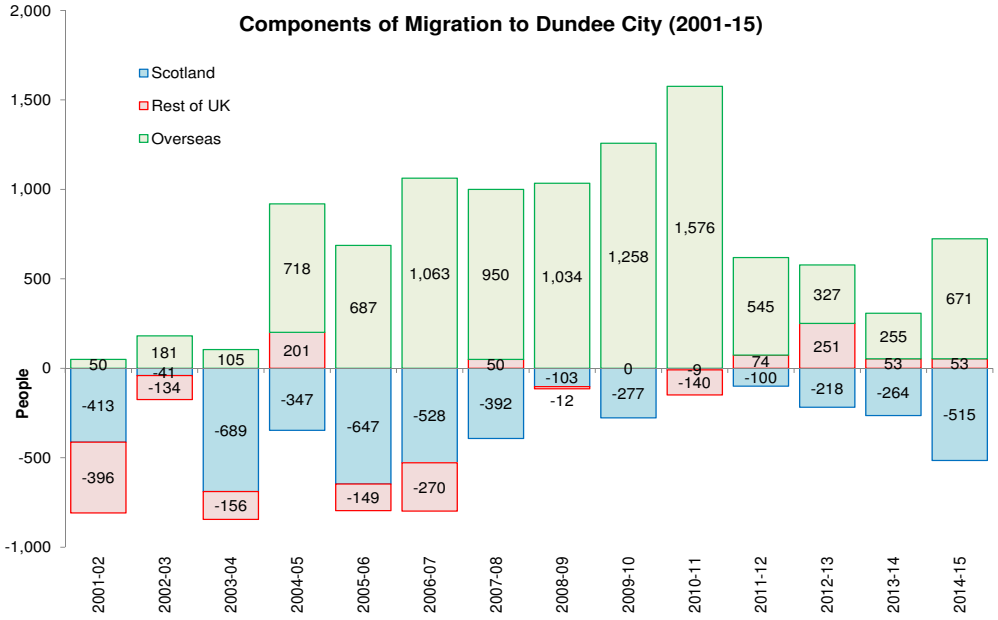
This period saw the arrival of many eastern European agricultural workers.

Between 2008/09 and 2012/13 net migration from Scotland and the rest of the UK diminished and fluctuated. After then postive net migration increased, particularly from other parts of Scotland and the rest of the UK. Net migration to and from overseas diminished significantly.

Dundee City
Although net migration became significantly positive in post 2003/04 this was principally and consistently driven by overseas migration. This may reflect the impact of the universities in attracting overseas students (see also page 45). Although there are occasional fluctuations net migration remains negative for other parts of Scotland and the rest of the UK. This suggests more people left Dundee City for other parts of Scotland and the UK than arrived from them.

Graphs 17: Components of migration to and from Scotland, Rest of UK and Overseas (2001-15)...





Source: National Records of Scotland

Whole of Fife
There have almost consistently been more people arriving in Fife from Scotland, rest of the UK and overseas than have left to move to these places.

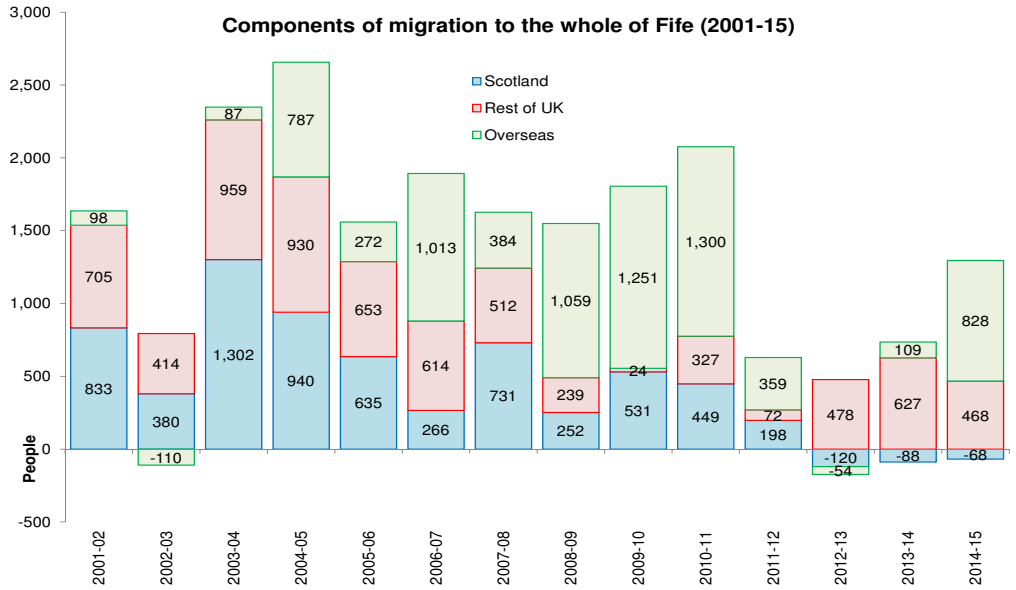
Positive net migration from other parts of Scotland and the rest of the UK were dominant until 2005/06. Thereafter the relative significance of positive net migration fluctuated with positive net migration from overseas being signicant between 2008/09 and 2010/11.

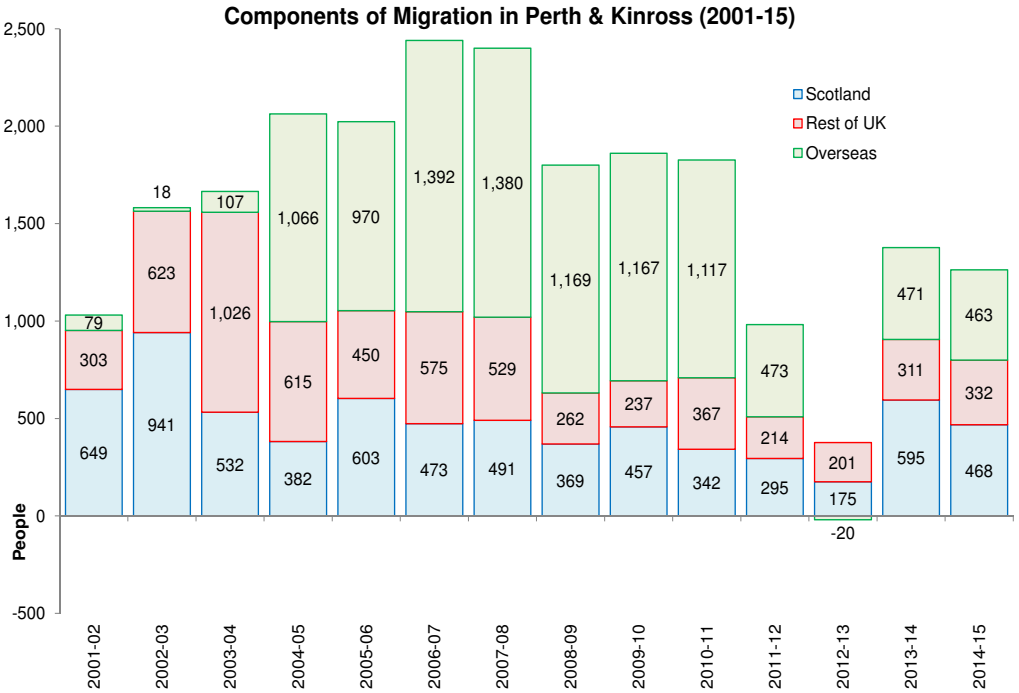
Thereafter the overall significance of positive net migration fell with more people leaving for other parts of Scotland than arrived. By 2012/13 the rest of the UK was the dominant source of positive net migration, laterly followed by overseas in the most recent year. The University of St Andrews and arrival of overseas agricultural workers may explain this.

Perth & Kinross
Positive net migration from Scotland and rest of the UK plays a significant role all years for Perth & Kinross. However, the scale fell consistently to 2012/13 after which time it grew once more.

Following 2004/05 net migration from overseas was the dominant driver of positive net migration until 2011/12. This is likely to have been driven by the arrival of overseas agricultural workers amongst others. By 2013/14 there is a relatively similar share of positive net migration from all three sources.

Graphs 17: Components of migration to and from Scotland, Rest of UK and Overseas (2001-15)...





Source: National Records of Scotland

Gross Migration Flows

Migration to and from within Scotland
Graph 18 (right) examines average annual gross migration flows and the net of these for the periods 2001-08 and 2008-15 for each council area.

Net migration figures mask significantly higher gross in and out migration flows for each council area in both time periods.

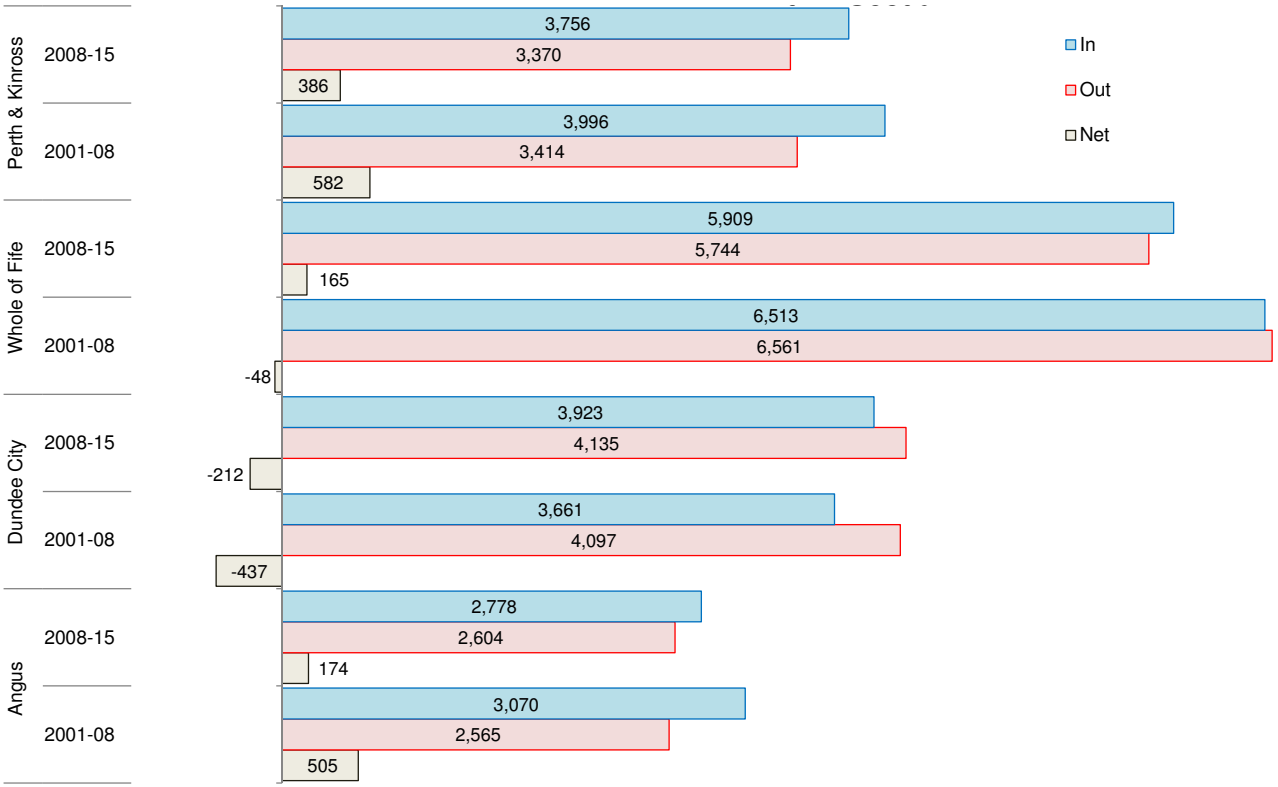
For Angus average annual in-migration has fallen and average annual out-migration has increased. In-migration remains higher than out-migration. Therefore net migration from other parts of Scotland remains positive but has fallen.

For Dundee City average annual in-migration has increased but out-migration has increased by a smaller margin. Out-migration remains higher than in-migration. Therefore net migration from within Scotland became less negative.

For the whole of Fife both average annual in-migration and out-migration have fallen. Out-migration fell most significantly and to below in-migration levels. Therefore net migration from other parts of Scotland has grown and become positive.

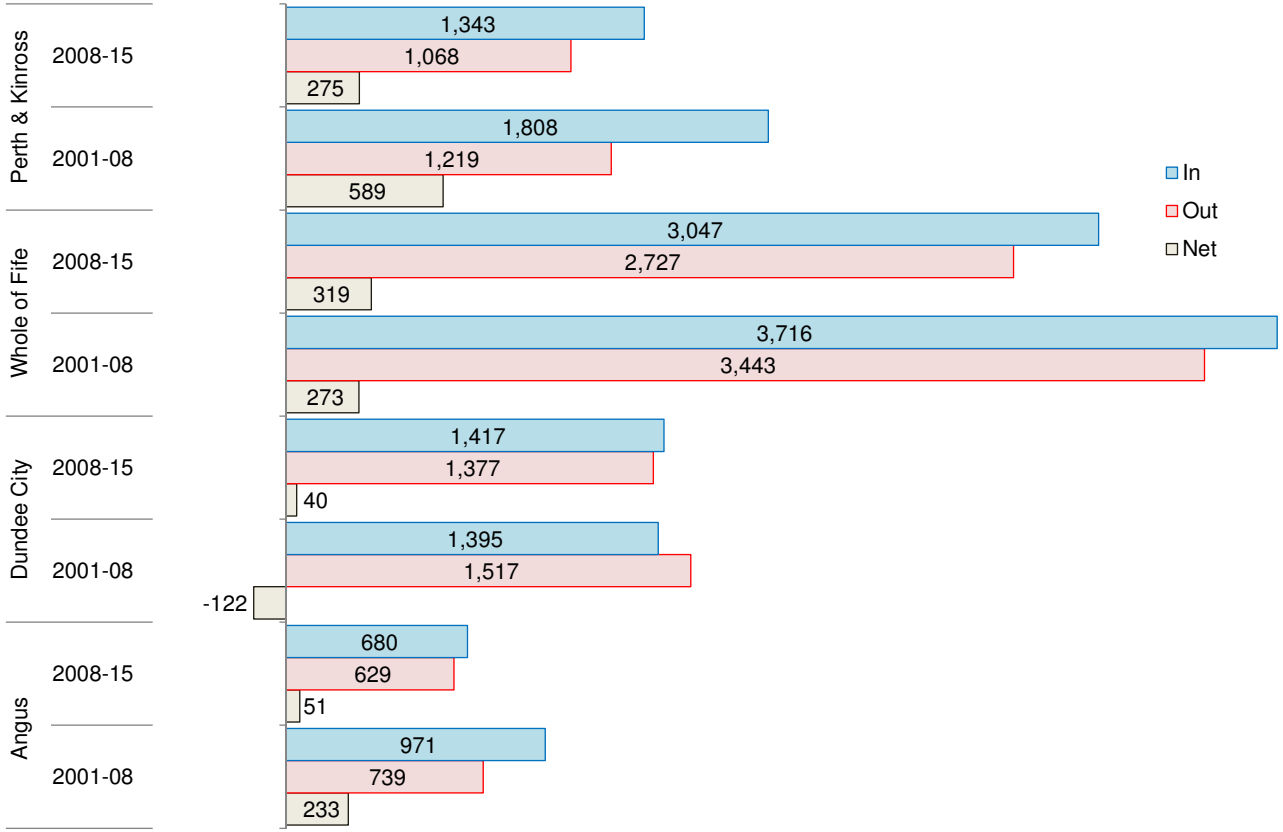
For Perth & Kinross average annual in-migration fell more significantly than out-migration. However, in-migration remained higher than out-migration. Therefore net migration from the rest of Scotland to Perth & Kinross remained positive but fell.

Graph 18: Average annual gross and net migration flows to and from within Scotland (2001-08) and (2008-15) compared



Source: National Records of Scotland

Graph 19: Average annual gross and net migration flows to and from the rest of the UK (2001-08) and (2008-15) compared



Source: National Records of Scotland

Migration to and from the rest of the UK
Graph 19 (left) examines average annual gross migration flows and the net of these for the periods 2001-08 and 2008-15 for each council area.

Net migration figures mask significantly higher gross in and out migration flows for each council area in both time periods.

For Angus average annual in-migration fell more substantially than out-migration. In-migration remains higher than out-migration. Therefore net migration from the rest of the UK remains positive but has fallen.

For Dundee City average annual out-migration fell more significnatly than in-migration. Average annual in-migration is now higher than out-migration. Therefore net migration from the rest of the UK became positive.

For the whole of Fife average annual out-migration fell more significantly than in-migration. However, average annual in-migration remained higher than out-migration. Therefore net migration from the rest of the UK increased.

For Perth & Kinross average annual in-migration fell more significantly than out-migration. However, average annual in-migration remained higher than out-migration. Therefore net migration from the rest of the UK to Perth & Kinross remained positive but fell.

Migration to and from Overseas
Graph 20 (right) examines average annual gross migration flows and the net of these for the periods 2001-08 and 2008-15 for each council area.

Net migration figures mask significantly higher gross in and out migration flows for each council area in both time periods.

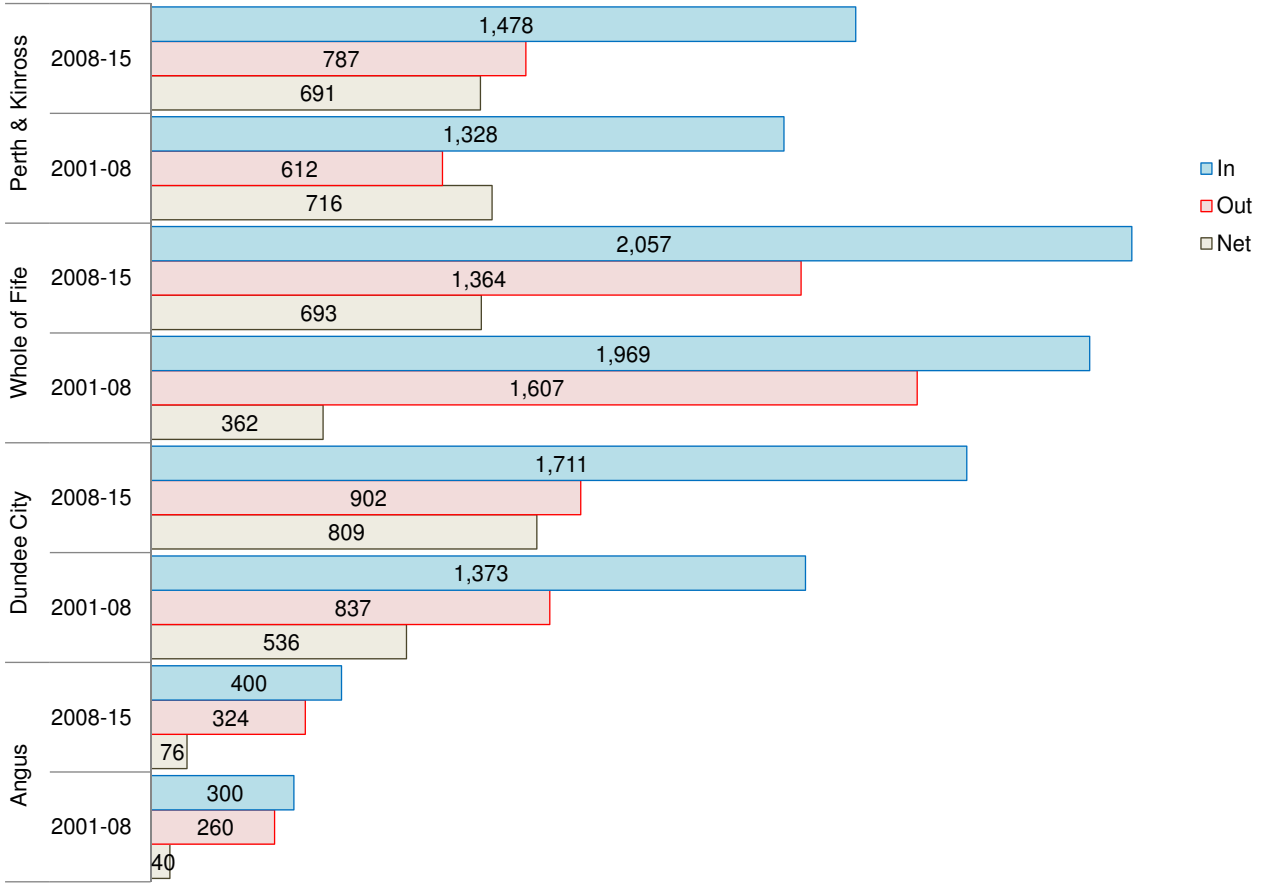
For Angus average annual In-migration and out-migration grew. In-migration remains higher than out-migration. Therefore net migration from overseas remains positive but has grown.

For Dundee City both average annual in-migration and out-migration increased. However, in-migration has grown more substantially and remains higher than out-migration. Therefore net migration from within overseas remains positive and grew.

For the whole of Fife average annual in-migration has grown and average annual out-migration fell. Average annual in-migration remains higher than out-migrations. Therefore net migration from overseas remains positive and has grown.

For Perth & Kinross average annual in-migration grew less significantly than out-migration. However, in-migration remained higher than out-migration. Therefore net migration from remained remained positive but fell.

Graph 20: Average annual gross and net migration flows to and from Overseas (2001-08) and (2008-15) compared



Source: National Records of Scotland

Net migration by age

Graphs 21 (below and overleaf) compare the average annual net migration rates by age cohort for the periods 2001-08 and 2008-14 for all four council areas.

These graphs all illustrate the relative significance of net migration movements amongst the 16 to 24 age groups in particular. Although students attend and graduate university at different ages the 16-24 age group covers the bulk of those moving from school to university and then graduating and moving away from university.

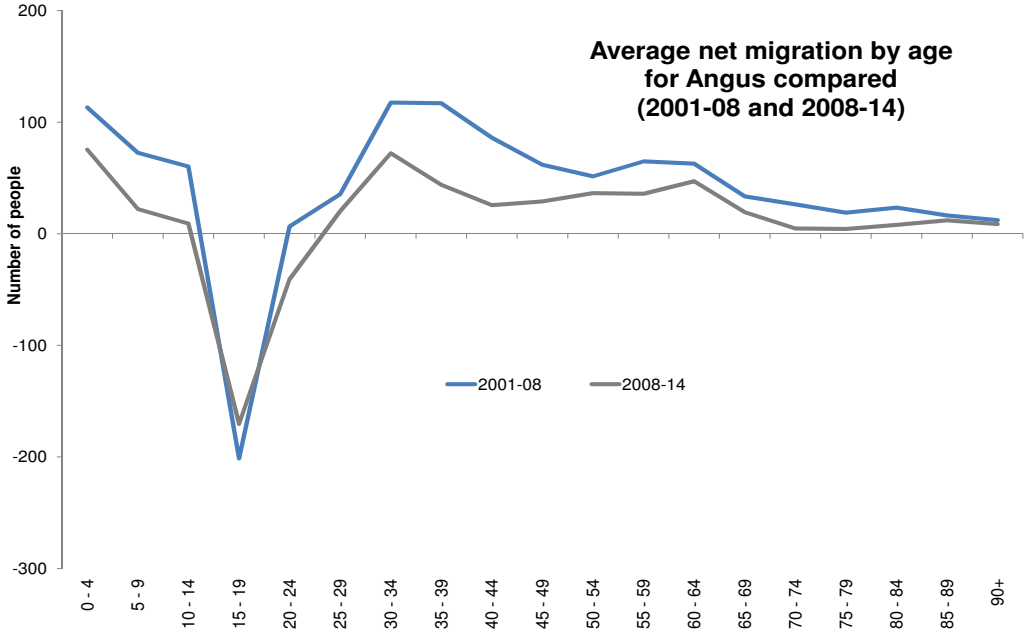
Angus
In both time periods Angus saw significant out-migration for the 15-19 age group. All other age groups saw positive net-migration. The overall scale of positive and negative net migration diminished by 2008-14 compared with 2001-08.

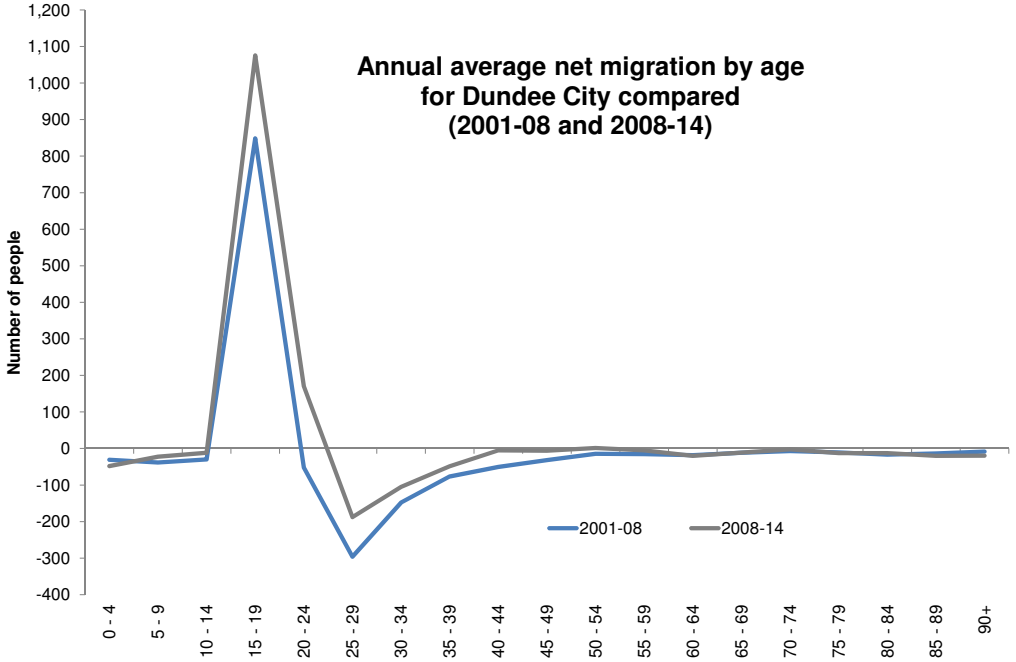
Dundee City
In both time periods Dundee City saw a significant spike of positive net migration in the 15-19 age group. It saw a lesser but pronounced negative net-migration for the 20-24 and 25-29 age groups.

This is likely to reflect in-coming students to University and outgoing graduates, amongst others. All other age groups saw negative net migration.

For 2008-14 positive net migration increased for 15-19 age groups. Negative net migration for most other age groups became less negative.

Graphs 21: Average annual net migration by age group 2001-08 vs 2008-14...





Source: National Records for Scotland

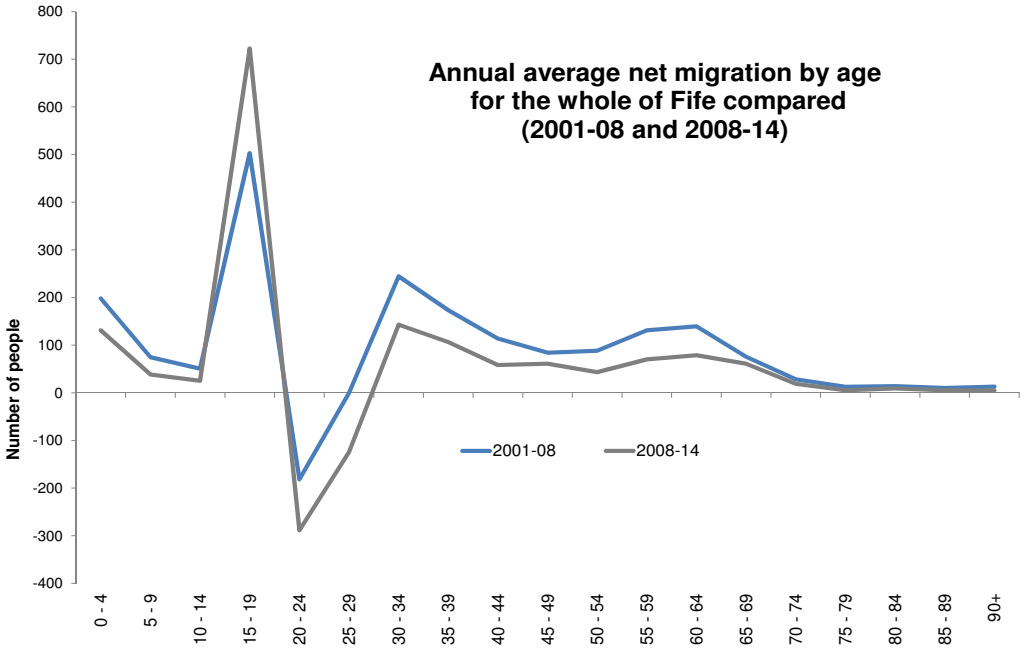
Fife
Fife sees a significant spike in positive net migration for the 15-19 age group and a lesser but significant negative net migration for the 20-24 and 25-29 age groups. The arrival of students at the University of St Andrews and the departure of graduates is likely to play a signficant role in influencing this.

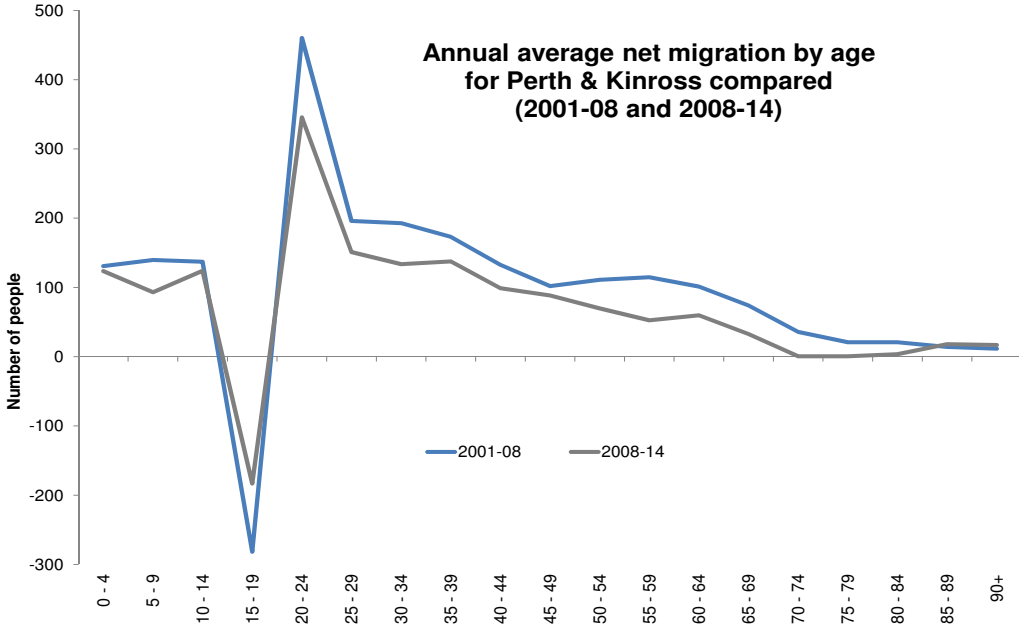
Net migration is positive for all other age groups. Since 2008 net migration became more positive for the 15-19 age group. For all other age groups it became less positive or more negative.

Perth & Kinross
Perth & Kinross sees a sigificant spike of negative net migration in the 15-19 age group a similarly significant spike in positive net migration for the 20-24 age group. All other age groups see positive net migration.

Since 2008 net migration has become less positive. For the 15-19 age group it has become less negative.

Graphs 21: Average annual net migration by age group 2001-08 vs 2008-14 continued...





Source: National Records of Scotland

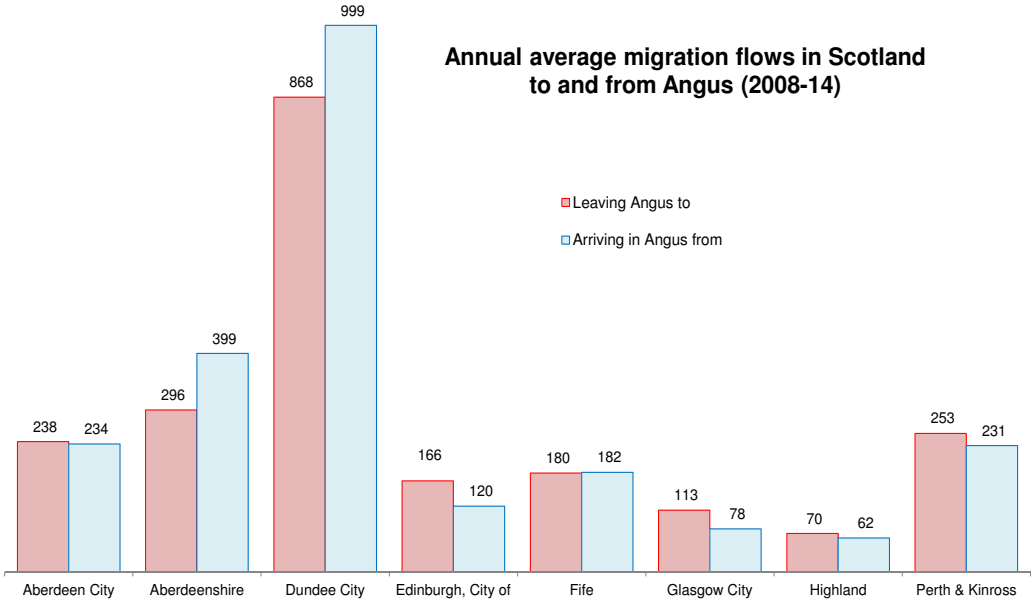
Migration between local authorities

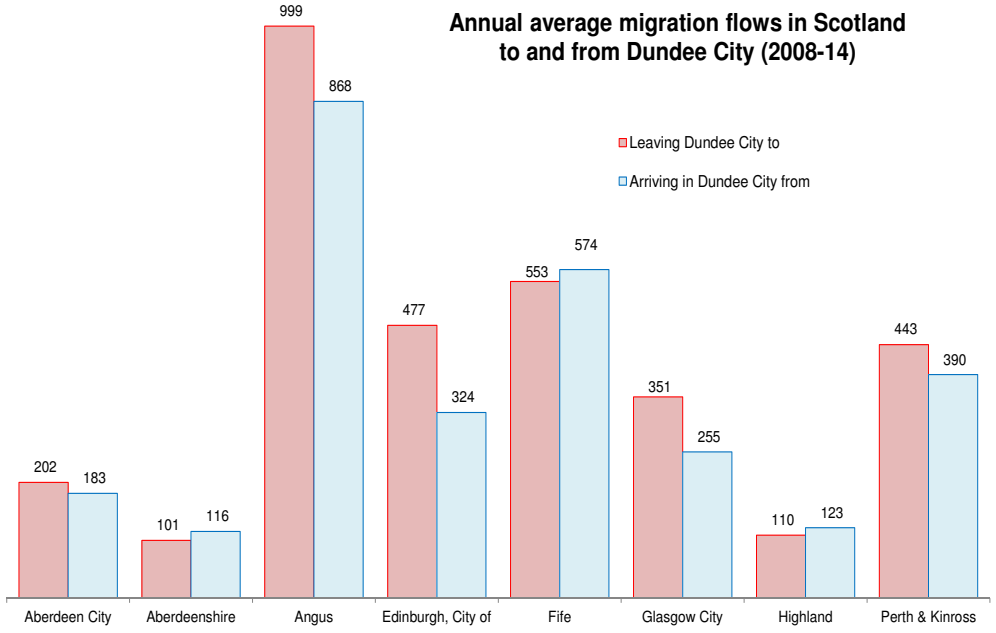
Graphs 22 (below and overleaf) examine the origin and destination of migrants within Scotland for each of the four councils. These show average annual gross migration flows for the years 2008-14.

Angus:
The most significant flows to and from Angus are to neighbouring council areas, particularly Dundee City. On balance more people arrive in Angus from Dundee City and Aberdeenshire than leave.

Dundee City:
The most signficant flows to and from Dundee City are to neighbouring council areas, particularly Angus, Fife and Perth & Kinross. On balance more people leave Dundee City for Angus and Perth & Kinross than arrive.

Graphs 22: Average annual gross migration flows between council areas (2008-14)





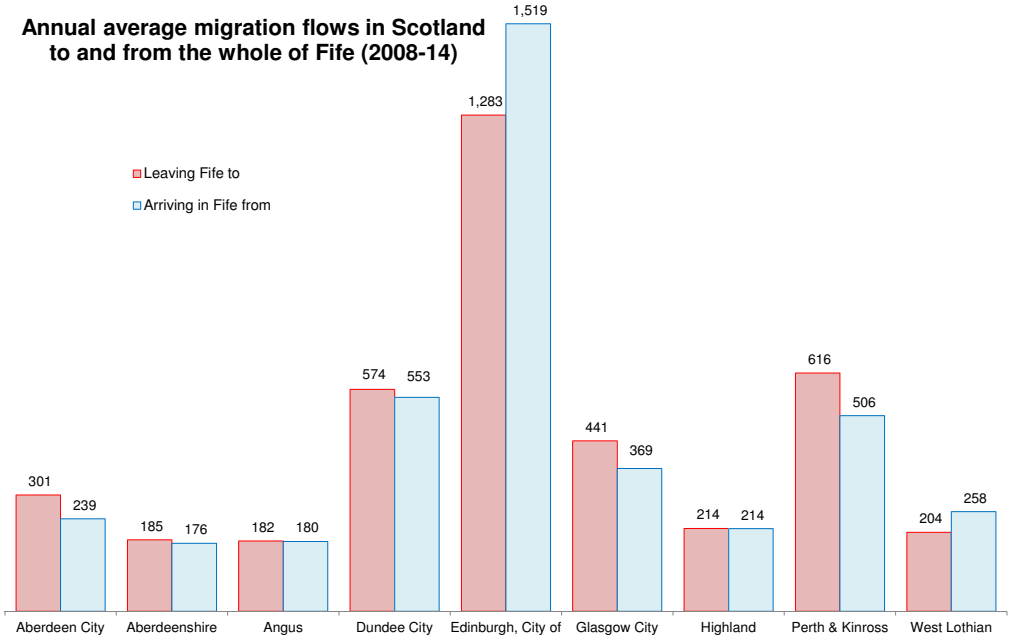
Source: National Records of Scotland

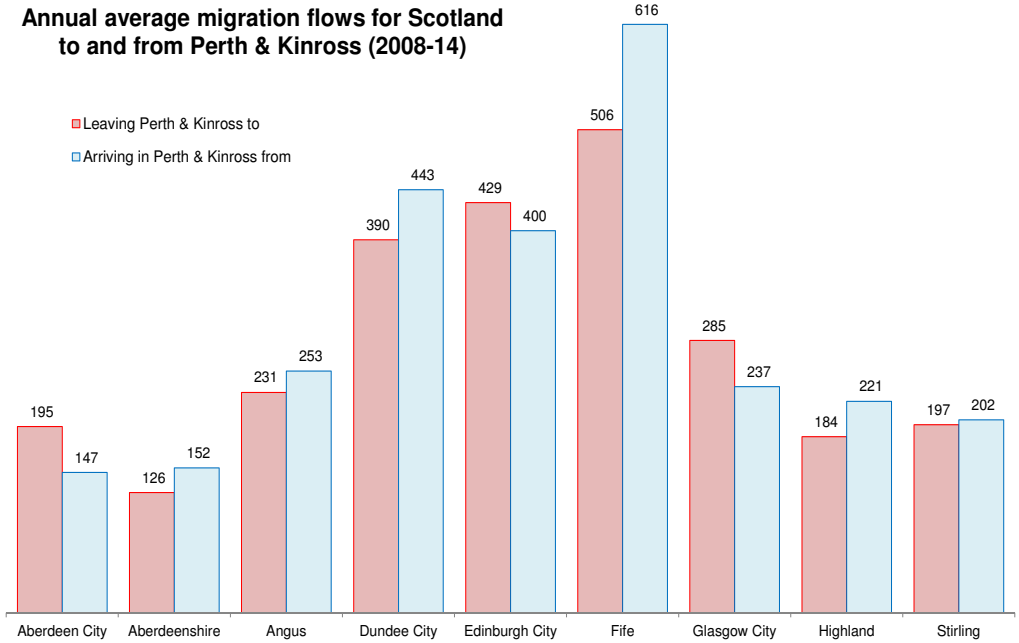
Fife
Fife experiences in and out migration flows with numerous other council areas including neighbouring Dundee City and Perth & Kinross. However, the most dominant relationship is with Edinburgh. On balance more people arrive in Fife from Edinburgh than leave.

Perth & Kinross
Perth & Kinross sees it strongest migration relationships with neighbouring and nearby areas including Dundee City, Edinburgh and Fife.

More people arrive in Perth & Kinross from Dundee CIty and Fife than leave. However, Perth & Kinross sees more people leave to go to Aberdeen, Glasgow and Edinburgh than arrive.

Graphs 22: Average annual gross migration flows between council areas (2008-14) continued...





Source: National Records of Scotland

Section 5: Ethnicity

Synopsis

The TAYplan area has become more ethnically diverse and this is particularly so in those areas with a strong university presence.

Comparing Ethnicity 2001 to 2011

Distribution of whiite British ethnicity 2011

Comparing population ethnicity: 2001 vs 2011

Graphs 23 (right) and 24 (overleaf) compare the proportional ethnic mix of the population from the Census in 2001 and 2011. This is compared for Scotland, TAYplan and the constituent council areas and housing market areas covered by TAYplan.

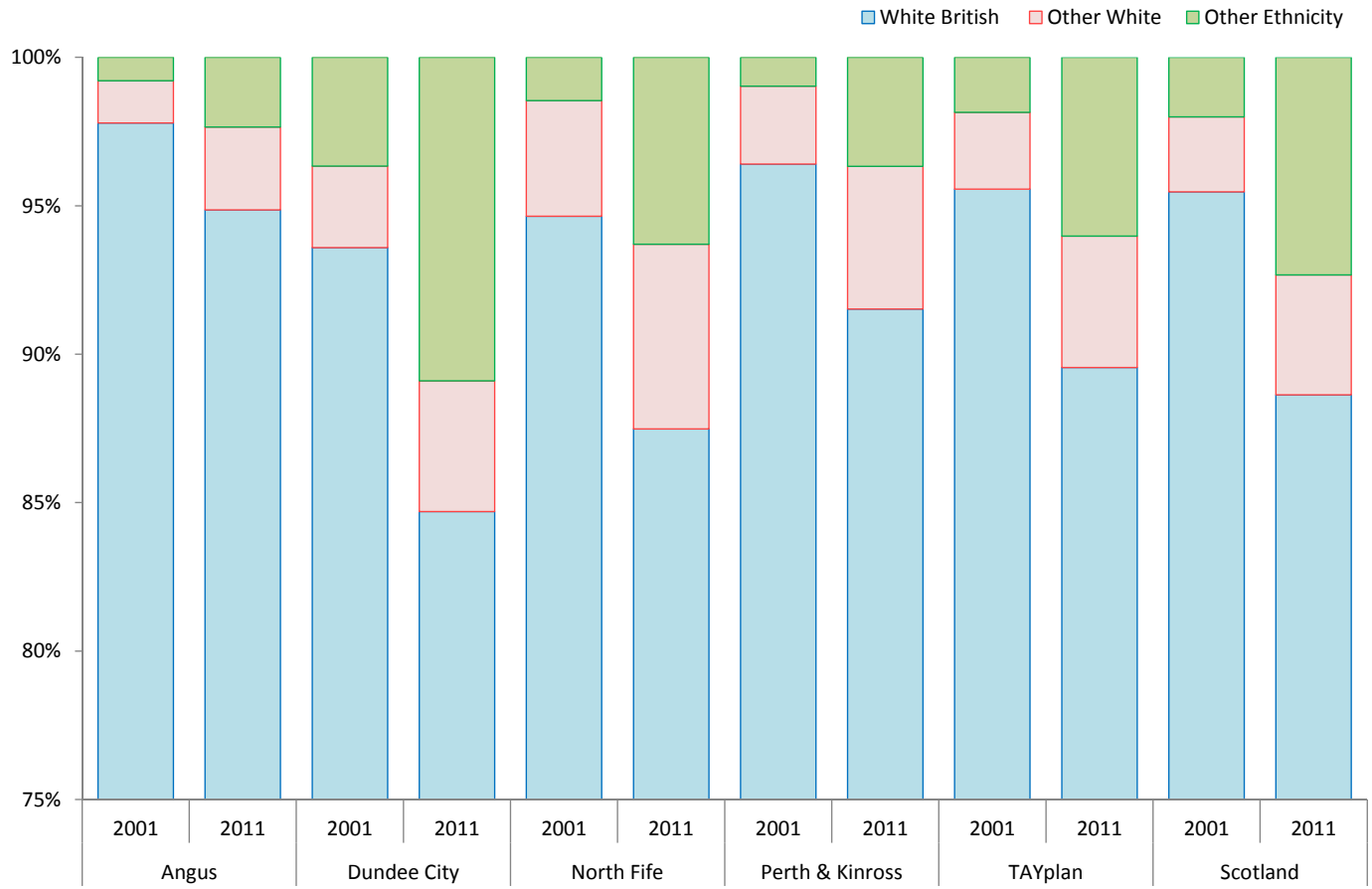
The various ethnic groupings used in the Census for 2001 and 2011 have been used to create three broad ethnic groups:
White British
Other White
Other Ethnicity

Graphs 23 and 24 each show that Scotland, TAYplan and the council and housing market areas covered by TAYplan each became more ethnically diverse by 2011 compared with 2001.

Already the most ethnically diverse in 2001, the Greater Dundee and St Andrews & East Fife Housing Market Areas (Graph 24) became even more ethnically diverse. They also remain the most ethnically diverse parts of the region.

It is plausible to conclude that the significant number of students from outside of the UK, both within and outwith the EU represent a major component of this ethnic diversity (see Graph 15 on page 45).

Graph 23: Ethnic diveristy of the population (2001 vs 2011) for Scotland, TAYplan and council areas covered by TAYplan



Source: National Records of Scotland

Graph 24: Ethnic diveristy of the population (2001 vs 2011) for Housing Market Areas covered by TAYplan

Source: National Records of Scotland

It is also plausible to suggest that the accession to the EU of former eastern block countries in 2004 have contributed to this increase in diversity.

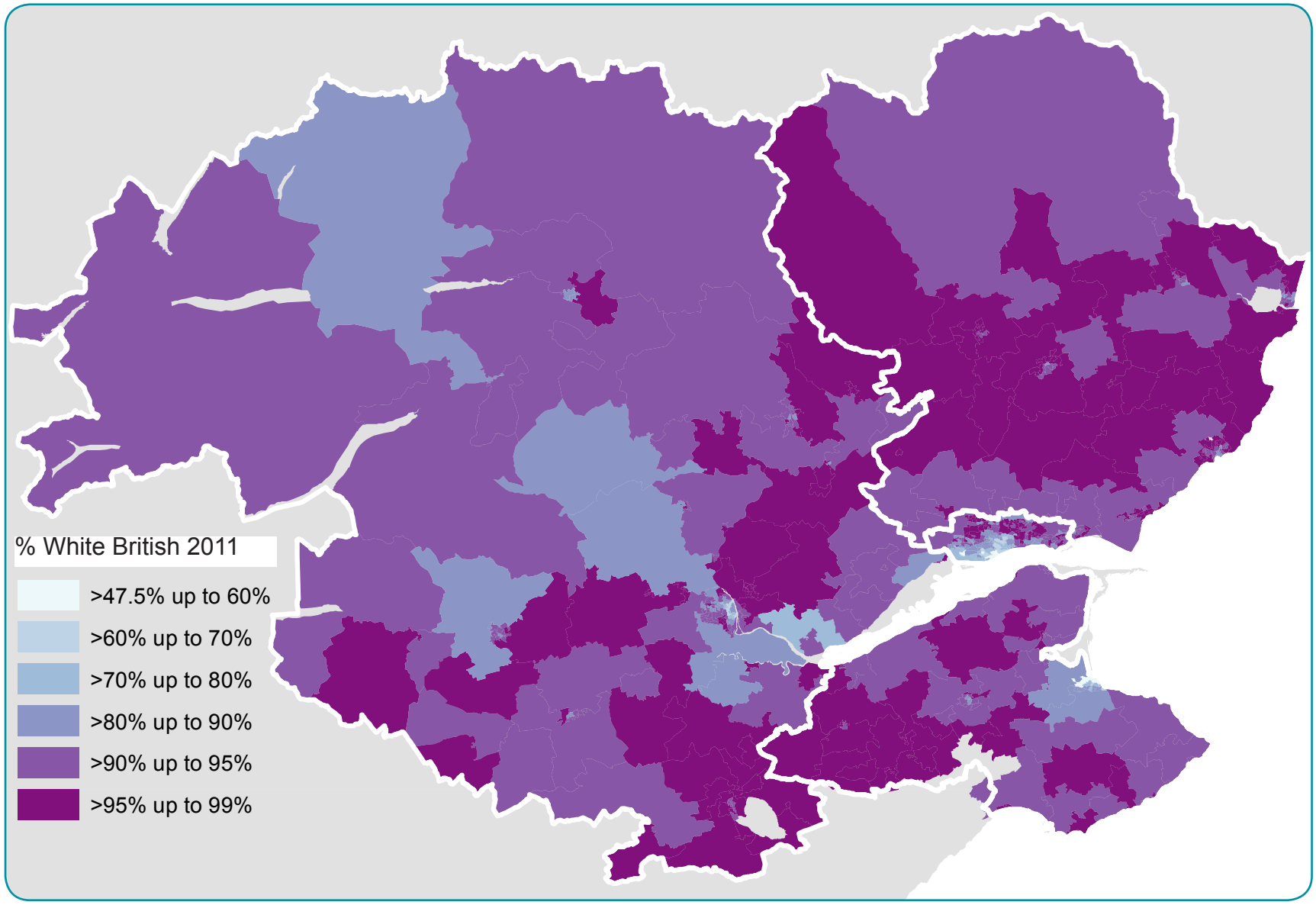
Although the most ethnically diverse areas are those with a university presence the equivalent trends are apparent elsewhere. This may include the already well recognised arrival of overseas agricultural workers, particularly from eastern Europe.

The migration trends that could be associated with these changes are explained on pages 56 to 60 where migration from overseas is considered.

Although all areas have become more ethnically diverse only Dundee City and North Fife are more ethnically diverse than the Scottish average. The key driver for North Fife is the St Andrews and East Fife Housing Market Area, where the University of St Andrews is based.

Dundee City is more ethnically diverse than the Greater Dundee Housing Market Area. This suggests that the North Fife, Perth & Kinross and South Angus parts of the Greater Dundee Housing Market Area dilute the ethnic diversity of this housing market area. It also suggests that Dundee City itself, including the two universities, is the key concentration of ethnic diversity within the Greater Dundee Housing Market Area.

Maps 9: Ethnic diversity measured by concentrations of 'White British' ethnicity in 2011



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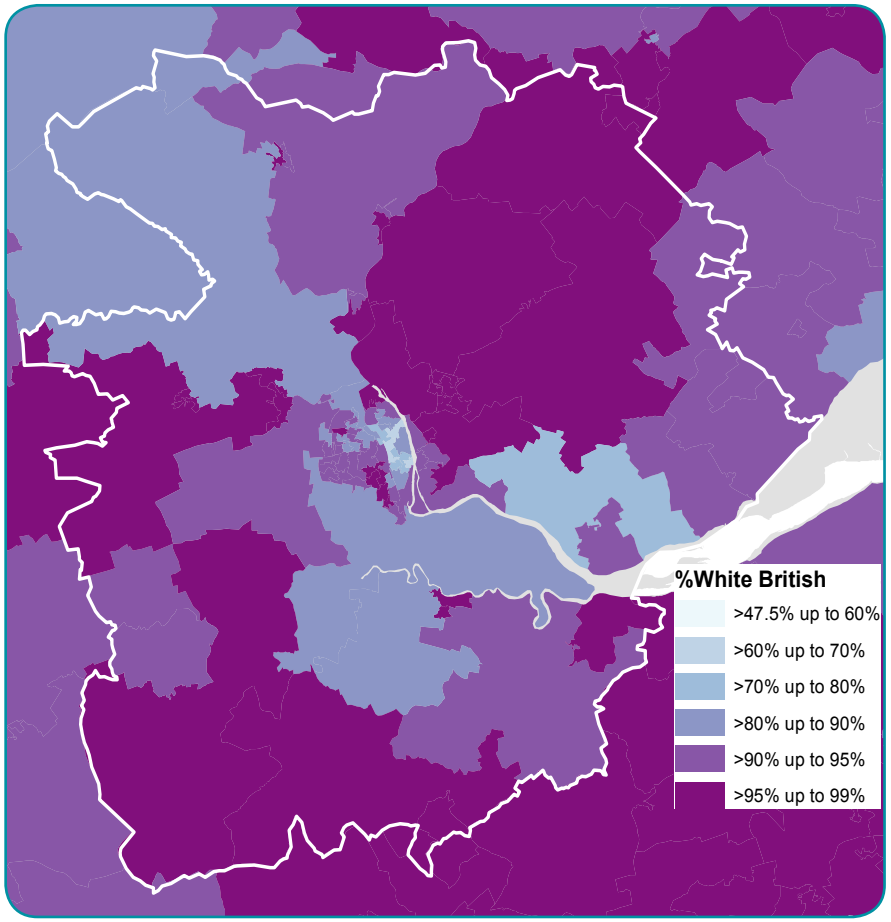
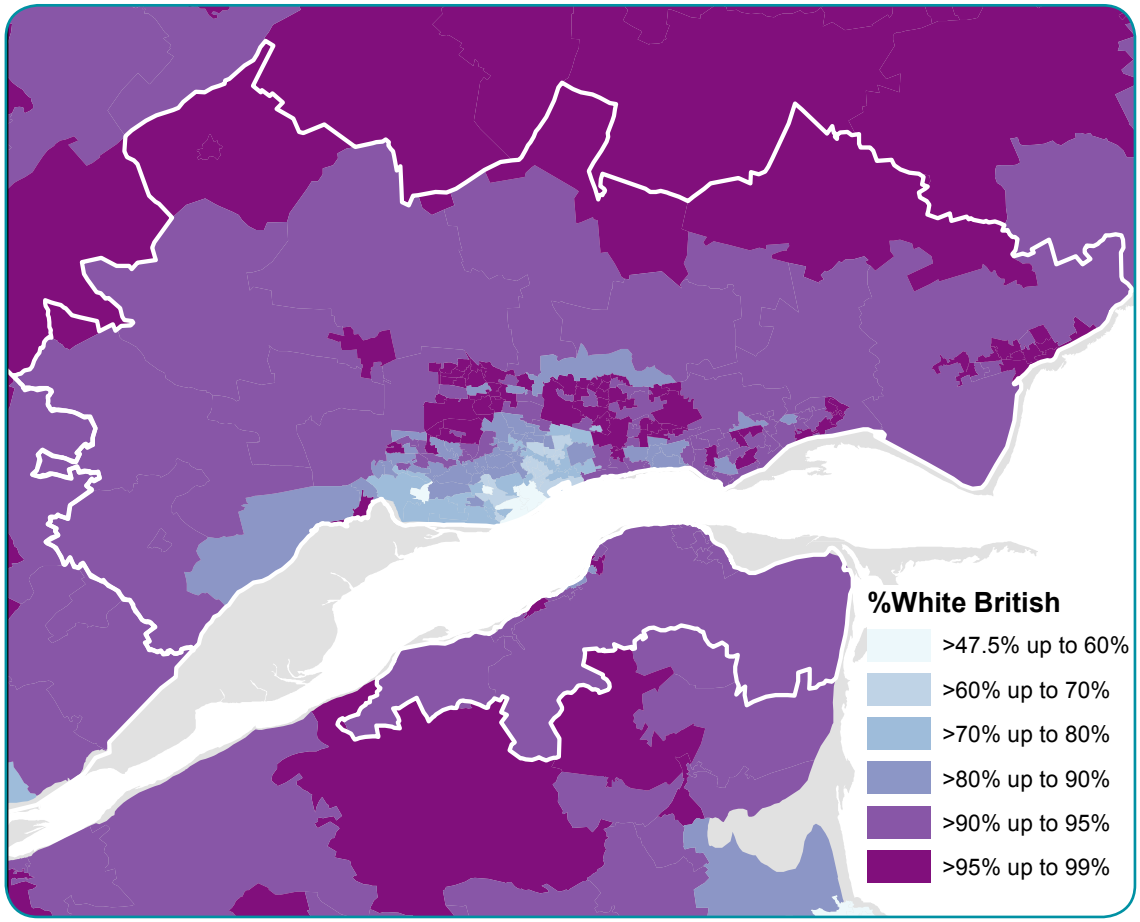
Source: National Records of Scotland

Zoom in for Perth...



Zoom in for Dundee...



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Source: National Records of Scotland

Maps 9 show the percentage of the population for each datazone that is of 'White British' ethnicity for the whole of the TAYplan area in 2011.

Those who are not of 'White British' ethnicity include those who are not 'White' but may be 'British'. It also includes migrants to the area, including students, who are either 'White' or 'Non-white' but who are not 'British'.

Datazones with the lowest proportions of 'White British' represent the most ethnically diverse parts of the TAYplan area.

No datazone is wholly made up of 'White British' Ethnicity. Those areas with the lowest proportions of the population made up of 'White British' ethnicity are in central Dundee and Perth, in and around St Andrews and in specific neighbourhoods of Dundee, Perth, Arbroath, Forfar, Montrose, Auchterarder and Cupar. There are also some datazones surrounding Perth and Crieff.

The most ethnically diverse areas are those in closest proximity to universities and areas with known concentrations of overseas agricultural workers.

Section 6: Household change

Synopsis

The number of households has grown and is projected to continue to grow. Households are projected to grow at a higher rate than the population because average household size is projected to fall.

There are projected to be more, smaller households as people live longer and spend more of their lives in smaller households.

Recent and Projected Household Change

Changing Household Size

Changing Household Composition

Recent and Projected Household Change

Household change is related to population change. However, household change tells us how the population forms households. It is possible to have an increase in the population but a fall in the number of households (and vice versa).

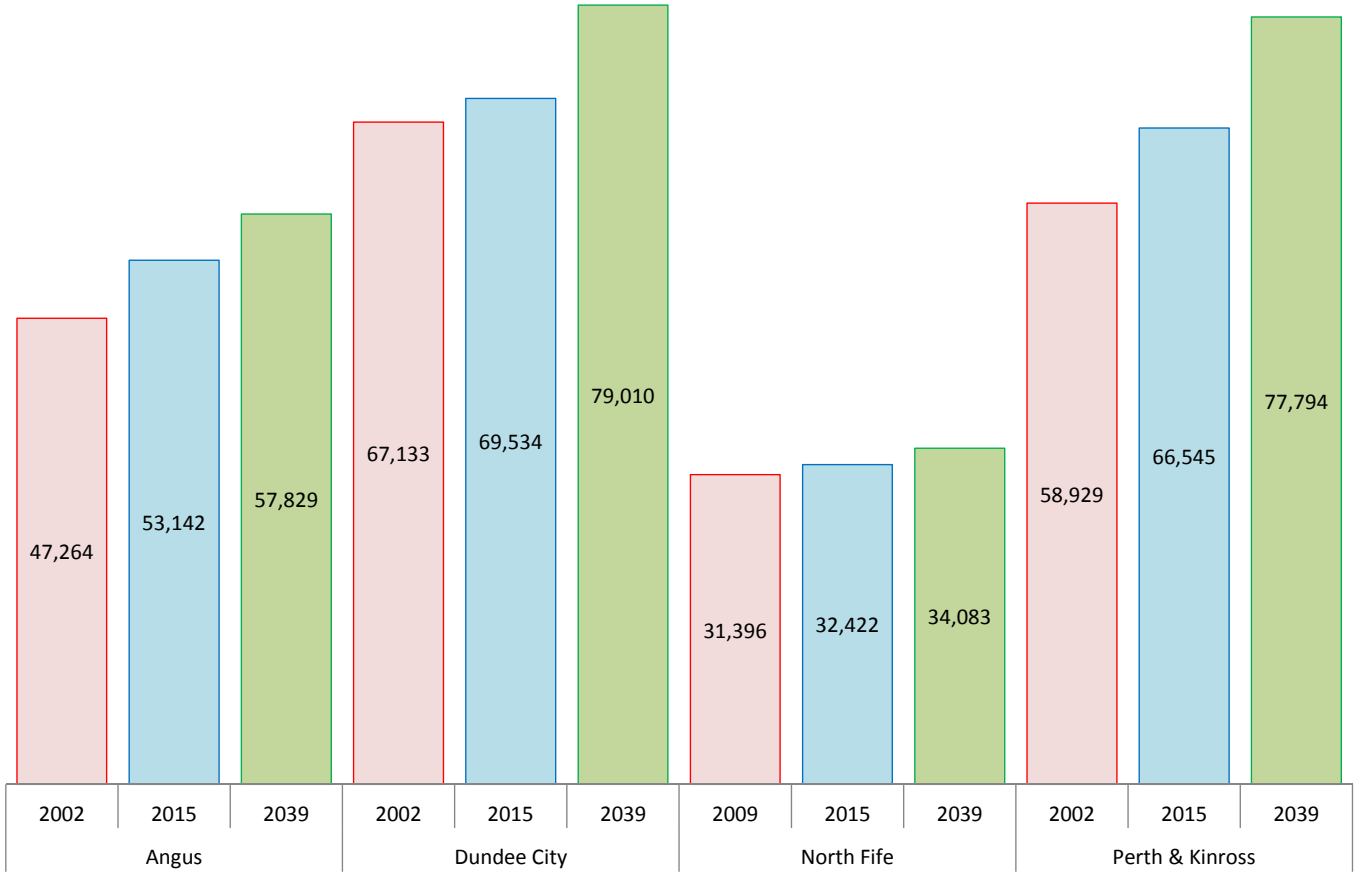
Graph 24 (right) shows recent and projected changes in the number of households. Graphs 25 overleaf on pages 73 and 74 compare recent household growth 2001-15 with projected household growth 2014-39 based on the 2014-based household projections. These projections are compared with the previous 2012-based and 2010-based household projections.

All four council areas covered by TAYplan have experienced growth in the number of households between 2001 and 2015 (2009-15 for North Fife). Each council area is also projected to see an increase in the number of households by 2039.

Dundee City has consistently accomodated the largest numbers of households. This is also projected to be the case in 2039. However, Perth & Kinross is projected to have the largest population (see Graph 3 on page 17). This suggests differing household size. Household size is considered in more detail on page 76.

The magnitude of increase projected between 2015 and 2039 is more substantial for Dundee City and Perth & Kinross compared with Angus and North Fife.

Graph 24: Recent and projected household change (2002, 2015 and 2039) for TAYplan and the council areas covered by TAYplan



Source: National Records of Scotland

Angus

Following revisions to the Angus population after the 2011 Census the 2012-based projections anticipated a household growth, but that it would result in lower numbers of households by the mid 2030s compared with the 2010-based projections.

More recent household growth has taken place and the 2014-based projections now anticipate the number of Angus households increasing by just over 5,137 or 9.7% between 2014 and 2039.

Dundee City

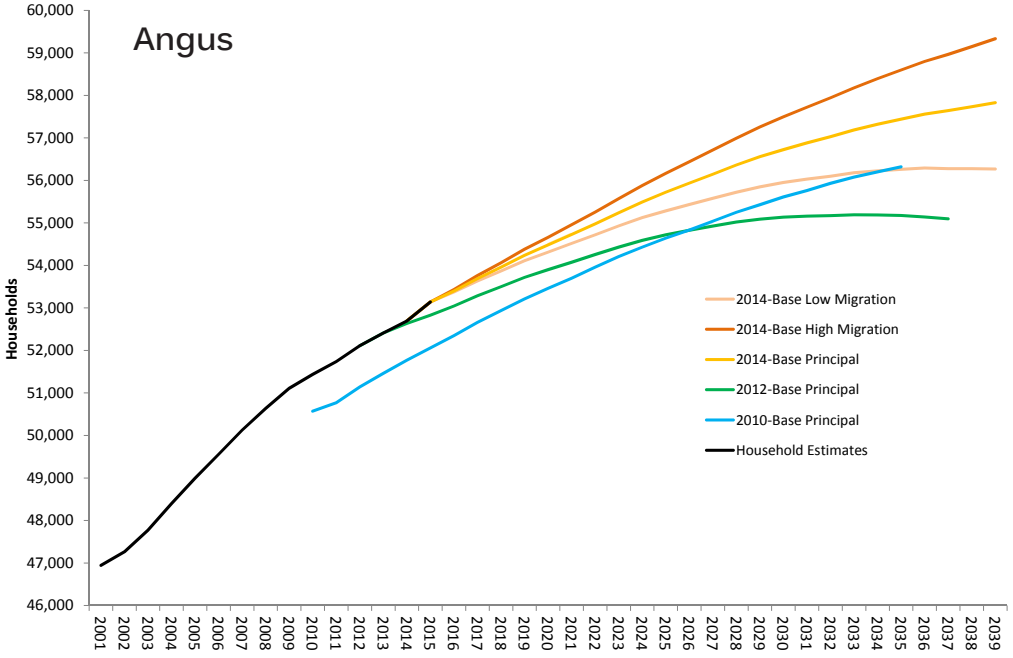
The 2010-based projections anticipated moderate household growth for Dundee City by the mid 2030s. However, the subsequent 2012-based projections anticipated a significantly higher growth trajectory. This was driven by the 2012-based population projections that anticipated around 15,000 more people by the mid 2030s, driven by higher levels of migration.

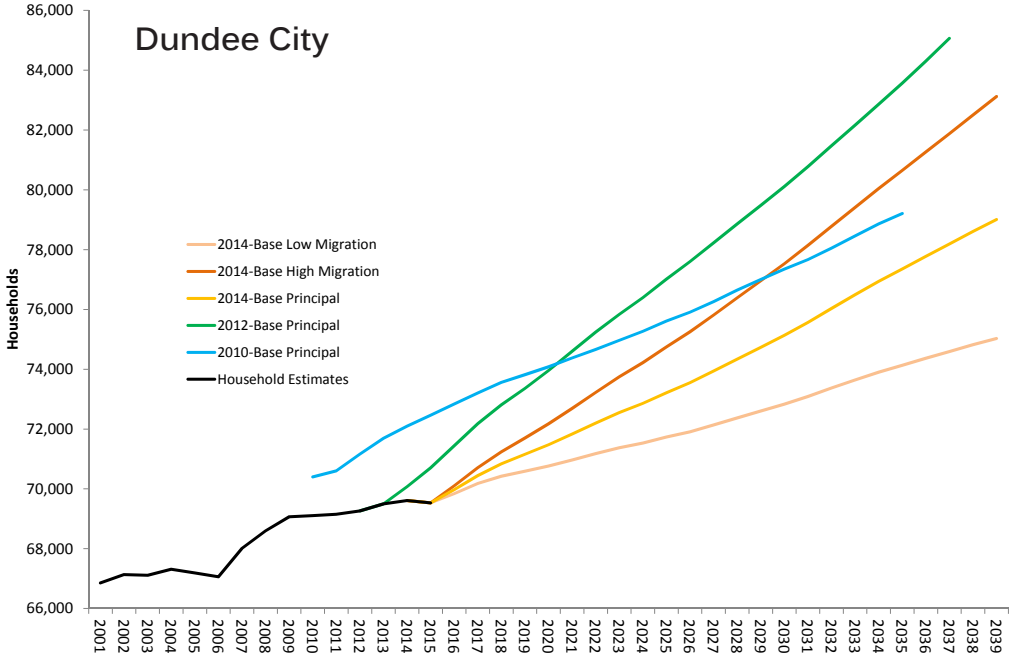
However, the more recent 2014-based projections now anticipate the Dundee City household growth to be more muted reaching similar levels to those in the 2010-based projections by the late 2030s.

The changes to the household estimates suggest a lower base in 2014. This suggests a slightly higher magnitude of change between 2014 and 2039 compared with the equivalent changes in the 2010-based projections.

The number of households in Dundee City is anticipated to grow by almost 9,400 or 13.5% between 2014 and 2039.

Graphs 25: Comparing projected household growth for the 2014, 2012 and 2010-based projections...





Source: National Records of Scotland 2014-based, 2012-based and 2010-based population projections and the 2001 to 2014 mid year population estimates

North Fife

Although consistently forcast for growth in the number of households the trajectory has fallen for all three 2014-based projection variants when compared with the 2012-base and 2010-base.

This is partly driven by lower trajectories of projected population growth than forecast for the equivalent 2010-based and 2012-based projections. The 2014-based projections now anticipate growth of 2,438 households or 7.7% between 2014 and 2039.

Perth & Kinross

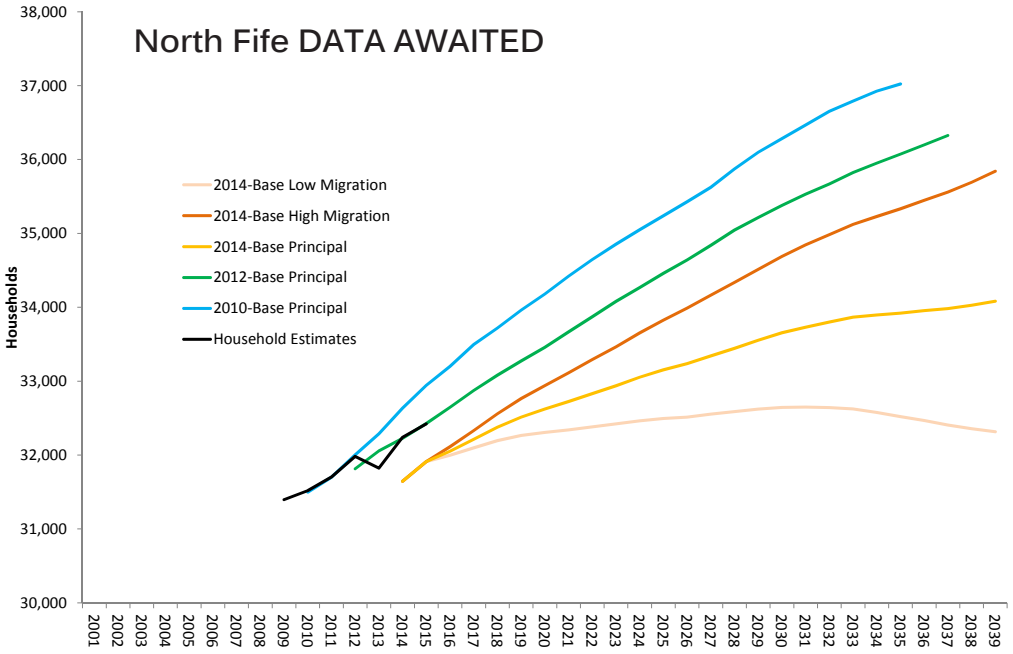
Although consistently forcast to grow the trajectory of household growth has fallen in both the 2012-based and 2014-based projections compared with the 2010-base.

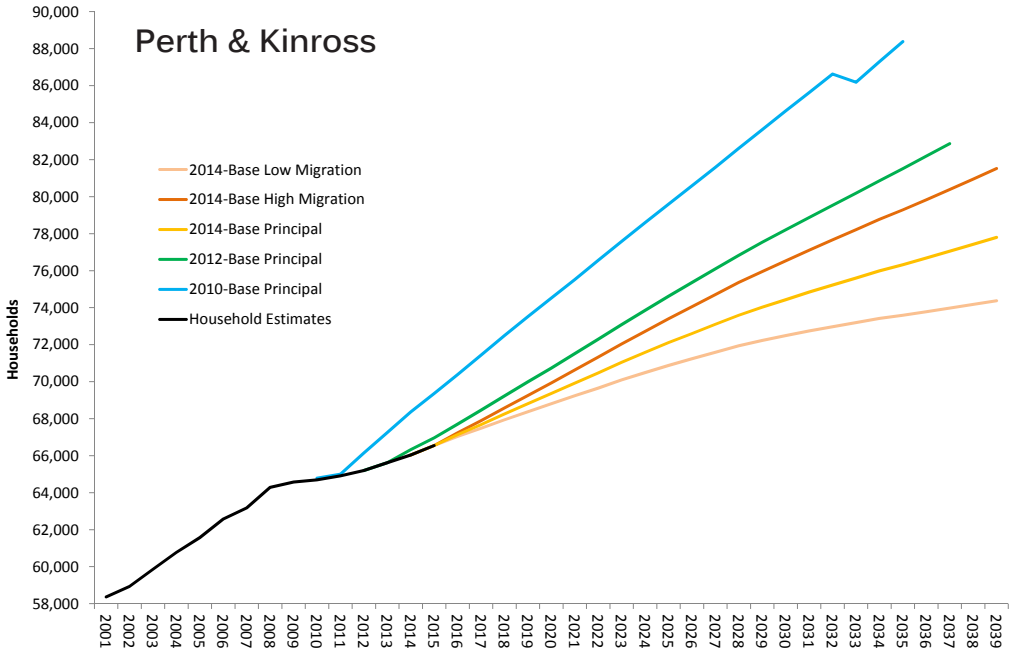
This is driven by the 2014-based population projections that anticipate growth of around 30,000 people fewer for Perth & Kinross compared with the 2010-based projections. Although growth continues to be forecast this is a significant change in the trajectory and the scale of change.

This change is likely to have been driven by post economic-boom trends, increasing accuracy following the 2011 Census, and, the more recent changes in the way migration is projected. These points are all siginificant because growth in Perth & Kinross has been strongly driven by migration.

The 2014-based projections now anticipate that the number of households in Perth & Kinross is expected to grow by 11,759 households or 17.8% between 2014 and 2039.

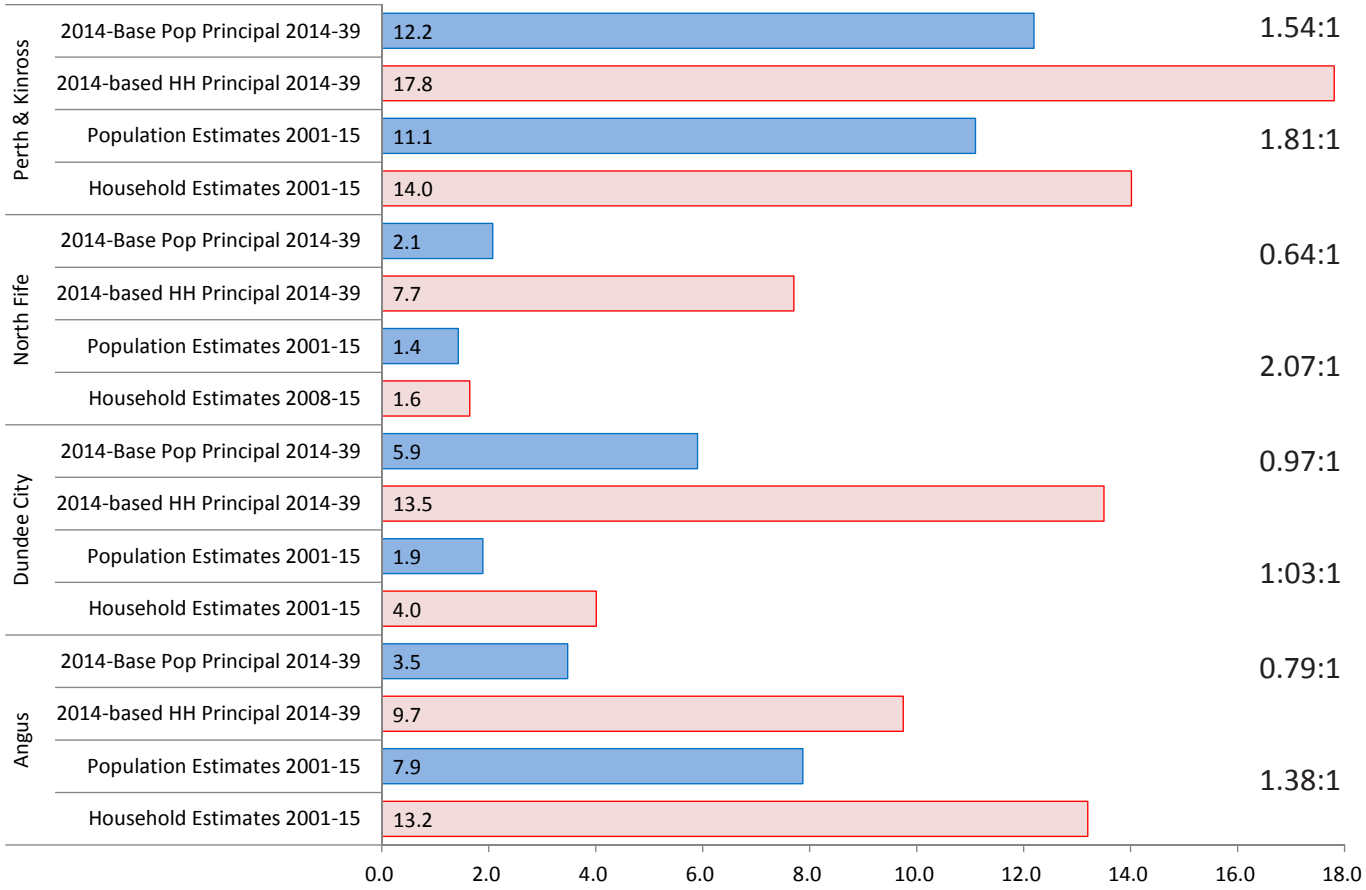
Graphs 25: Comparing projected household growth for the 2014, 2012 and 2010-based projections...





Source: National Records of Scotland 2014-based, 2012-based and 2010-based population projections and the 2001 to 2014 mid year population estimates

Graph 26: Comparing the ratios of recent and projected population and household growth (2001 to 2015 vs 2014 to 2039)



Source: National Records of Scotland

As mentioned earlier a growing population may not always result in a growing number of households.

Graph 26 (left) compares the percentage change in both population and households that took place between 2001 and 2015 (2009-15 for North Fife households). It also compares the equivalent projected changes for the period 2014-39 based on the 2014-based population and household projections.

There are two ratios of population to household change; one for recent changes (2001-15) and one for projected changes (2014-39).

These ratios show population:households.

In all cases these show the projected population to result in a smaller ratio. For example in Angus the Population:Households ratio based on estimates from 2001 to 2015 shows that for every population increase of 1.38 people there was an increase of 1 household. However, the 2014-based population and household projections suggest that between 2014 and 2039; for every 0.79 people there will be an increase of 1 household.

In other words the rate of household change is projected to increase at a greater rate than population, compared with the recent past.

This could be the consequence of people living longer and spending more of their lives in smaller households.

Changing Household Size

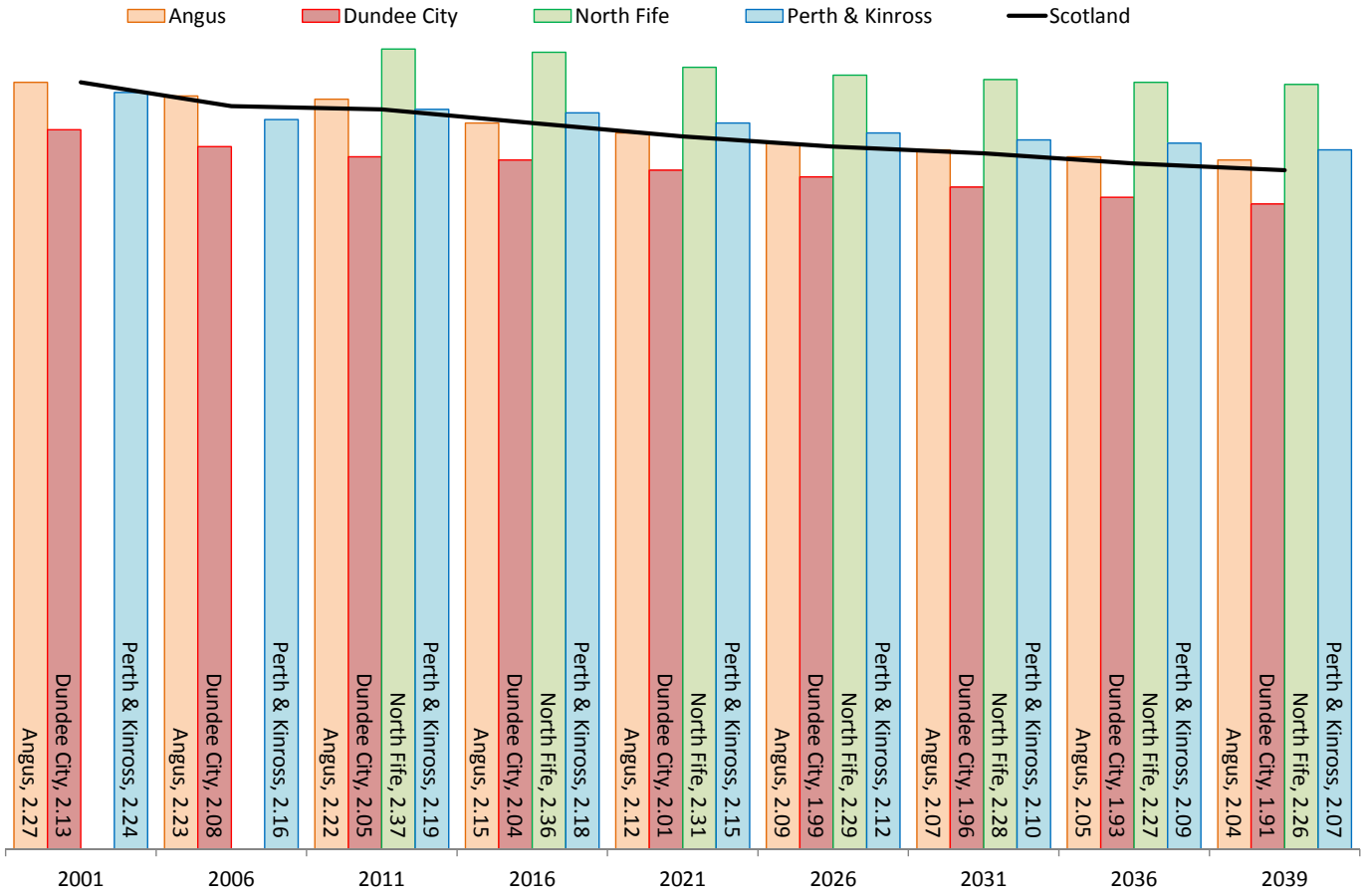
Graph 27 (right) considers recent and anticipated changes in households size over 5 year time periods from 2001 to 2039 (2011 for North Fife). The period 2001, 2006 and 2011 figures are based on mid year household estimates. The 2016, 2021, 2026, 2031, 2036 and 2039 figures are taken from the 2014-based household projections.

There has been a fall in the average household size and this is projected to continue to 2039. This reflects a more general trend across Scotland. The drivers of this trend vary but as people live longer and have children later they spend an increasing share of their lives in smaller households.

Dundee City has the smallest average household size and this is consistently below the Scottish average. For Angus average household size fluctuates around the Scottish average. Perth & Kinross see average household sizes that are almost consistently higher than the Scottish average. North Fife has the largest average household size, which is consistently higher than the Scottish average. One plausible explanation for this is the influence of the disproportionately significant concentration of students living in groups in St Andrews.

More detailed examination of household composition (pages 78 to 84) offers some explanation for these trends.

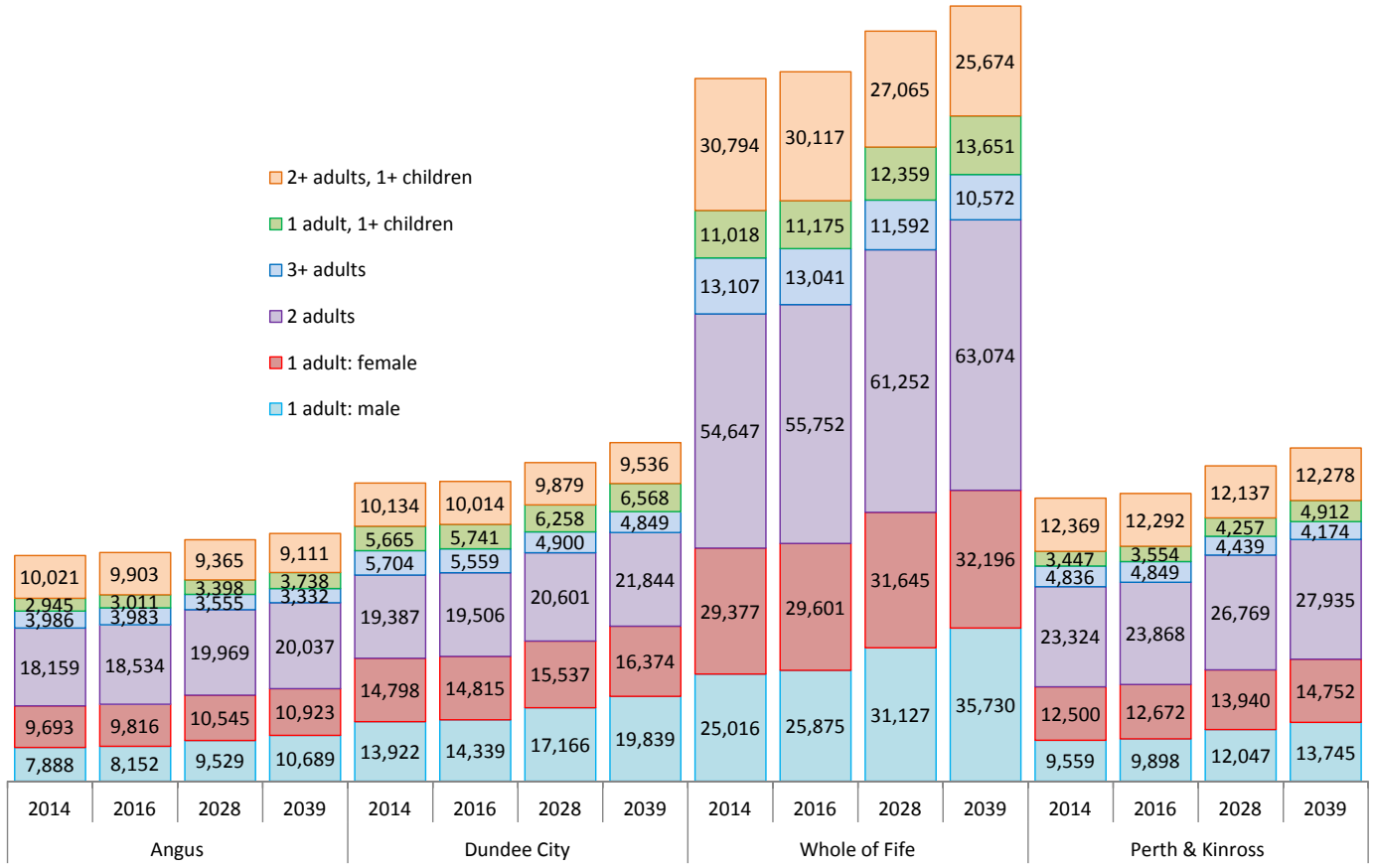
Graph 27: Recent and projected changes in average household size (2001 to 2039) for Scotland and council areas covered by TAYplan



Source: National Records of Scotland Mid Year Household Estimates and 2014-based household projections

Changing Household Composition

Graph 28: Recent and projected changes in household age structure for council areas covered by TAYplan (2014 to 2039)



Source: National Records of Scotland 2014-based household projections

Household composition tells us about who lives in a household and gives an indication of household size. Graph 28 (left) illustrates projected changes in household composition.

In all four council areas the vast majority of households are made up of adults only. A comparatively small share are households that include children aged 0-15.

The numbers of single adult and 2 adult households with no children are expected to increase. The number of single adult male households is projected to almost reach or overtake the number of single adult female households by 2039.

The number of households of 3+ adults are expected to fall in all four council areas. So too are the number of 2+ adult with 1+ children households, although for Perth & Kinross these are projected to grow alittle between 2028 and 2039.

The number of households with 1 adult and 1+ children is projected to increase in all four council areas.

Overall this suggests that the ageing of the population is likely to be one of the dominant factors influencing both household growth and, specifically, growth in smaller households.

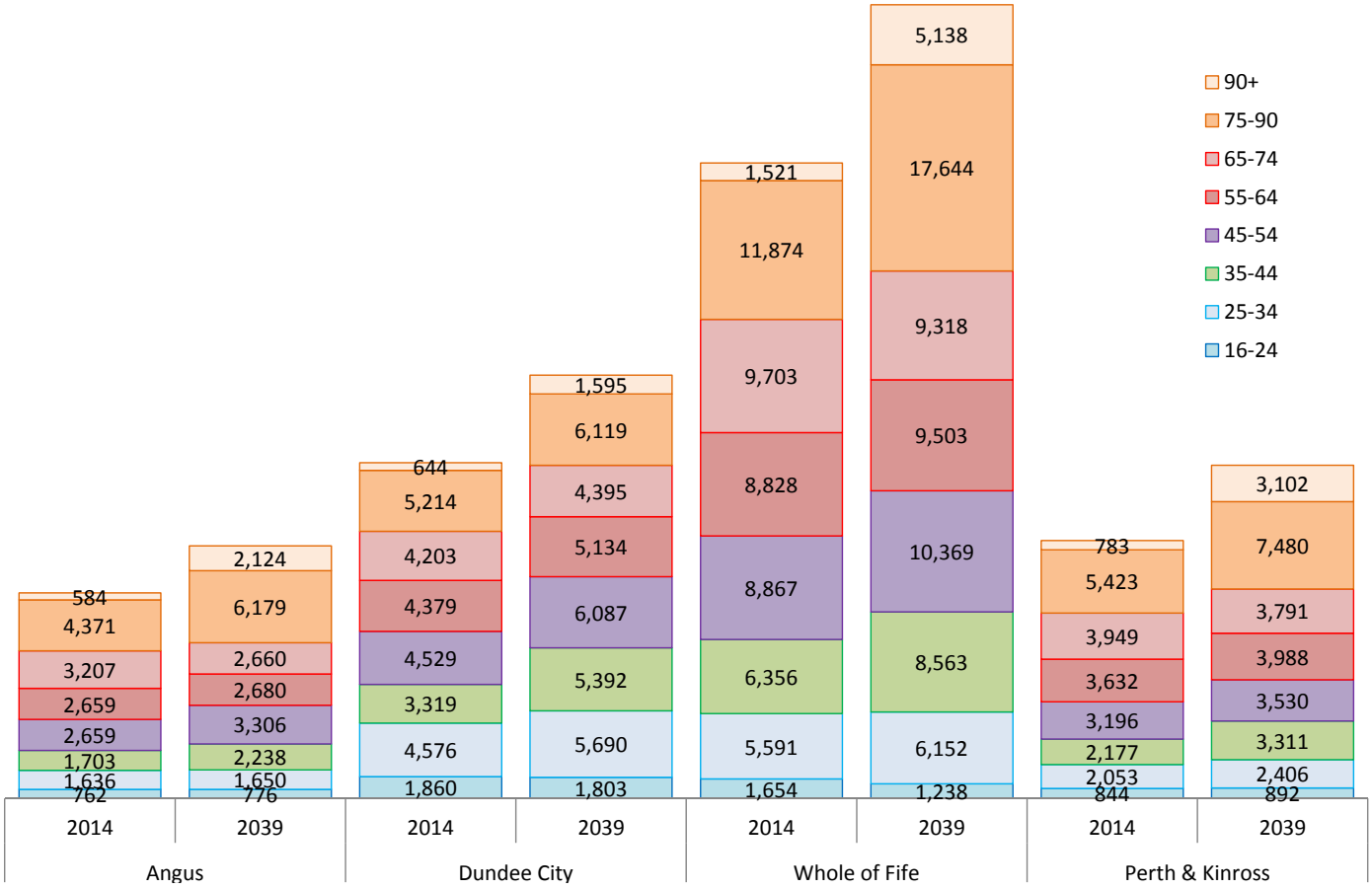
Single Adult Households

Graph 29 (right) shows projected changes in the age structure of single adult households between 2014 and 2039.

All four council areas are projected to see growth in the numbers of single adult households.

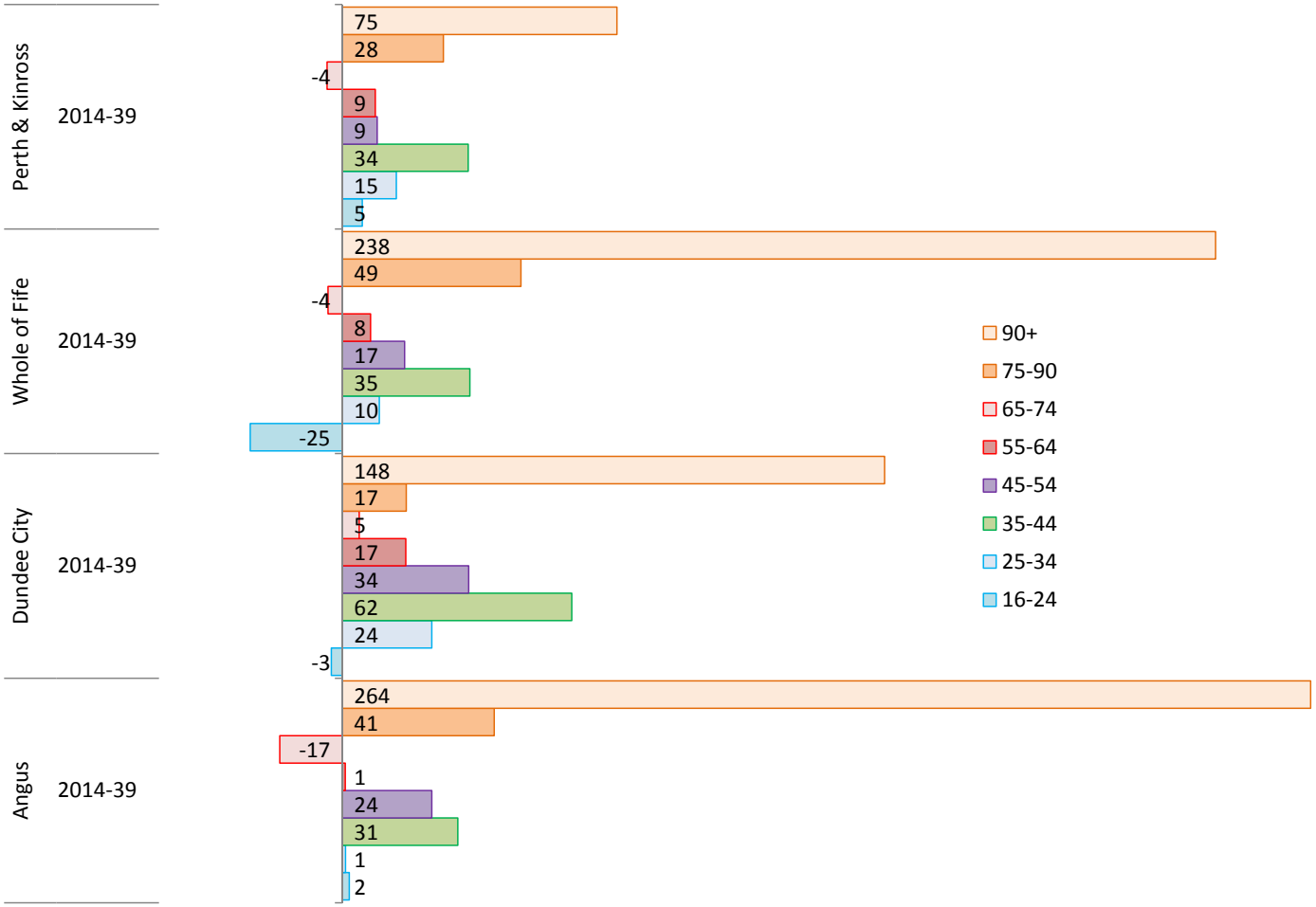
The majority of single adult households, for all four council areas, are amongst the older age groups and this is projected to become more accentuated.

Graph 29: Changes in single adult households by Age (2014-39)



Source: National Records of Scotland

Graph 30: Percentage changes in single adult households by Age (2014-39)



Source: National Records of Scotland

Graph 30 (left) illustrated similar information but highlights the scale of change for each of the age groups.

The highest percentage changes in single adult households are projected amonst those aged 75-90 and 90+. These projected increases are almost certaintly the consequence of people living longer and possibly the variations in male and female life expectancy.

Similarly there are also notable projected increases amongst those aged 35 to 44. This could reflect projected assumptions about divorce or relationship breakdown. This may also be partly reflected in the projected increase in the number of single adult with 1+ children households (see page 77).

There is anticipated to be a fall in the number of single adult households amongst those aged 65-74 in Perth & Kinross, Angus and the Whole of Fife. It is plausible that this may also reflect longer life expectancy.

A fall is also projected in the number of single adult households for those aged 16-25 for Dundee City and Whole of Fife. The drivers for this are unclear although it is plausible that housing costs and choices further education choices (which may include larger households) may have some influence.

Households with children

Graph 31 (right) shows the number of households with children. This includes all single adult and multi-adult households where there are one or more children (aged 0-15).

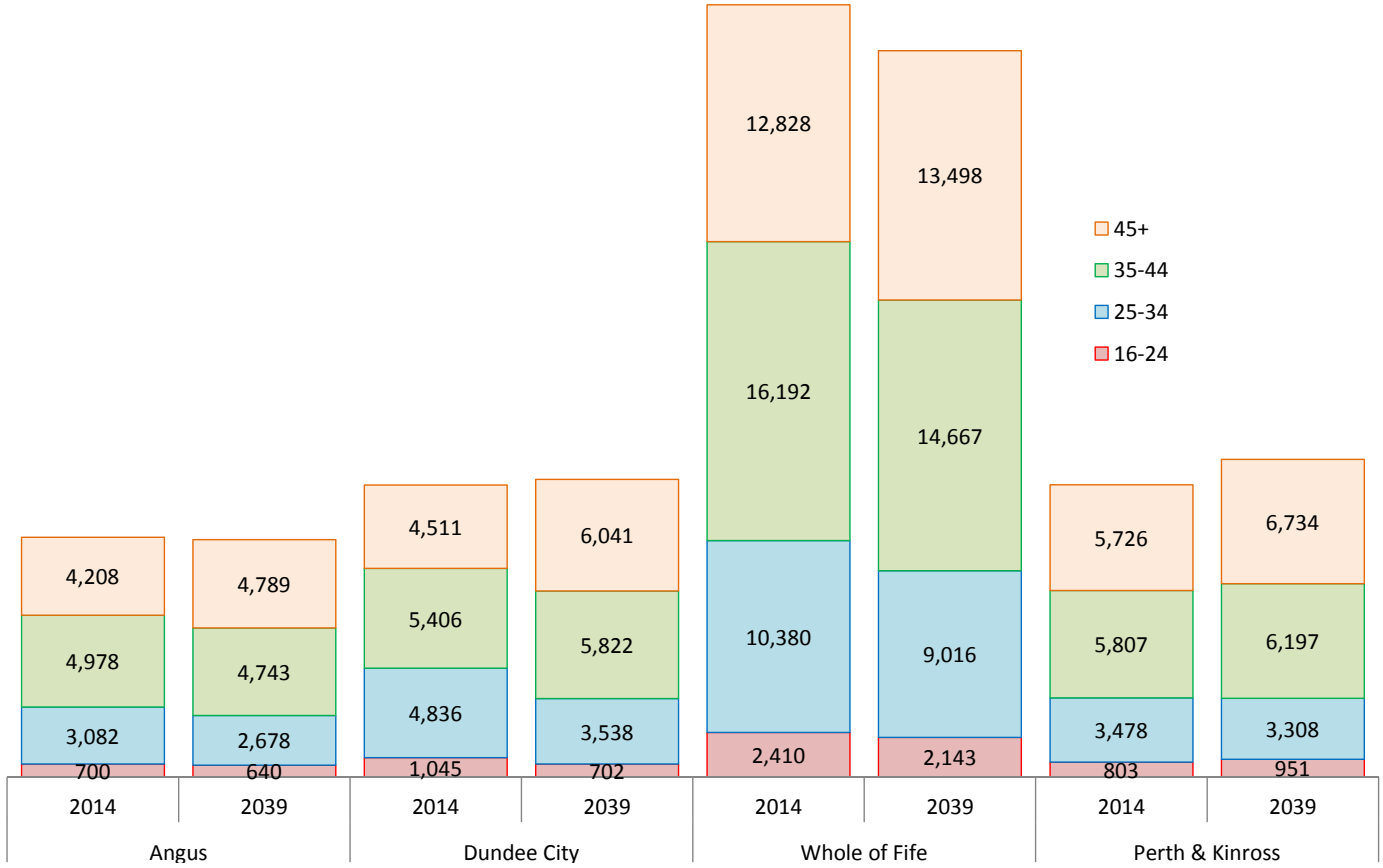
It is perhaps unsurprising that the number of households aged 16-24 where there are children is comparatively small. This reflects broader societal trends where people have children later in life, perhaps as a result of increasing number of people attending university.

Similarly the largest numbers of households with children are those aged 35-44 and 45+. Again if children are more likely to be born to mothers aged between 25 and 35 it is unsurprising that households aged 35-45+ tend to be the most prevalent for children aged 0-15.

Overall there is a mixed picture for projected change. In Perth & Kinross and Dundee City the total number of households with children is expected to rise. In Angus and Fife it is expected to fall.

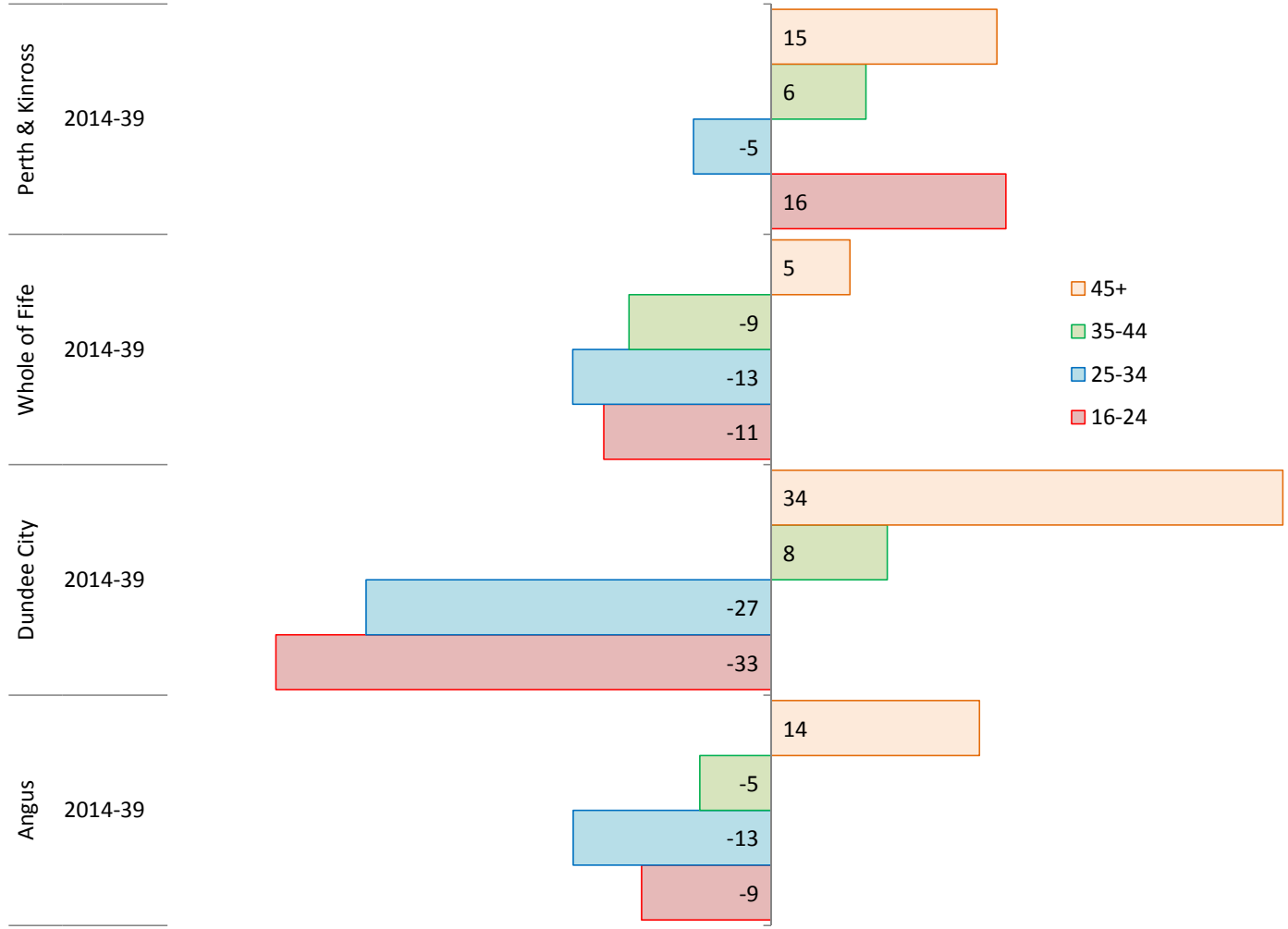
Graph 28 (page 77) shows that single parent households with children are projected to increase and households with more than one adult and children are projected to decrease.

Graph 31: Changes in households with children (2014-39)



Source: National Records of Scotland

Graph 32: Percentage changes in households with children by Age (2014-39)



Source: National Records of Scotland

Graph 32 (left) shows the percentage change in the number of households with children based on the 2014-based household projections (2014-39) for each age category.

All council area are projected to see growth in the number of households with children (aged 0-15) in the 45+ category. This may reflect a societal trend where people have children later.

Only Perth & Kinross and Dundee City are projected to see an increase in the number of households with children in the 35-44 age groups. These reinforce the existing trend. For Angus and Fife the number of households aged 35-44 with children is expected to fall.

All councils are projected to see a fall in the numbers of households (aged 16-24 and 25-34) with children. This could also reflect changing societal dynamics where education and career choices mean that people have children later.

The exception is Perth & Kinross where a 16% increase in households aged 16-24 with children is projected. However, the numeric difference is comparatively small.

Overall this suggests that the two most populous council areas, with the two largest settlements, are likely to see increase in the number of households with children. Households with children are also projected to age.

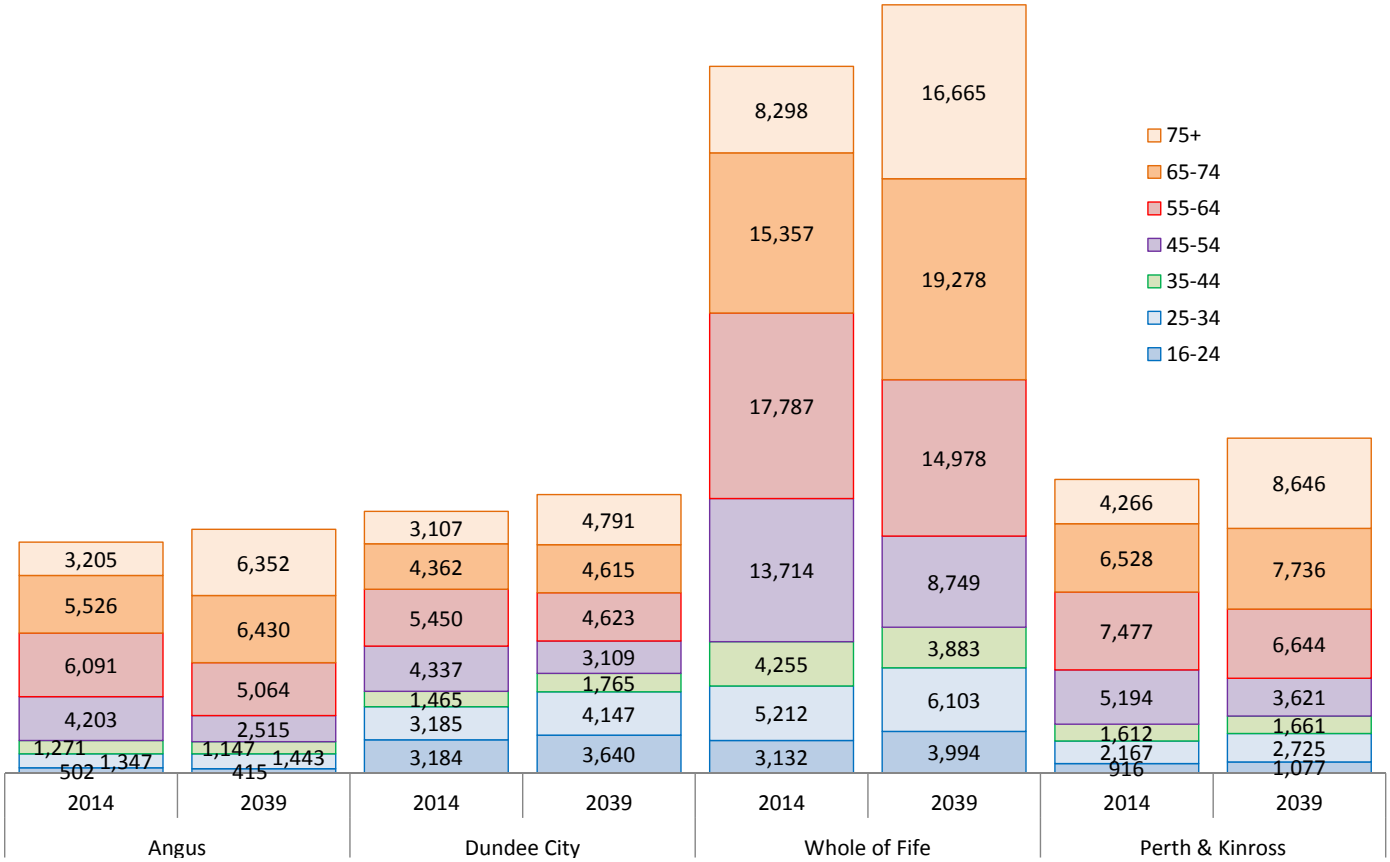
Multi-adult Households

Multi-adult households are those households which comprise only adults and where there are more than one adult.

Graph 33 (right) shows that multi adult households are projected to increase in all four council areas to varying extents. The majority of multi-adult households are amongst the 55+ age groups.

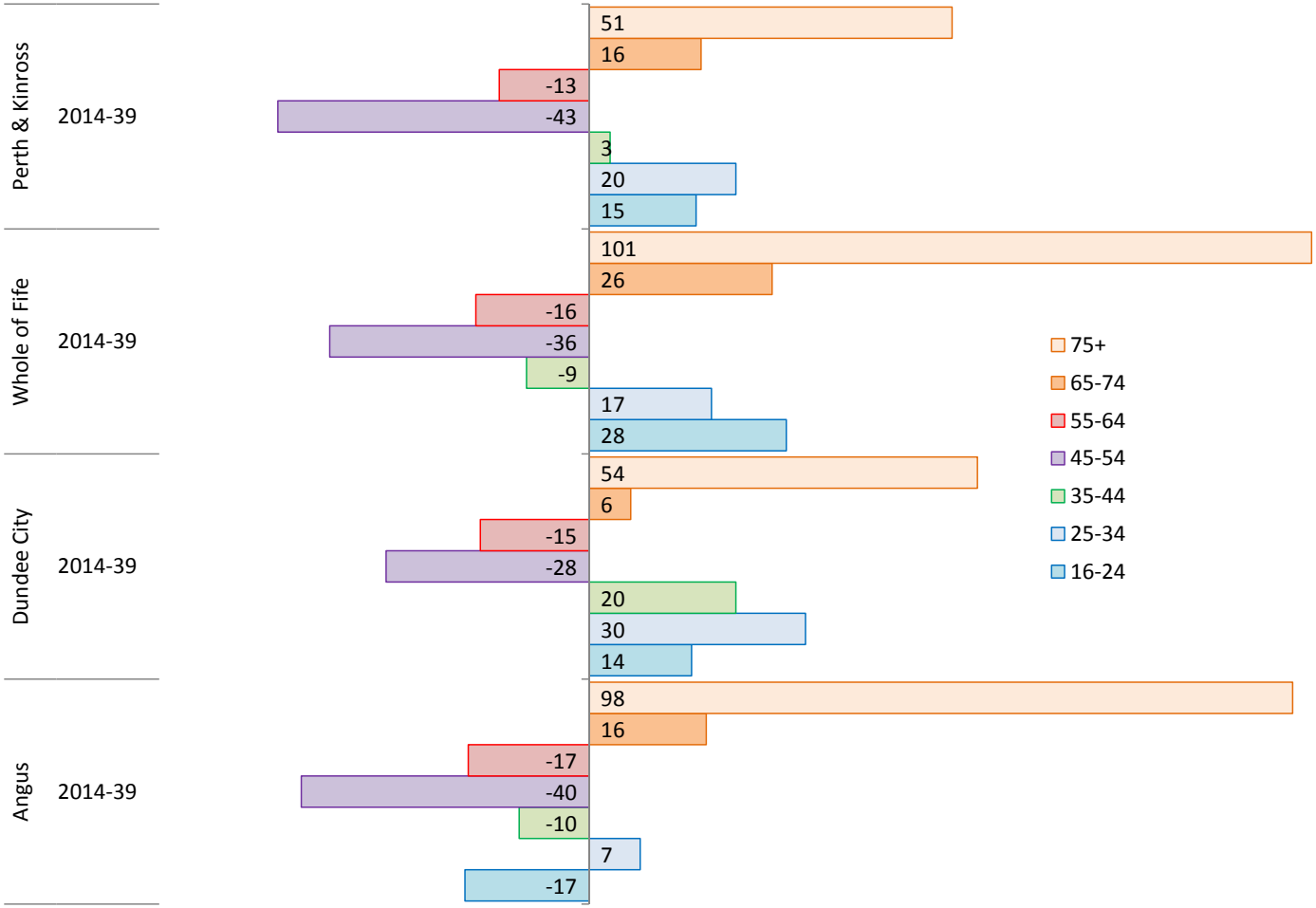
Graph 28 (page 77) shows that the number of households with 2 adults are projected to increase but those with more than 2 adults are projected to decrease.

Graph 33: Changes in multi-adult households (2014-39)



Source: National Records of Scotland

Graph 34: Percentage changes in multi-adult households (2014-39)



Source: National Records of Scotland

Graph 34 (left) shows the percentage change in the number of multi-adult households by age group.

All 4 council areas are projected to see the most significant levels of growth in the 65-74 and 75+ age groups by 2039. This may reflect the broader trends of an ageing society.

All 4 council areas are also projected to see a fall in those aged 45-54 and 55-64 by 2039. It is plausible that this may partly reflect the transition of the baby-boom generation living in multi-adult households into age 65+.

Dundee City, Fife and Perth & Kinross are each projected to see increases in the number of multi-adult households aged 16-24 and 25-34. This may reflect a mixture of issues including students living in homes of multiple occupation, and more couples forming households. This later point is reinforced by Graph 28 (page 77) which shows an increase in 2 adult households and a fall in 3+ adult households. This may also reflect choices to have children later in life.

Angus is projected to see a fall in those multi-adult households aged 16-25 and 35-44. The former could be the result of young people living elsewhere to study at university, amongst other reasons.

The Strategic Development Planning Authority
for Dundee, Perth, Angus and North Fife