GM SPATIAL FRAMEWORK

GREATER MANCHESTER SPATIAL FRAMEWORK

Strategic Options Background Paper 3
Objectively Assessed Housing Need
November 2015

BOLTON MANCHESTER ROCHDALE STOCKPORT TRAFFORD
BURY OLDHAM SALFORD TAMESIDE WIGAN

Executive summary

Background

S1. This report summarises and analyses the main evidence available to inform the identification of the objectively assessed need for housing in Greater Manchester.

Housing market areas

S2. Greater Manchester has very high levels of self-containment, both in terms of migration and commuting. This reflects both its size and the fact that there are large areas of open land separating the conurbation from many of the nearest large settlements. Greater Manchester is also an important administrative unit, for example having its own Combined Authority and Local Enterprise Partnership. On this basis, it provides an appropriate starting point for considering housing requirements.

S3. The complex functioning of housing and labour markets within Greater Manchester means that there is no simple way of subdividing the sub-region into identifiable housing market areas or functional economic areas. Any boundaries would essentially be arbitrary, and risk masking important relationships, as has been seen with the housing market areas that have previously been identified. Given these problems, together with the relatively small distances involved in most migration and commuting, the issues of district identity, and the availability of population and household projection data, it is considered that the most appropriate unit of analysis below the Greater Manchester level is the individual districts. This would be expected to enable a greater level of analysis, taking into account a better understanding of the relationships between different places, than would the combination of districts into larger sub-areas. However, even a district-based analysis could mask significant cross-boundary connections, and it will be important to have regard to the analysis in this report and supplementary data when interpreting assessments of demand and need for individual districts.

Projections and forecasts

S4. It is important to recognise the uncertainty associated with demographic forecasting, which generally increases when looking at smaller geographical areas and longer time periods. Projections and forecasts are only able to provide a broad indication of the direction of travel, and they cannot accurately predict the future with a high level of confidence. An analysis of methodologies and assumptions is important, but ultimately the outputs of any approach need to be realistic and desirable, and simple comparisons with past changes can be informative in this regard.

S5. The Government's Planning Practice Guidance (PPG) states that: "Household projections published by the Department for Communities and Local Government should provide the starting point estimate of overall housing

need" (paragraph 21-015-20140306). However, it also notes that "plan makers may consider sensitivity testing, specific to their local circumstances, based on alternative assumptions in relation to the underlying demographic projections and household formation rates" (paragraph 21-017-20140306).

S6. A series of alternative population scenarios have been modelled using Popgroup software, to inform the development of the Greater Manchester Spatial Framework. These scenarios focus on various alternative assumptions around migration rates, including in some cases making an allowance for the unattributable population change identified in the ONS mid-year estimates for 2001-2011. This does not mean that these alternative assumptions are considered to be appropriate, or more likely to be realised than those underpinning the ONS projections, but instead reflects the need to test the impact of adjusting certain key variables. A further population forecast is provided by the Greater Manchester Forecasting Model (2014 GMFM), which is an integrated economic and demographic model produced by Oxford Economics.

S7. The various population scenarios produce a wide range of population growth outputs for Greater Manchester over the period 2012-2035, from 241,306 to 563,979, which equates to a proportionate increase of between 8.93% and 20.87%. The ONS 2012-based sub-national population projections sit towards the bottom of this range, with a total increase of 327,924 or 12.14%.

S8. In order to enable an appreciation of the implications of using different assumptions around household formation, two approaches have been used for translating each of the Popgroup population scenarios into household forecasts. One applies the household representative rates from the DCLG 2012-based sub-national household projections, and the other assumes a return to the household representative rates in the DCLG 2008-based sub-national household projections. An analysis of the household representative rates from the 2012-based household projections, including by district and by age group, suggests that they should provide a good estimate of future household formation. The 2014 GMFM uses an extrapolation of the household representative rates from the DCLG interim 2011-based sub-national household projections to translate population into households.

S9. These approaches result in a very wide range of household growth scenarios for Greater Manchester over the period 2012-2035, with the Popgroup scenarios ranging from 180,391 to 345,715 households, which equates to a proportionate increase of between 15.85% and 30.37%. The 2014 GMFM gives a much lower growth figure of 138,690 households or 12.20%. The assumption of a gradual return to the 2008-based household representative rates results in household growth around 1,700-2,000 per annum higher than is the case when applying the 2012-based household representative rates throughout the projection period for the same population. This highlights the significant impacts that changing trends in household formation can have on total household growth.

S10. Each of the household forecasts for 2012-2035 has been translated into a number of dwellings by using the household:dwelling ratios for each district from the 2011 Census. By deducting the recorded net completions for 2012-2014 from the total dwelling figures for 2012-2035, a residual dwelling figure for 2014-2035 can be calculated for each scenario. The various Popgroup scenarios lead to housing growth figures for Greater Manchester over the period 2014-2035 ranging from 179,037 to 351,100, which equates to an average of between 8,526 and 16,719 per annum. The 2014 GMFM gives a lower dwelling increase of 133,542, or 6,359 per annum, whereas the DCLG 2012-based household projections give a figure of 213,355, or 10,160 per annum.

S11. The net increase in dwellings in Greater Manchester over the period 2004-2014 averaged 7,395 per annum, which is lower than would be seen under all of the Popgroup scenarios, including that required to deliver the DCLG 2012-based household projections. There was an average increase of 9,138 occupied dwellings per annum over the period 2005-2014, accommodated by a reduction in the number of existing vacant dwellings as well as the increased supply of dwellings. If the same proportionate annual rate of increase in occupied dwellings was seen over the period 2014-2035, holding the vacancy rate steady, then Greater Manchester would need to provide an average of 10,728 dwellings per annum.

Market signals

S12. Overall, there is little evidence from the market signals that there has been a housing supply shortage across Greater Manchester as a whole that has constrained household growth. For example, the data indicates that higher house prices have driven higher levels of development, and a drop in house prices since 2007/8 has led to a reduction in development activity, rather than reduced dwelling completions leading to house price inflation as might be expected if housing demand was not being met.

S13. When looking at individual districts, Trafford and Stockport appear to consistently perform amongst the ‘worst’ on several measures such as house prices, private rents, increases in house prices and private rents, affordability ratios and dwelling completions, but they have relatively low numbers on their housing waiting lists. Trafford has also been the only district in Greater Manchester to see recent house price increases at the same time as net housing completions have been comparatively low. However, it is questionable whether these market signals are actually an indication of a mismatch in supply and demand that requires an uplift in housing numbers compared to projected levels which would improve affordability, particularly as the recent house prices rises in Trafford are modest and do not exceed what might be expected in a properly functioning market. Trafford and Stockport form part of a much larger area extending across north Cheshire that shares many of the same characteristics, and this high value area may inherently perform differently due to the housing stock being perceived to have an investment value at a time when other opportunities for capital growth are limited. The varying pattern of house price change may also reflect the

constrained finances of low- and medium-income households over recent years, whereas those on higher incomes and/or with greater assets have maintained the ability to invest large amounts in residential property.

S14. Some of the market signals data could suggest that housing demand is lower in the northern parts of Greater Manchester, particularly Rochdale and Oldham. Low dwelling completions do not appear to have led to any worsening of market signals in these districts, but this may partly be a result of increasing pressures on low incomes making any significant house price inflation unrealistic. This potentially raises the challenge of how demand can be increased in such areas, so that they continue to secure investment over the long-term, and are able to attract a wider range of households.

S15. At this stage it is considered that there is insufficient evidence to justify an uplift in the housing requirements of any districts in Greater Manchester compared to their projected/forecast need. The Government's Planning Practice Guidance states that: "A worsening trend in any of these indicators will require upward adjustment to planned housing numbers compared to ones based solely on household projections" (paragraph 2a-020-20140306), but it is questionable whether any of the indicators have been 'worsening' over the last few years when compared to how a well-functioning housing market would be expected to perform, for example in terms of modest annual increases in house prices and private rents. The recession has clearly had a major impact, and could be considered to distort some of the figures, as does the housing 'bubble' that preceded it. It will therefore be important to continue to monitor carefully all of the various indicators.

Labour supply

S16. Four economic forecasts have been produced by Oxford Economics, covering the full range of population growth scenarios. The forecast increase in the resident employment rate in each scenario would appear to be realistic and achievable, provided that appropriate measures are put in place to support increased labour market participation. The anticipated levels of commuting would also seem to be realistic, with little implication for surrounding districts. Consequently, the population increase in each scenario would be sufficient to provide the labour supply required to support economic growth, whether that is in baseline conditions or under accelerated levels of growth.

Age distribution of migrants

S17. Overall, migration flows to and from Greater Manchester, both internal and international, are dominated by those in their late teens, twenties and early thirties. A comparison with Greater London suggests that the age distribution of net migration for Greater Manchester is typical of what might be expected for a successful conurbation, but there may be potential to attract and retain more people in their early 20s.

Affordable housing need

S18. Given the uncertainties associated with recent government announcements on issues such as social rents and starter homes, it is not considered appropriate to apply any uplift to the objectively assessed need for housing in an effort to increase the supply of affordable housing. If it is no longer possible to require the provision of affordable housing in the form of homes for social rent, affordable rent and/or shared ownership, and developers instead have the option of providing starter homes, then increasing the overall housing requirement would offer no guarantee that additional homes able to meet the identified affordable needs would be provided. This approach will be kept under review as more information is made available on recent government announcements and the implementation of the starter homes proposals becomes clearer.

Objectively assessed housing need

S19. It is concluded that the scenario referred to as scenario 8A in the report is the most appropriate household forecast to feed into the calculation of the objectively assessed housing need for Greater Manchester and its individual districts. This scenario is primarily based on the 2012-based sub-national population and household projections, produced by ONS and DCLG respectively, but, taking into account the higher than projected levels of net international migration into the UK over the last few years, it assumes that international migration to Greater Manchester will be higher than projected by ONS up to the year 2023. Once net dwelling additions over the period 2012-2014 have been take into account, this scenario would suggest a net housing requirement for Greater Manchester of approximately 10,350 dwellings per annum over the period 2014-2035, leading to a total increase of 217,350 dwellings. This equates to an 18.4% increase in the total number of dwellings.

S20. Given that the analysis of market signals suggests that there is insufficient evidence to justify any uplift in the housing requirement, it is therefore concluded that **the objectively assessed housing need for Greater Manchester over the period 2014-2035 is 217,350 net additional dwellings, which is an average of 10,350 net additional dwellings per annum. This equates to an average rate of dwelling increase of 0.81% per annum**.

S21. This level of housing growth would appear to be quite high historically, supporting a similar rate of household growth to that seen over the period 2001-2011, which was last exceeded in 1931-1951. It represents a significant uplift compared to the 0.70% increase in dwellings over the period 2002-2012, which was itself high compared to the previous few decades.

S22. In the longer term, consideration will need to be given to whether it is realistic or desirable to maintain this growth rate in the number of dwellings. If the number of dwellings in Greater Manchester continued to increase at a rate of 0.81% per annum beyond 2035 then there would be one-third more dwellings than in 2014 by 2050, 50% more by 2065, and double by the end of the century.

Type of housing

S23. More than two-thirds of the projected household growth in Greater Manchester over the period 2012-2035 is expected to consist of single person households, and the proportion exceeds 55% in every individual district. Although some one or two person households will want or require larger dwellings, the greatest increase in demand is likely to be for smaller dwellings rather than for what might be termed 'family' dwellings. This will have implications both for the type and location of new housing that needs to be brought forward in Greater Manchester.

S24. Further analysis will be undertaken once more detailed household type data is available from the latest DCLG projections, and this will form part of a more comprehensive discussion relating to the type and tenure of housing required in Greater Manchester.

Supply capacity

S25. The ten local authorities in Greater Manchester have provided data on their estimated housing land supply for the period 2014-2035, in terms of the number of dwellings on specific sites, which totals 152,784 net additional dwellings. This figure is likely to be an underestimate of total capacity as it makes no allowance for development on other sites not specifically identified, especially small sites falling below a size threshold used in collecting the data, and the fact that increasing densities are being seen on some sites as market conditions improve.

S26. The current identified housing land supply for Greater Manchester represents a shortfall of around 64,550 dwellings compared to the objectively assessed need identified above. Taking into account the forecast growth in single person households, this supply gap is likely to largely relate to smaller dwellings.

S27. There are essentially two ways in which the supply could be increased: make better use of sites already identified as being suitable for housing, by securing higher densities; and identify additional sites for housing development. Key issues for identifying additional sites include: supporting regeneration, accessibility, location relative to employment opportunities, broad distribution of growth, creating sustainable communities, and environmental constraints.

Identifying district housing requirements

S28. The availability of sustainable and deliverable sites will determine whether it is appropriate to meet the identified objectively assessed housing need, both in terms of individual districts and Greater Manchester as a whole. If the only way of meeting the objectively assessed need conflicted with key policies in the National Planning Policy Framework (NPPF), then a decision would need to be made as to whether the benefits of providing the additional housing

outweighed the conflict with the NPPF. Given the supply shortage in relation to the objectively assessed housing need, it is probable that the identified need could only be met by releasing some Green Belt land within Greater Manchester.

S29. It may be appropriate to seek to 'redistribute' housing requirements between districts within Greater Manchester, compared with the location of forecast household growth. Depending on the location of suitable housing sites, this may be the only way of ensuring that the supply of housing land is consistent with the NPPF. The redistribution of housing requirements may also help to support the overall strategy in the Greater Manchester Spatial Framework, for example in terms of providing a better relationship between the location of new homes and employment opportunities, minimising the need to travel, and maximising the opportunities for people to walk, cycle and use public transport.

S30. Whatever approach is taken to the proposed scale and distribution of new housing across Greater Manchester, it must be deliverable. Over recent decades, the private sector has not filled the perceived gap in housing supply at the national level, even when there have been favourable economic conditions. Consequently, new mechanisms may be required for delivering new housing and the associated infrastructure required to support it, complementing the business model that private sector developers currently employ. Given the level of infrastructure investment that may be required to support development in some locations, this may require methods of capturing land values that are not currently used in Greater Manchester, such as those similar to New Town powers.

1. Background

1.1 The National Planning Policy Framework states that "local planning authorities should use their evidence base to ensure that their Local Plan meets the full, objectively assessed needs for market and affordable housing in the housing market area, as far as is consistent with the policies set out in this Framework, including identifying key sites which are critical to the delivery of the housing strategy over the plan period"[1].

1.2 It is intended that the Greater Manchester Spatial Framework (GMSF) will identify the housing requirement for each district in Greater Manchester, informed by the objectively assessed housing need.

1.3 The Government's Planning Practice Guidance (PPG) sets out in more detail how the objectively assessed need for housing should be identified. It essentially identifies four stages to the process:

1) Identify the housing market area
2) Estimate overall housing need using household projections, adjusted where appropriate
3) Take into account market signals, which may require an upward adjustment to planned housing numbers
4) Take into account employment trends

1.4 These stages are discussed in turn in this report. Consideration is also given to the existing identified housing land supply, potential ways of increasing it, and issues to be taken into account when translating objectively assessed need into district housing requirements.

1.5 A range of population and household projections and forecasts are considered, testing a variety of assumptions in terms of migration rates and levels of household formation. These scenarios give a range of average per annum net dwelling figures for Greater Manchester over the period 2014-2035 ranging from 6,359 to 16,719. It is concluded that the objectively assessed need for housing in Greater Manchester over the period 2014-2035 is 217,312 net additional dwellings, which equates to an average of 10,348 per annum.

1.6 A separate report is being published on the need for sites for gypsies, travellers and travelling showpeople.

[1] Department for Communities and Local Government (March 2012) *National Planning Policy Framework*, paragraph 47

2. Housing market areas

2.1 A separate report has been produced which considers the appropriate area of assessment both for housing and for employment floorspace. The summary from that report is reproduced below.

Migration and housing market areas

2.2 A wide range of factors influence decisions regarding migration and the precise location of where to live, including:

- Availability of suitable housing
- Price
- Location of family
- Location of friends
- Cultural communities
- Education of children
- Commuting times/routes to work
- Access to shops, facilities, etc
- Lifestyle
- Identity and familiarity
- Environmental quality
- Crime levels

2.3 The relative importance of these factors can vary significantly between different households, and some may generally be more important for particular household types and age groups than others.

2.4 The use of migration data in the identification of housing market areas tends to focus on determining when self-containment levels reach a particular threshold, such as 70% as referred to in the Planning Practice Guidance. Migration data for Greater Manchester from the 2011 Census suggests that previous definitions of housing market areas from the regional and sub-regional housing market assessments of 2008 represent a gross over-simplification of the way in which the housing market functions within Greater Manchester. The notion of largely self-contained housing markets may make sense in some parts of the country, but in a large, integrated conurbation such as Greater Manchester it does not appear to offer an appropriate or helpful description of reality. Data from the last two censuses indicates that self-containment levels are decreasing, suggesting housing markets are gradually becoming more and more integrated.

2.5 In practice, most migration is over a relatively short distance. This is likely to be due to the relative importance of some of the above factors relating to family, friends, and familiarity with an area. Generally, moves to and from individual places occur in all directions, irrespective of any identified housing market area boundaries. Each neighbourhood is effectively at the centre of its own housing market area, with such areas collectively forming a series of overlapping markets that cover the whole of Greater Manchester. Some areas

may face more towards one direction than another, and this will often be a function of geographical factors such as the proximity to other neighbourhoods, the quality of transport connections, and the location of the nearest major employment, retail and/or leisure destination. The directions of the most important links may vary depending on whether the source or destination of migration is being considered, as different locations perform different functions within the wider market. For example, the city centre area draws in people from a very wide catchment, extending well beyond Greater Manchester, and then out-migration is to a less extensive though still significant area, with a moderate bias towards the south. In contrast, some of the areas with higher house prices attract people from surrounding areas, irrespective of prevailing house prices within them, but then see outward moves over a wider area with a greater emphasis on locations with similar characteristics. Although there are exceptions, generally, proximity appears to be far more important than price in terms of an influence on the level of migration between areas.

2.6 Overall, Greater Manchester as a whole has a very high level of self-containment, both in terms of the proportion of people moving from an address in Greater Manchester who remain within the sub-region, and the proportion of people moving to an address in Greater Manchester who already lived within the sub-region, exceeding 80% on both measures (as a proportion of all their moves within England and Wales). The most important external migration flows for each district in Greater Manchester are generally with their immediately adjoining districts that also lie within Greater Manchester, and links to adjoining districts outside the sub-region are usually more limited. However, individual settlements outside Greater Manchester that are located very close to its border, particularly where they lie on a key transport connection such as a railway, can have quite strong links to adjoining districts within the sub-region. Some nearby parts of Cheshire East, High Peak and Rossendale may partly have a role as locations to which Greater Manchester residents move, but in all cases there are also quite significant though usually lesser flows in the opposite direction. Some parts of High Peak appear to have a wider catchment within Greater Manchester than might be expected from the general patterns described above, with modest flows from the city centre and south Manchester.

2.7 Data from the censuses and ONS indicates that Manchester and Salford have a quite distinctive role within Greater Manchester. The two cities effectively accounted for all of the net in-migration to Greater Manchester over the period 2002-2012 (over 4,650 people per annum, with the other eight districts collectively seeing net out-migration at over 650 people per annum), due to them seeing very high levels of net international in-migration, although Manchester does have considerable net out-migration to other parts of the country. The role of Manchester and Salford appears to have evolved between the last two censuses, with a major increase in net in-migration, particularly net migration to Manchester from outside Greater Manchester, whereas most other parts of the sub-region have seen a significant increase in net out-migration. Flows between the two cities have also become far more important, more than doubling between 2001 and 2011.

2.8 Manchester and Salford attract more migrants from outside Greater Manchester (but within England and Wales) than any of the other eight districts in the sub-region. Only around one-third of in-migrants to Manchester come from elsewhere in Greater Manchester, demonstrating its ability to attract people from a wide area. The top ten net inflows to Manchester are from other cities in the North and Midlands, reflecting its role and relative importance, and Salford shares some similarities in this regard. Manchester and Salford are the only Greater Manchester districts for which locations within England and Wales outside Greater Manchester make up a higher proportion of the sources of all migrants than they do the proportion of the destination of all migrants, again highlighting their role as entrance points to the sub-region from which there is then some redistribution to other parts of the conurbation.

2.9 The location of the city centre and Salford Quays within Manchester and Salford is likely to be a key factor in explaining this role of the two cities. The two wards covering those areas have a very broad reach, particularly in terms of the source of migrants, drawing people from a very wide catchment and then redistributing them across a broad area of Greater Manchester. The main sources and destinations for the City Centre ward in Manchester appear to have quite a strong southward bias, whereas this is less pronounced for the Ordsall ward covering Salford Quays and the western part of the city centre. Manchester is by far the most important external migration source and destination for several districts within the sub-region, always with net outflows from Manchester, and is particularly significant in the case of Salford, Stockport and Trafford, again suggesting a southward focus to the city's relationships. The outflow rates from Manchester to Salford and Trafford, and the inflow rates from them, are very high relative to the size of the population of those two districts, and are the most significant in Greater Manchester.

2.10 There is other evidence of differences between the northern and southern parts of Greater Manchester, though Bury is often different to other parts of the north of the sub-region. For example, although the previous definitions of housing market areas within Greater Manchester are clearly problematic, it is notable that the two northern areas (North West and North East) have high levels of self-containment, whereas the two southern areas (Central and South) have lower self-containment below the 70% threshold. This picture is further reinforced by the significant flows between the Central and South HMAs, particularly in terms of those moving from the Central HMA to the South HMA. The more northern districts of Bolton, Oldham, Rochdale and Tameside all individually have high levels of self-containment, close to or exceeding 70%, though self-containment is much lower in Bury. The North West and North East HMAs also have a higher proportion of their moves contained within Greater Manchester than the Central and South HMAs. The analysis of ward-level data reinforces this picture, with the clusters of low self-containment generally focused in the south of the conurbation, particularly in terms of the source of migrants, which all indicates that locations in the centre and south quite often have a broader reach than places in the north. Manchester, Stockport and Trafford generally have lower levels of

containment, but this should still be seen within the overall picture of most moves being over relatively short distances. The absolute flows to and from the northern part of Cheshire East are reasonably significant, particularly for Stockport, reflecting the proximity of neighbourhoods. South Trafford has a particularly low level of containment, which may partly be a function of the high house prices. Some of the areas of high self-containment in the north are due to particular concentrations of ethnic groups.

2.11 There is also some evidence of differences between the west and east of Greater Manchester. The four eastern districts of Oldham, Rochdale, Stockport and Tameside collectively saw net out-migration of more than 1,500 people per annum over the period 2002-2012, whereas the four western districts of Bolton, Salford, Trafford and Wigan had net in-migration of more than 2,200 people per annum. Oldham, Rochdale and Tameside have the highest proportion of their migrants coming from within Greater Manchester. Although there are some links with High Peak, the east of Greater Manchester generally has very limited migration connections to its east, particularly to Calderdale and Kirklees. Oldham and Rochdale stand out on some measures, having the highest net out-migration over the period 2002-2012, and the highest self-containment within Greater Manchester, both individually and together.

2.12 In considering housing markets within Greater Manchester, it would therefore seem advisable to avoid seeking to define distinct housing market areas, but instead to focus on the roles of different places and the interactions between them. Although there are some migration links to settlements just outside the sub-region, Greater Manchester generally appears to be an appropriate starting point for analysis, supplemented by assessment of individual districts. The generally short-distance nature of most migration moves will be an important consideration, as will be the apparent increasing integration of housing markets.

2.13 Overall, there appears to be little evidence that differences in house prices are a major determinant of migration patterns. Proximity appears to be the key issue, largely irrespective of whether areas have similar or different average house prices. The primary issue associated with house prices may be that households with lower incomes typically appear to move over shorter distances, which could suggest that their location choices are more limited than those who can afford higher house prices.

Commuting

2.14 Almost 88% of commuters who live in Greater Manchester also work in the sub-region, and more than 85% of commuters who work in Greater Manchester also live in the sub-region. These high levels of commuting self-containment are perhaps unsurprising given the size of the area involved, but suggest that Greater Manchester is reasonably self-sufficient both in terms of the provision of employment opportunities and the supply of labour. Overall, there is net in-commuting to Greater Manchester from the rest of England and

Wales of 28,316, which could be considered very low given that more than 1,000,000 people commute to a location within the sub-region. Greater Manchester is a very important source of jobs for High Peak and Rossendale, accounting for more than 30% of their commuters, but the largest absolute commuting flows are with Cheshire East.

2.15 Manchester, Salford and Trafford all draw in a large number of workers from outside their districts, often from each other, and have net in-commuting and low worker self-containment. Manchester has a dominant role, with very high levels of net in-commuting exceeding 100,000, whereas the levels for Salford and Trafford are much more modest. The other seven Greater Manchester districts have quite significant net out-commuting. Bolton, Oldham and Rochdale appear to have quite localised commuting, with relatively high self-containment both in terms of workers and commuters. Bury, Stockport and Tameside have lower commuter self-containment rates. Wigan is quite distinctive, having the highest worker self-containment in Greater Manchester but low numbers of commuters coming from other parts of the sub-region, the lowest proportion by far of its residents working in Greater Manchester, the highest net out-commuting of any Greater Manchester district, and being the only district in the sub-region for which Manchester is not the most important external commuting destination (it is only the fifth).

2.16 Overall, similar to migration, the pattern of commuting flows is reasonably predictable based on the size and location of employment areas relative to the main areas of population. The primary sources of commuters are always the immediately surrounding areas, but the extent of an employment area's influence and the average length of commuting journeys will vary depending on its function within the sub-region. Although they are very important within the districts in which they are located, the eight major town centres in Greater Manchester have a relatively localised commuting catchment, with the main flows for each being from the district that they are located within, together with modest flows from adjoining districts, the size of which typically reflects the proximity of the main residential neighbourhoods, the quality of transport connections and the availability of other areas of major employment opportunities. Significant industrial areas such as Kingsway appear to have similarly localised catchments. Wigan Town Centre stands out as having a very high proportion of commuters from within the district (75%), and the proportions for Bolton and Rochdale Town Centre are also high (more than 65%). Stockport Town Centre appears to have a broader reach than most of the other major town centres in Greater Manchester, with significant flows from Manchester and Tameside in particular, though those from Cheshire East and Trafford are also quite considerable.

2.17 The major employment areas at the core of the conurbation (the city centre, Salford Quays and Trafford Park) have a significantly broader reach, drawing a lower proportion of workers from the immediate area, and having longer average travel to work distances (with median commuting distances of 14-16km compared to 7-9km for the town centres). Manchester, Salford and Trafford collectively still provide more than half of the workers for each of these employment areas, but there are also major flows from the other

Greater Manchester districts to the city centre. The districts in the north of Greater Manchester generally provide fewer workers for the city centre than does the south of the sub-region and, equally, the city centre is less significant as a source of jobs for the districts in the north, in both cases with the exception of Bury. Oldham and Rochdale are relatively disconnected from Salford Quays and Trafford Park, and Bolton and Wigan send the fewest people to the city centre from within Greater Manchester. This southward bias of commuting appears to extend into adjoining districts, with the largest inward flows to the core employment areas generally being from Cheshire East, Warrington and High Peak. The flows from Rossendale show that the employment opportunities in the core are relatively important to that district, and it is notable that Rossendale lies immediate to the north of Bury, which is the part of the north of Greater Manchester that supplies the most commuters for the core areas despite having the smallest population.

2.18 In the same way that Greater Manchester has a series of overlapping housing market areas, the majority of employment areas in Greater Manchester appear to lie at the centre of modest sized commuting catchments, with those catchments overlapping each other rather than being distinct travel to work areas. There is some skewing of this, including due to geographical factors (for example with Rochdale having little influence to its east in West Yorkshire) or the proximity of the city centre (for example with Bury largely drawing in people from the north but not the south, and Tameside from the east rather than the west).

2.19 However, overlaying these localised catchments are the broader catchments for the employment areas at the core of the conurbation, and the city centre in particular appears to have a distorting effect. Although it draws in very large numbers of commuters from nearby, the city centre's broad reach influences commuting patterns across Greater Manchester, and over 57,000 of its workers travel more than 10km. In the case of Salford, Stockport, Tameside and Trafford, Manchester as a whole provides employment for more than 20% of their commuters, and these four districts also had the highest proportions of their migration flows accounted for by Manchester.

2.20 As noted above, there is some evidence that the north-west (Bolton and Wigan) and north-east (Oldham and Rochdale) are less connected to some of the employment opportunities within the core than other parts of the conurbation, but there are still quite significant commuting flows from those districts, for example with Wigan being the fifth most important source of commuters for both Salford Quays and Trafford Park. Furthermore, the ONS definition of travel to work areas (TTWAs) identified separate Bolton and Rochdale & Oldham TTWAs in 2001, but these were subsumed into the Manchester TTWA in 2011, suggesting increasing functional integration of different parts of Greater Manchester. It is possible that new and improved transport infrastructure, such as the Metrolink line to Oldham and Rochdale, could lead to further changes in these patterns in the future.

2.21 Nevertheless, proximity is still a vital component, and it is not necessarily the size and role of Manchester that draws people in from outside Greater

Manchester, for example with Wigan and Bolton being more important for Chorley commuters, Rochdale and Bury being more important for Rossendale commuters, and Stockport and Tameside being equally as important as Manchester for High Peak commuters.

Retail catchments

2.22 There is a significant overlap of the principal retail catchments of the city centre and eight main town centres, particularly on the eastern side of Greater Manchester. This reflects the integrated nature of the conurbation, but the individual town centres still retain strong identities and influence over their surrounding communities. The lack of a main town centre in Salford reduces the catchment overlap on the western side of Greater Manchester, although the Trafford Centre's influence will be stronger there, and the largely discrete nature of Wigan's principal catchment reinforces some of the patterns seen in relation to migration and commuting. There are similarities between the commuting patterns and retail catchments of the town centres, in terms of their size and geography.

Conclusions on the area of assessment

2.23 Greater Manchester has very high levels of self-containment, both in terms of migration and commuting. This reflects both its size and the fact that there are large areas of open land separating the conurbation from many of the nearest settlements. Greater Manchester is also an important administrative unit, for example having its own Combined Authority and Local Enterprise Partnership. It is also a recognised area of search for many businesses when looking for premises. On this basis, it provides an appropriate starting point for considering housing and employment floorspace requirements.

2.24 However, the evidence on both migration and commuting suggests that there are important connections with areas adjoining Greater Manchester that need to be taken into account. The nature of these connections varies depending on the proximity of settlements within and outside Greater Manchester, the location and relative strength of key employment areas, and the availability of direct transport connections. Many of the interactions are very localised, contained around the boundaries of the sub-region, but the strength of the city centre as an employment location is felt across a much broader area. Some migration and commuting flows are skewed in one particular direction, whereas others are more even with low net flows masking high absolute flows. In some cases the importance of the interactions may be more important to the districts adjoining Greater Manchester but of less significance to Greater Manchester and the districts within it, due to the differing size of the areas involved and the availability of alternative sources of employment and labour. The implications of emerging housing and employment floorspace requirements and proposals, both within and outside Greater Manchester, will therefore need to be carefully considered as work on the Greater Manchester

Spatial Framework progresses, so as to ensure that there is an appropriate balance of housing and jobs across the wider area.

2.25 Most people migrate over relatively small distances, resulting in a series of overlapping markets rather than relatively discrete housing market areas. Migration patterns are generally quite predictable, based on issues such as proximity, transport connections, employment opportunities and local identity, rather than reflecting previously identified housing market areas. Similarly, most employment areas see people commuting to them primarily from quite nearby, again leading to overlapping catchments. However, the major concentration of employment opportunities at the core of the conurbation, focused around the city centre, has a distorting effect, drawing people in from longer distances and limiting the commuting catchment of some of the other employment areas within Greater Manchester.

2.26 There are also other broader patterns that are discernible, such as higher levels of migration self-containment in the north of Greater Manchester, a generally more fluid market in the south, typically lower self-containment for those moving from more prosperous areas, net in-migration in the west and net out-migration in the east, and a very extensive in-migration catchment for the core of the conurbation that is then redistributed to some extent to surrounding areas. Wigan tends to have weaker connections to the rest of Greater Manchester than the other nine districts in the sub-region, both in terms of migration and commuting, as might be expected given its location. There is some evidence that migration is more contained within districts than if it were purely a function of distance and transport links. Familiarity with, and proximity to, particular town centres, as reflected in the geography of their core catchments, along with other aspects of local identity, could potentially explain this.

2.27 This complex functioning of housing and labour markets within Greater Manchester means that there is no simple way of subdividing the sub-region into identifiable housing market areas or functional economic areas. Any boundaries would essentially be arbitrary, and risk masking important relationships, as has been seen with the housing market areas that have previously been identified. Given these problems, together with the relatively small distances involved in most migration and commuting, the issues of district identity, and the availability of population and household projection data, it is considered that the most appropriate unit of analysis below the Greater Manchester level is the individual districts. This would be expected to enable a greater level of analysis, taking into account a better understanding of the relationships between different places, than would the combination of districts into larger sub-areas. However, even a district-based analysis could mask significant cross-boundary connections, and it will be important to have regard to the analysis in this report and supplementary data when interpreting assessments of demand and need for individual districts. For example, an ongoing ‘Deep Dives’ analysis of the economic issues and opportunities across Greater Manchester will provide a more thorough understanding of economic activity at a sub-district level.

Distribution of housing and employment floorspace requirements

2.28 Although the analysis of 2011 Census migration data suggests that most moves are over a relatively short distance, and many moves are likely to be constrained by links to family and friends, a comparison of past population projections with actual change indicates that the cumulative impact of migration can result in reasonably significant changes over time compared to those that have been forecast. Over a period of 20 years, this could easily lead to household growth being several thousand higher or lower than projected in any district, even if the Greater Manchester total is as forecast. Consequently, there would appear to be considerable scope for household growth to be redistributed around the sub-region if that were considered to be an appropriate strategy. For example, if a more sustainable pattern of household growth could be identified than that which is forecast, in terms of minimising the need to travel and the impact of residential development on the environment, then it would appear realistic to work towards it provided that appropriate measures could be put in place to ensure that locations identified for higher than forecast growth could attract any available migration.

2.29 The 1993-based population projections show that any additional population and household growth within the sub-region could realistically be focused on a small number of districts, as the higher than forecast growth in the following 20 years was focused solely in Manchester, Salford and Trafford, but again this would only be likely to be achieved in practice if such locations were sufficiently attractive in terms of access to employment, lifestyle, housing quality, etc. The overall spatial strategy for accommodating household growth is therefore influenced by the forecast pattern of household change across Greater Manchester, but is not completely set by it, and there is significant potential to move at least part of that household growth to other locations.

2.30 Overall, the high migration inflows relative to population size for Manchester and Salford mean that these two cities are likely to have the greatest potential for their population levels to deviate from those forecast in the ONS 2012-based projections, either due to deliberate policy interventions or changing circumstances. Trafford, and to a lesser extent Bury, also have above average projected migration inflows relative to their population size, and so could also possibly see significant redistribution of growth both within and outside Greater Manchester. In contrast, the migration inflow rates are projected to be quite low for Wigan, Oldham, Rochdale and Tameside, with Oldham and Rochdale having relatively high natural change. Consequently, there may be more limited scope to move the projected population growth of these districts into surrounding areas, particularly given that three of the districts adjoin each other on the north-east side of Greater Manchester, and have seen relatively modest population growth over the last few decades compared to some other parts of the sub-region and also have relatively high migration self-containment rates.

2.31 The commuting analysis highlights a series of issues that will need to be taken into account when determining the desirable distribution of population

growth relative to the distribution of employment opportunities, and vice versa. Patterns of development that are likely to result in longer average journey distances will probably only be appropriate if there is very considerable investment in transport networks, and a significant modal shift away from the private car. The fact that commuting flows to the major employment areas at the conurbation core are generally lower from the northern districts (with the exception of Bury) than from the south does not necessarily mean that such areas should provide less of the housing to accommodate an increase in workers in the core. The lower commuting levels may be due to a variety of issues, such as the type of dwellings and residential environments that are currently available in such locations, skill levels and health, as well as the quality of transport links. Similarly, regard will need to be had to the fact that Wigan is generally less integrated with the rest of Greater Manchester than the other nine districts, but actions to address this could potentially have significant economic and social benefits.

3. Projections and forecasts

3.1 The September 2014 consultation on the Greater Manchester Spatial Framework highlighted some of the uncertainties associated with projections and forecasts, and the fact that those uncertainties increase over longer time periods and for smaller geographical areas. One of the tables from that analysis is included here as an example of how actual population change often deviates considerably from that which has been projected, even over quite short time periods. The first part of the table shows the Greater Manchester population that was identified for selected years in the last nine ONS projections, and the second part calculates the difference between those projections and the estimated population from the ONS mid-year estimates.

	Projected Greater Manchester population by selected years				
Population projection	1996	2001	2006	2011	2013
ONS 1993-based	2,589,000	2,614,200	2,635,500	2,654,800	2,661,720
ONS 1996-based	2,575,500	2,559,900	2,544,200	2,533,300	2,531,420
ONS 2003-based			2,542,800	2,569,600	2,582,100
ONS 2004-based (revised)			2,554,100	2,597,600	2,616,400
ONS 2006-based			2,553,800	2,633,400	2,667,800
ONS 2008-based				2,622,000	2,650,200
ONS 2010-based				2,633,517	2,682,283
ONS interim 2011-based				2,685,386	2,722,678
ONS 2012-based					2,716,444
Mid-year estimates	2,531,400	2,516,100	2,582,300	2,685,386	2,714,944
Difference from mid-year estimate					
ONS 1993-based	57,600	98,100	53,200	-30,586	-53,224
ONS 1996-based	44,100	43,800	-38,100	-152,086	-183,524
ONS 2003-based			-39,500	-115,786	-132,844
ONS 2004-based (revised)			-28,200	-87,786	-98,544
ONS 2006-based			-28,500	-51,986	-47,144
ONS 2008-based				-63,386	-64,744
ONS 2010-based				-51,869	-32,661
ONS interim 2011-based				0	7,734
ONS 2012-based					1,500

3.2 Most projections and forecasts utilise past trends and relationships as a basis for estimating future changes. The historic data often fluctuates very considerably, and so slightly different trends can be identified from the same evidence depending on the precise methodology that is used. Once those differences are projected forward, particularly in combination across several variables, they can produce quite divergent outputs even though the underlying approach to projections or forecasting may be very similar. It is often impossible to identify whether one is 'better' than the other, and so apparent discrepancies between forecasts based on the same data should not necessarily be seen as problematic.

3.3 Discussions of projections and forecasts often result in a large array of numbers being presented, as various assumptions are tested with a

seemingly impressive level of accuracy. Consequently, it is very easy to become distracted by debates over precise figures, whereas it is the overall trends that are significant. An analysis of methodologies and assumptions is important, but ultimately the outputs of any approach need to be realistic and desirable, and simple comparisons with past changes can be informative in this regard.

4. Official population and household projections

4.1 The Government's Planning Practice Guidance (PPG) states that: "Household projections published by the Department for Communities and Local Government should provide the starting point estimate of overall housing need" (paragraph 21-015-20140306).

4.2 It notes that: "The household projection-based estimate of housing need may require adjustment to reflect factors affecting local demography and household formation rates which are not captured in past trends. For example, formation rates may have been suppressed historically by under-supply and worsening affordability of housing. The assessment will therefore need to reflect the consequences of past under delivery of housing. As household projections do not reflect unmet housing need, local planning authorities should take a view based on available evidence of the extent to which household formation rates are or have been constrained by supply" (ibid).

4.3 It explains that: "The household projections produced by the Department for Communities and Local Government are statistically robust and are based on nationally consistent assumptions. However, plan makers may consider sensitivity testing, specific to their local circumstances, based on alternative assumptions in relation to the underlying demographic projections and household formation rates. Account should also be taken of the most recent demographic evidence including the latest Office of National Statistics population estimates. Any local changes would need to be clearly explained and justified on the basis of established sources of robust evidence" (paragraph 21-017-20140306).

4.4 This chapter sets out the latest sub-national population and household projections, produced by ONS and DCLG respectively, with subsequent chapters then testing alternative assumptions.

ONS population projections

4.5 The latest ONS sub-national population projections are 2012-based, using the ONS 2012 mid-year estimates as their starting point, and take full account of the results of the 2011 Census. The table below summarises these population projections for Greater Manchester and England over the period 2012-2035.

	Total population		Population change 2012-2035			
Area	2012	2035	Total	% change	% per annum	% of GM total
Bolton	278,984	312,109	33,125	11.87	0.49	10.10
Bury	186,199	205,822	19,623	10.54	0.44	5.98
Manchester	510,772	586,051	75,279	14.74	0.60	22.96
Oldham	225,875	244,178	18,303	8.10	0.34	5.58
Rochdale	212,020	222,216	10,196	4.81	0.20	3.11

Area	Total population		Population change 2012-2035			
	2012	2035	Total	% change	% per annum	% of GM total
Salford	237,085	286,042	48,957	20.65	0.82	14.93
Stockport	283,897	311,584	27,687	9.75	0.41	8.44
Tameside	220,241	247,178	26,937	12.23	0.50	8.21
Trafford	228,466	261,078	32,612	14.27	0.58	9.94
Wigan	318,670	353,876	35,206	11.05	0.46	10.74
Greater Manchester	2,702,209	3,030,133	327,924	12.14	0.50	
England	53,493,729	61,602,742	8,109,013	15.16	0.62	

4.6 Greater Manchester is projected to see growth of almost 328,000 over the period 2012-2035, which equates to average growth of 0.50% per annum. This is below the projected national average rate of growth of 0.62%.

4.7 Within Greater Manchester, Salford has by far the highest projected rate of growth at 0.82% per annum, followed by Manchester at 0.60% and Trafford at 0.58%. In absolute terms, the highest total growth over the period 2012-2035 is projected to be in Manchester, accounting for almost 23% of all population growth in Greater Manchester, with just under 15% being in Salford. The lowest level of population growth is expected in Rochdale, both proportionately and in absolute terms, followed by Oldham. Stockport is also projected to see a relatively low rate of growth, averaging 0.41% per annum, but it is only fifth lowest in absolute terms due to its relatively large initial population.

DCLG household projections

4.8 The latest DCLG sub-national household projections are also 2012-based, and apply estimates of household representative rates to the ONS 2012-based population projections. The methodology report for the projections explains that the "household representative projections use a combination of two fitted trends through the available Census points (1971, 1981, 1991, 2001 and 2011). However, as with the 2011-interim household projections, only partial information is available from the published Census 2011 data to derive household representative rates for 2011"[2]. Consequently, unlike the underlying population projections, the latest DCLG household projections are not fully informed by the 2011 Census. Further analysis by DCLG could therefore lead to changes in assumptions around future household representative rates.

4.9 The table below summarises these household projections for Greater Manchester and England over the period 2012-2035.

[2] Department for Communities and Local Government (February 2015) *Household Projections 2012-based: Methodological Report*, p.5

Area	Total households		Household change 2012-2035			
	2012	2035	Total	% change	% per annum	% of GM total
Bolton	117,158	137,913	20,755	17.72	0.71	9.73
Bury	78,761	90,795	12,034	15.28	0.62	5.64
Manchester	207,981	257,174	49,193	23.65	0.93	23.05
Oldham	90,365	105,320	14,955	16.55	0.67	7.01
Rochdale	87,960	97,715	9,755	11.09	0.46	4.57
Salford	105,063	133,171	28,108	26.75	1.04	13.17
Stockport	122,566	141,874	19,308	15.75	0.64	9.05
Tameside	95,724	113,555	17,831	18.63	0.75	8.36
Trafford	95,468	115,710	20,242	21.20	0.84	9.49
Wigan	137,280	158,479	21,199	15.44	0.63	9.93
Greater Manchester	1,138,326	1,351,706	213,380	18.75	0.75	
England	22,304,760	27,176,194	4,871,434	21.84	0.86	

4.10 Greater Manchester is projected to see growth of over 213,000 over the period 2012-2035, which equates to average growth of 0.75% per annum. This is below the projected national average rate of growth of 0.86%. It is a more rapid rate of increase than projected for population, as the growth in households will be driven by reductions in average household size as well as by an expanding population.

4.11 As with the ONS sub-national population projections, Salford is projected to see the highest growth rate per annum, followed by Manchester and Trafford, but with Manchester having the highest absolute increase in households accounting for 23% of growth in Greater Manchester, followed by Salford with 13%. Rochdale again has the lowest absolute and proportionate levels of growth.

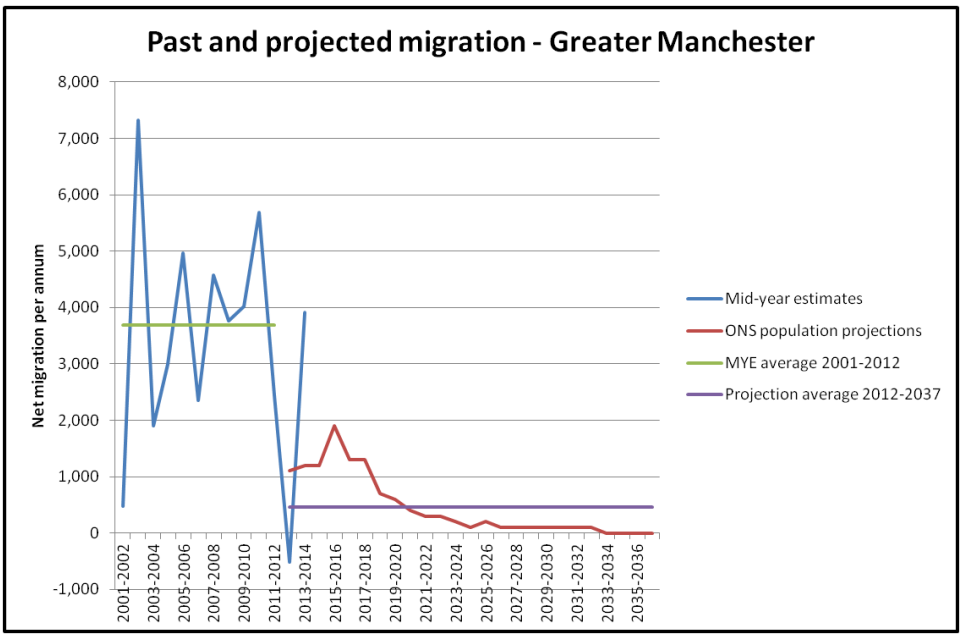
5. Population scenarios

5.1 At the last consultation stage on the Greater Manchester Spatial Framework, some representations raised concerns that the ONS 2012-based sub-national population projections could be a significant underestimate of likely population growth in Greater Manchester over the next two decades, due to their assumptions around future migration rates and their treatment of 'unattributable population change'. These issues are discussed in turn below.

5.2 The analysis uses the ONS 2012-based population projections at the national and sub-national levels. New ONS 2014-based national population projections were released after the finalisation of this report, and they will be taken into account as work progresses on the Greater Manchester Spatial Framework.

Migration

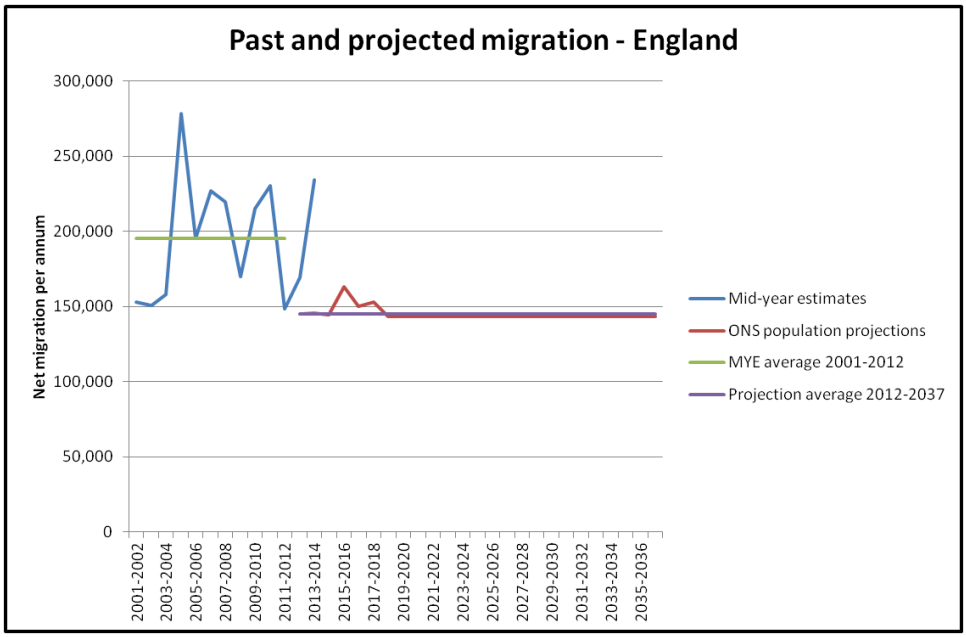
5.3 The following graph compares the estimated net migration for Greater Manchester over the period 2001-2012 from the ONS mid-year estimates, with that projected for 2012-2037 in the ONS 2012-based sub-national population projections.



5.4 The projected average net migration for the period 2012-2037 is clearly substantially lower than that seen over the period 2001-2012, with it reducing to zero from 2033. The migration figures from the mid-year estimates can be seen to fluctuate considerably from year to year over the period 2001-2012. A net outflow of over 500 people was recorded for 2012-2013, in the first year of the projection period, which is significantly lower than forecast in the projections. However, in 2013-2014 there was a net inflow of over 3,900, far exceeding the projected figure and also above the average for the period 2001-2014, which again highlights the very considerable fluctuation in

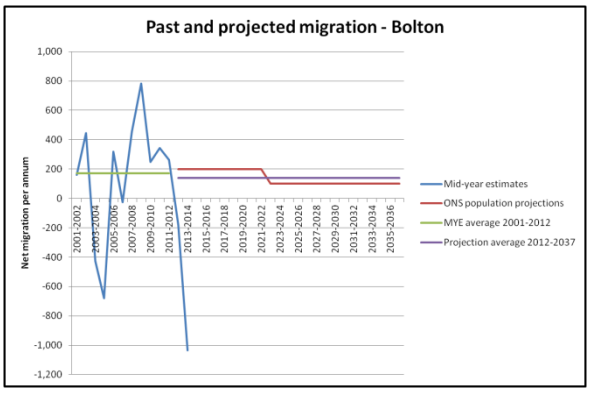
migration from year to year. This makes it difficult to identify whether the projected long-term reduction in migration is likely to be realised.

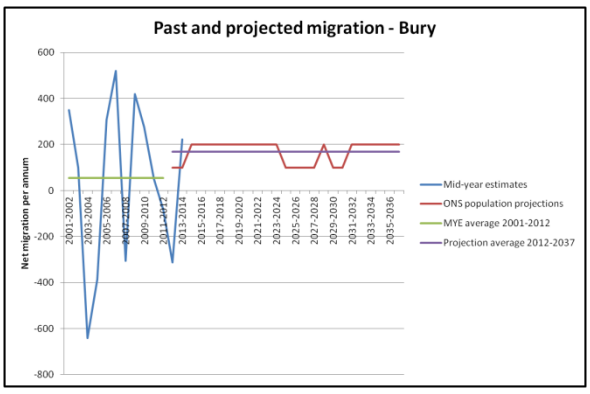
5.5 The next graph displays the same data for England as a whole.

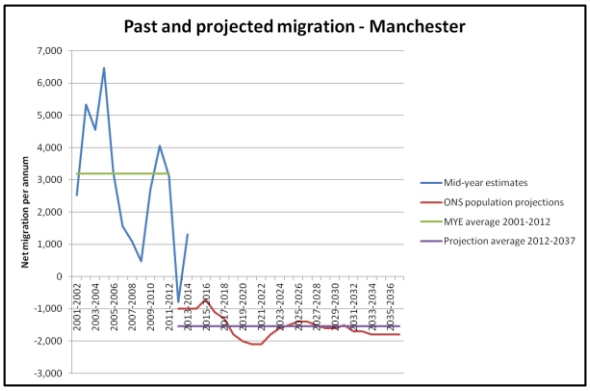


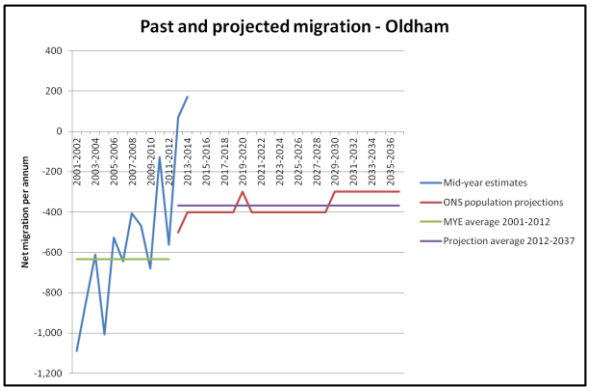
5.6 This graph is quite similar to that for Greater Manchester, with a significant reduction in net migration expected for England as a whole compared to the recent past. This suggests that at least part of the explanation for Greater Manchester's projected reduction in net migration is the result of assumptions about future levels of international migration. This is discussed further below. The mid-year estimates for 2013 and 2014 identify higher levels of net migration to England over the period 2012-2014 then was projected.

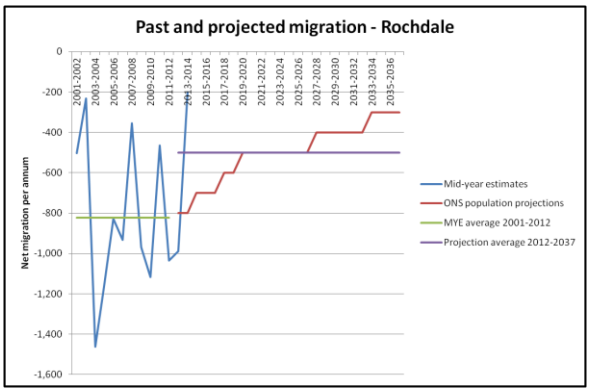
5.7 The next set of graphs provides the same data for each district within Greater Manchester.

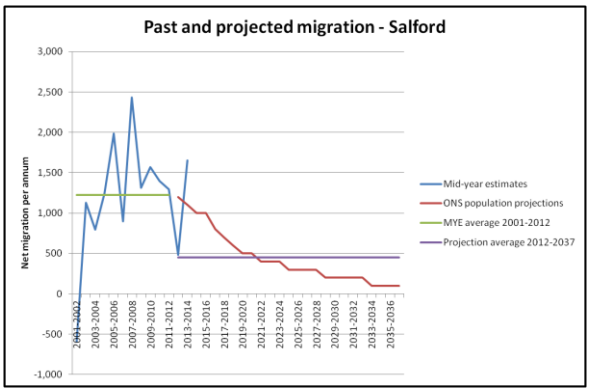


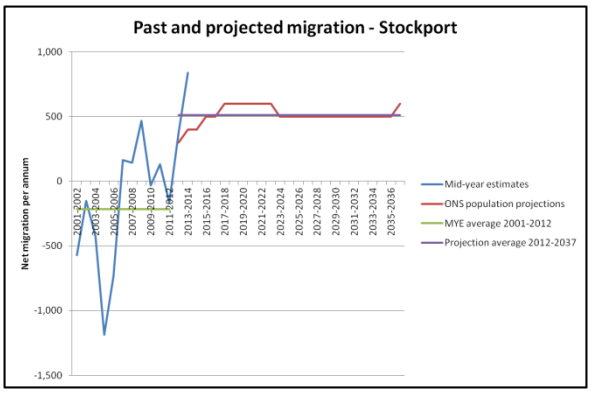


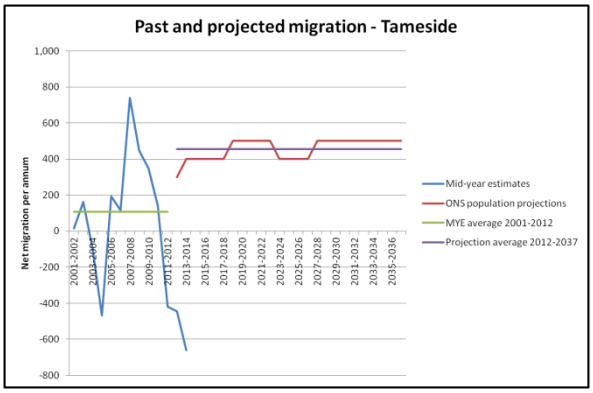


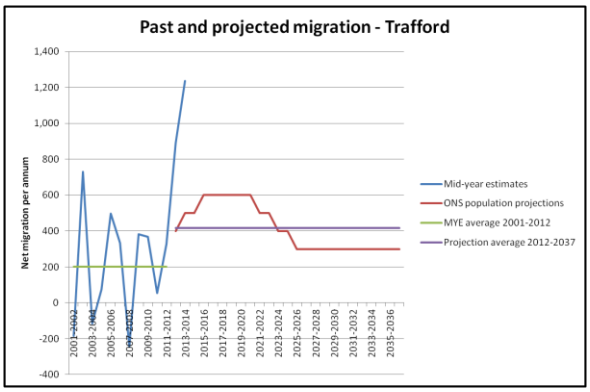


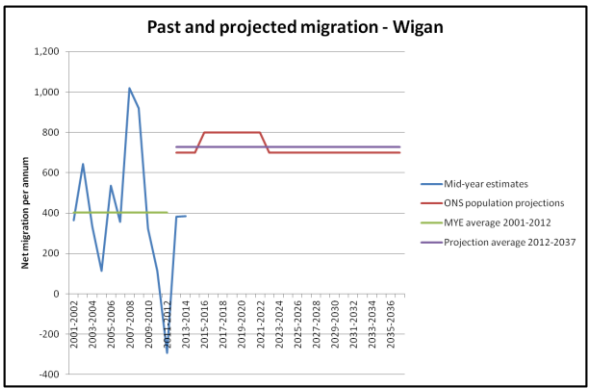












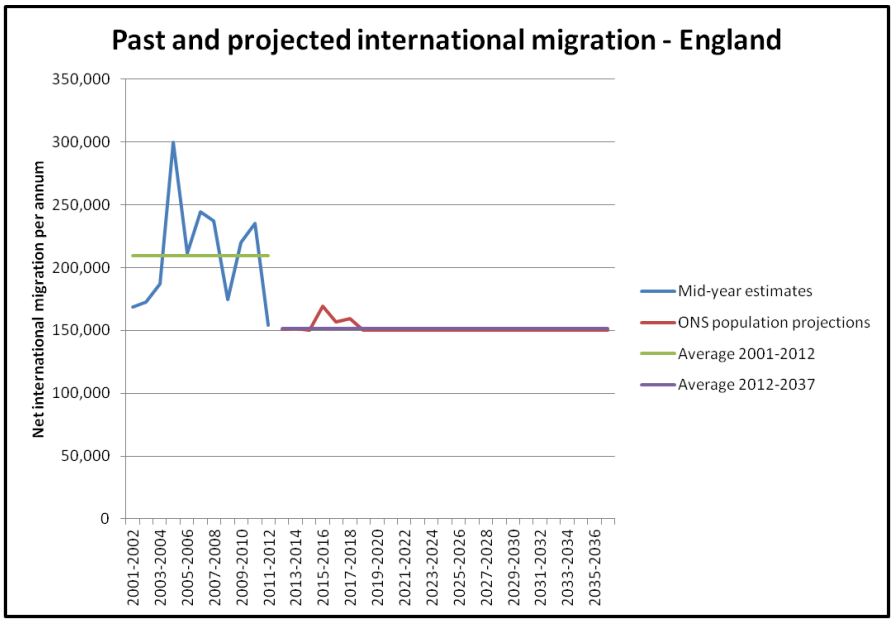
5.8 In terms of individual districts, only Bolton's projected migration is very similar to its estimated average migration for the period 2001-2012. Manchester's net migration is projected to be negative, whereas its recent past net migration has been quite strongly positive although it has been subject to a downward

trend. Salford's projected net migration is also noticeably lower than the estimated average for the period 2001-2012, but appears to follow the very recent downward trend. The other districts are all projected to have higher levels of net migration than in the recent past, considerably so in the cases of Stockport, Tameside and Wigan. Oldham and Rochdale are both expected to see a significant reduction in their levels of net out-migration.

5.9 A comparison of the estimated net migration flows for 2012-2013 and 2013-2014 from the mid-year estimates with the forecast flows from the ONS projections highlights the enormous fluctuations from year to year that lead to significant uncertainties when forecasting future population change. Bolton, Tameside and Wigan had far less net migration than projected over the period 2012-2014, whereas Manchester, Oldham, Stockport and Trafford had much higher levels than projected. Bury, Rochdale and Salford had lower than projected levels in 2012-2013 and higher in 2013-2014. The change of a single year in the start or end point of trend data feeding into population forecasts could therefore have a considerable impact on future migration estimates.

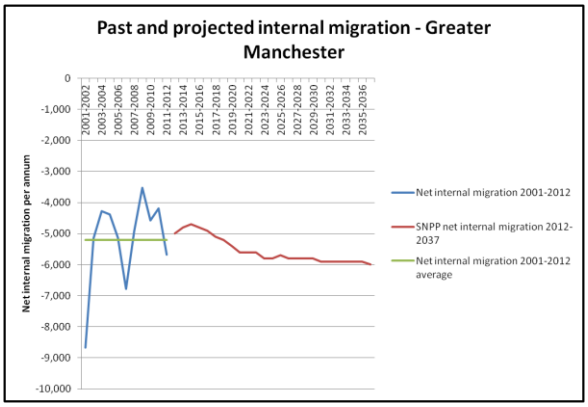
Migration components

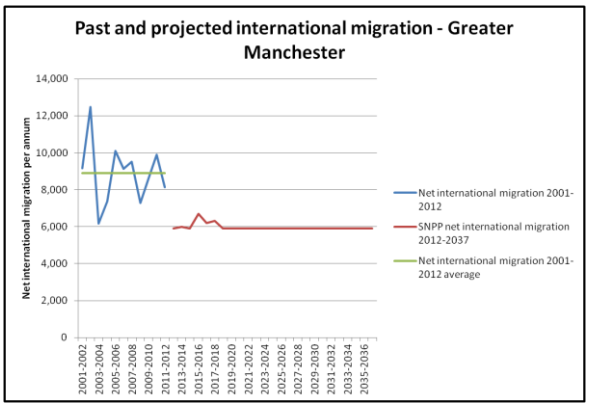
5.10 As noted above, the lower net migration projected for Greater Manchester may be due to the lower international migration expected for England as a whole, and this can be seen in the graph below using the ONS 2012-based population projections.



5.11 Average net international migration to England, that is migration to and from locations outside the United Kingdom, is expected to fall from an average of almost 210,000 per annum over the period 2001-2012 to 150,000 per annum from 2018 onwards.

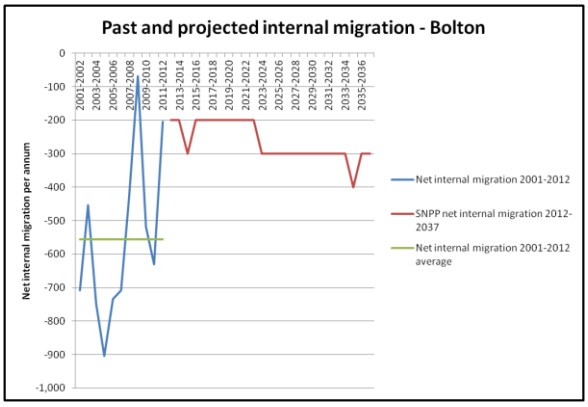
5.12 The two graphs below compare the past and projected migration types for Greater Manchester, using the 2001-2012 mid-year estimates and the ONS 2012-based sub-national population projections, with the first graph relating to internal migration (within the UK) and the second relating to international migration.

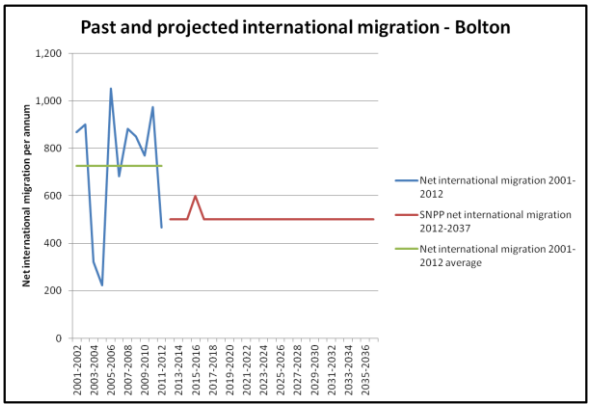


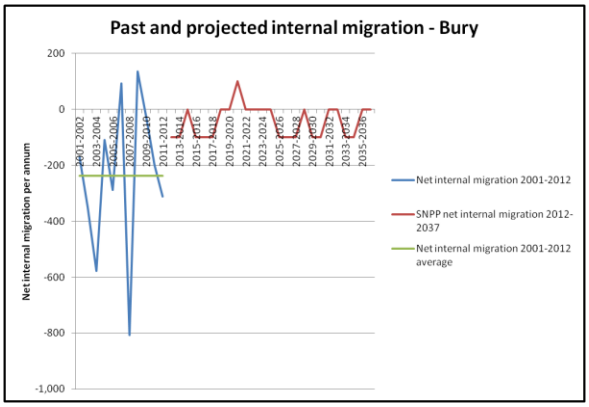


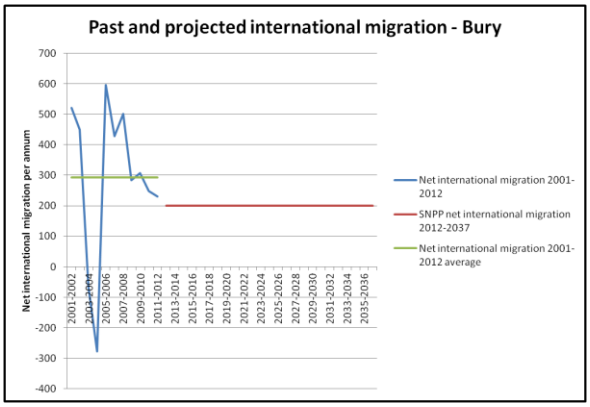
5.13 The first graph shows a levelling off of the recent trend towards a reduction in net outflows from Greater Manchester to the rest of the UK, with rates from 2019 being below the average seen for 2001-2012. The second graph shows quite a significant reduction in future net international migration compared to the average over the period 2001-2012, which is likely to reflect both a slight overall downward trend in the recent past and the lower projected international migration at the national level.

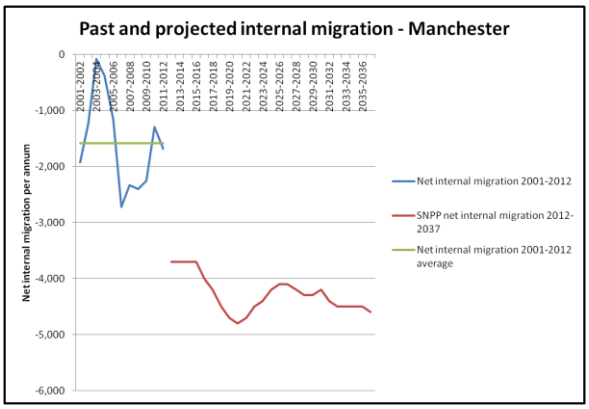
5.14 The next set of graphs displays the same information on internal and international migration for each Greater Manchester district.

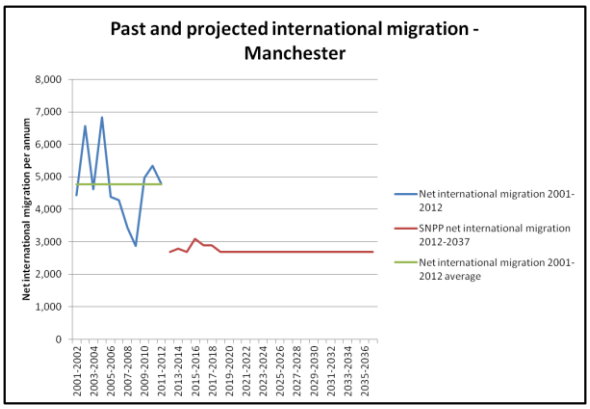


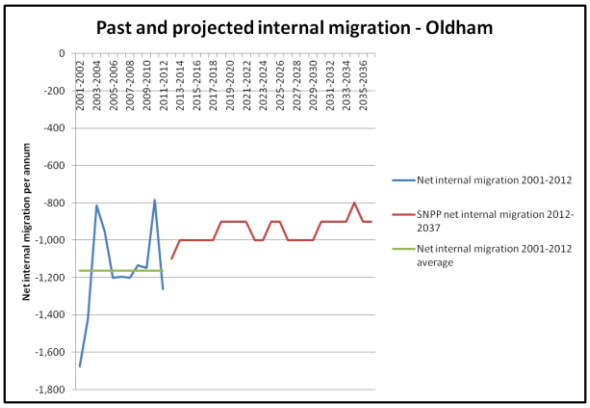


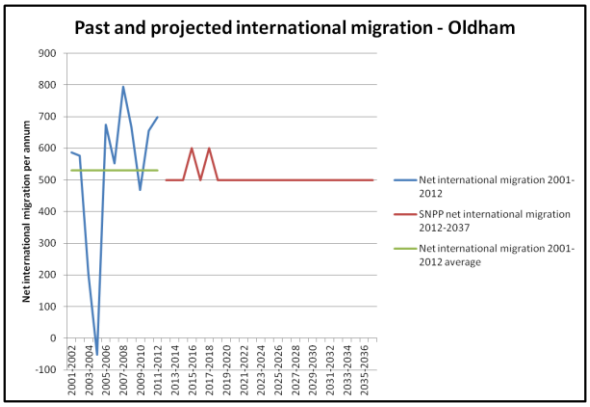

Past and projected internal migration - Bury
Net internal migration per annum
Net internal migration 2001-2012
SNPP net internal migration 2012-2037
Net internal migration 2001-2012 average

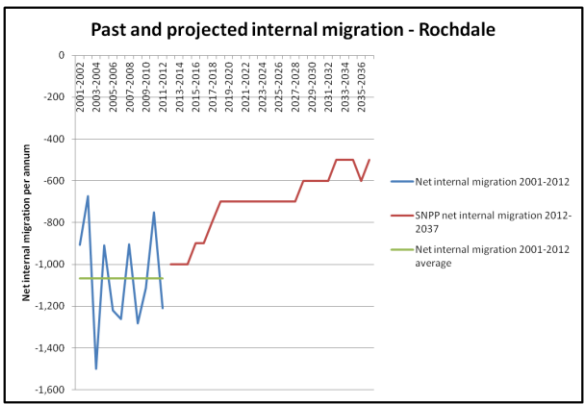

Past and projected international migration - Bury
Net international migration per annum
Net international migration 2001-2012
SNPP net international migration 2012-2037
Net international migration 2001-2012 average

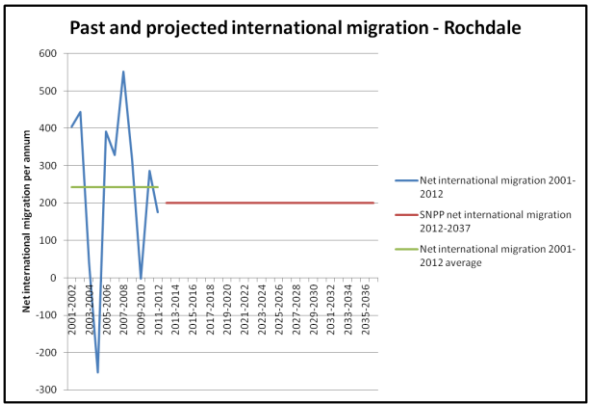

Past and projected internal migration - Manchester
Net internal migration per annum
Net internal migration 2001-2012
SNPP net internal migration 2012-2037
Net internal migration 2001-2012 average

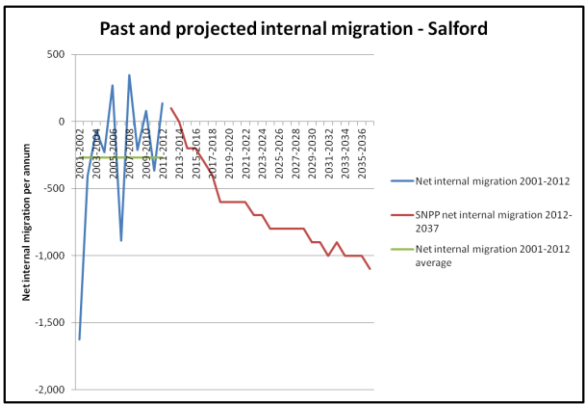

Past and projected international migration - Manchester
Net international migration per annum
Net international migration 2001-2012
SNPP net international migration 2012-2037
Net international migration 2001-2012 average

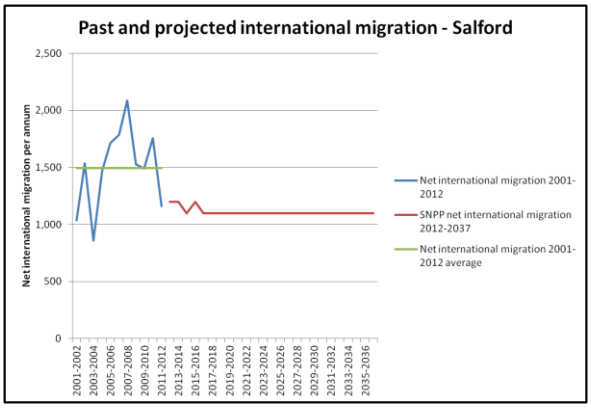

Past and projected internal migration - Oldham
Net internal migration per annum
Net internal migration 2001-2012
SNPP net internal migration 2012-2037
Net internal migration 2001-2012 average

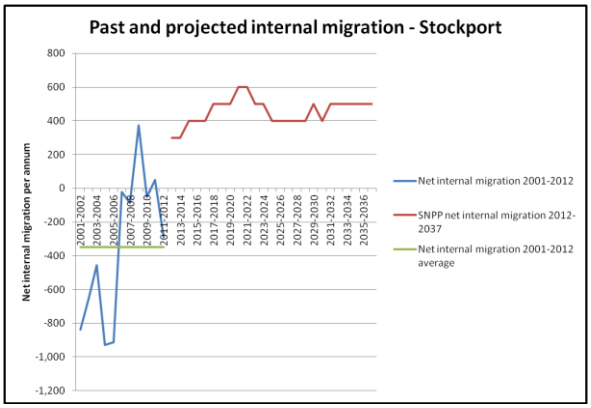

Past and projected international migration - Oldham
Net international migration per annum
Net international migration 2001-2012
SNPP net international migration 2012-2037
Net international migration 2001-2012 average

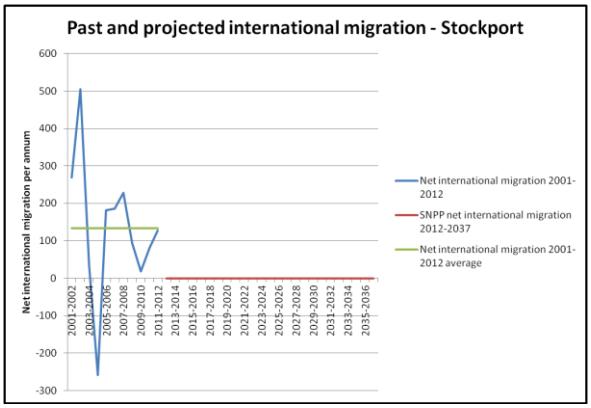

Past and projected internal migration - Rochdale
Net internal migration per annum
Net internal migration 2001-2012
SNPP net internal migration 2012-2037
Net internal migration 2001-2012 average

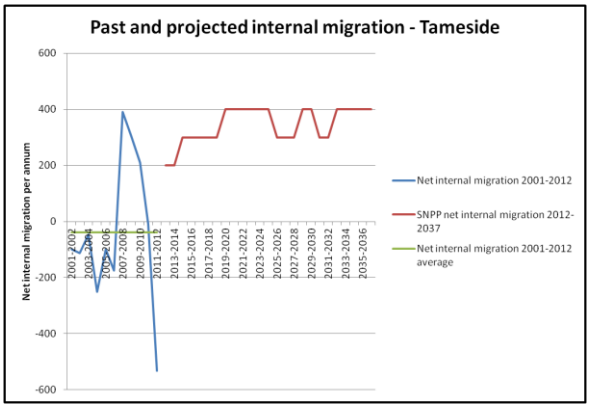

Past and projected international migration - Rochdale
Net international migration per annum
Net international migration 2001-2012
SNPP net international migration 2012-2037
Net international migration 2001-2012 average

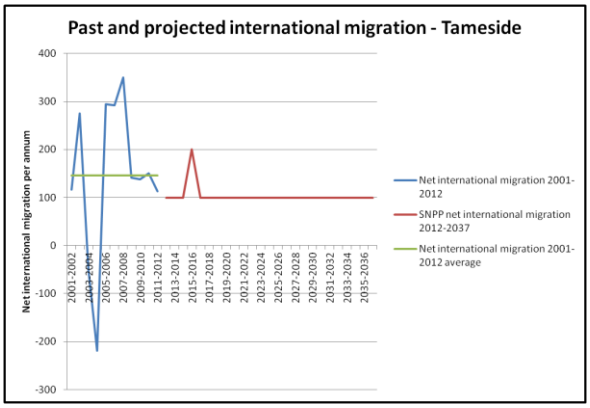

Past and projected internal migration - Salford
Net internal migration per annum
Net internal migration 2001-2012
SNPP net internal migration 2012-2037
Net internal migration 2001-2012 average

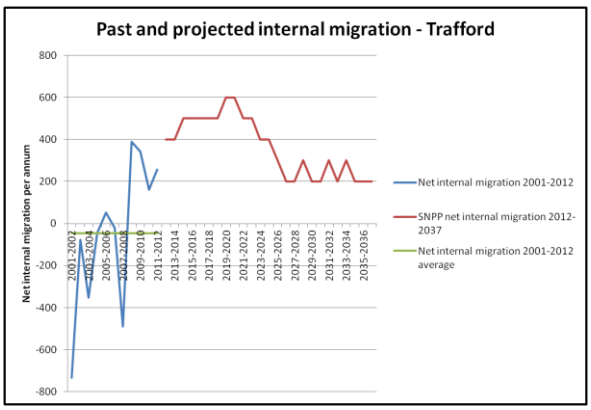

Past and projected international migration - Salford
Net international migration per annum
Net international migration 2001-2012
SNPP net international migration 2012-2037
Net international migration 2001-2012 average

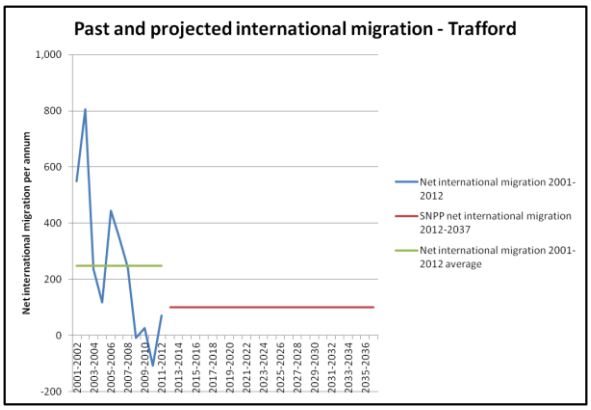

Past and projected internal migration - Stockport
Net internal migration per annum
Net internal migration 2001-2012
SNPP net internal migration 2012-2037
Net internal migration 2001-2012 average

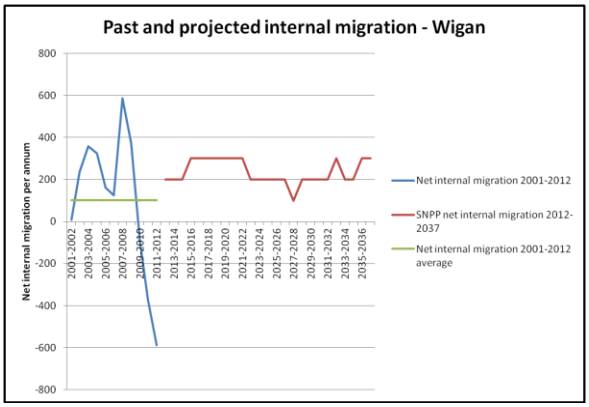

Past and projected international migration - Stockport
Net international migration per annum
Net international migration 2001-2012
SNPP net international migration 2012-2037
Net international migration 2001-2012 average

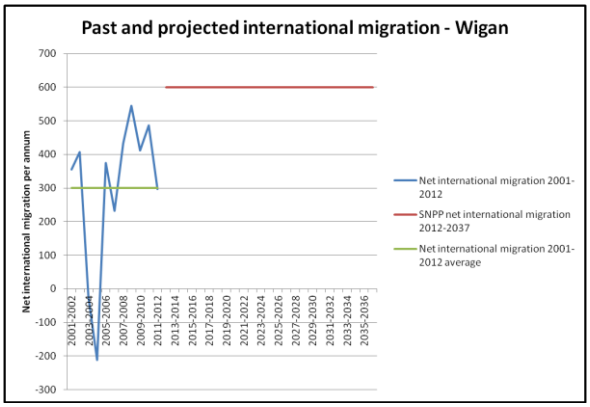

Past and projected internal migration - Tameside
Net internal migration per annum
Net internal migration 2001-2012
SNPP net internal migration 2012-2037
Net internal migration 2001-2012 average


Past and projected international migration - Tameside
Net international migration per annum
Net international migration 2001-2012
SNPP net international migration 2012-2037
Net international migration 2001-2012 average


Past and projected internal migration - Trafford
Net internal migration per annum
Net internal migration 2001-2012
SNPP net internal migration 2012-2037
Net internal migration 2001-2012 average


Past and projected international migration - Trafford
Net international migration per annum
Net international migration 2001-2012
SNPP net international migration 2012-2037
Net international migration 2001-2012 average





5.15 Manchester is projected to have much lower net international in-migration and considerably higher net internal out-migration than the previous 11-year average. All of the other districts are also expected to see a reduction in net international in-migration, with the exception of Wigan where a doubling of the average levels seen in 2001-2012 is projected. In contrast, all of the districts other than Manchester are forecast to have higher levels of net internal in-migration, or lower levels of out-migration, than the average for the previous 11 years, except for Salford which is projected to see a continual increase in the level of net internal out-migration from 0 in 2013-2014 to more than 1,000 by 2036-2037.

5.16 One of the main observations from the graphs above is the significant fluctuations in net migration in each district over very short periods of time, which inevitably increases the uncertainty over the potential future levels of migration. Nevertheless, the projected figures in these graphs generally appear to follow on quite well from the past data. The increases in net internal out-migration for Manchester and Salford, the growth in net internal in-migration for Stockport and Tameside, and the increase in net international in-migration for Wigan perhaps seem quite large compared to recent past data, but overall the migration components of the projections do not appear unreasonable or unlikely. If there is an overall trend, either upwards or downwards, then there will inevitably be differences between past and future average migration rates, which could be quite considerable.

5.17 The ONS explains the approach to estimating future migration within England as follows:

"Internal[3] migration estimates produced by ONS provide an origin-destination matrix which provides information on moves from each local authority to every other local authority by sex and single year of age. To project internal migration moves, five-year trend data from 2007/8 to 2011/12 are used to estimate the average proportion of the population that has left a particular local authority and where they have moved to. By applying these proportions to the population figures, estimates of internal migration flows between areas

[3] 'Internal' refers here to migration within England, and the ONS projections have separate figures for 'cross-border' migration between England and Wales, Scotland and Northern Ireland. Elsewhere in this report, unless otherwise stated, internal migration refers to migration within the UK, which for the purposes of the ONS projections is the sum of the internal and cross-border figures.

are calculated. By adding up the estimated number of outflows of internal migrants from every other authority into a particular authority, the inflows into that authority are calculated."[4]

5.18 Consequently, the projections of future internal migration for each Greater Manchester district could appear more different to past levels than might be expected, due to changes in the age and sex characteristics of the population of each of those districts but also those elsewhere in the country that supply and receive migrants.

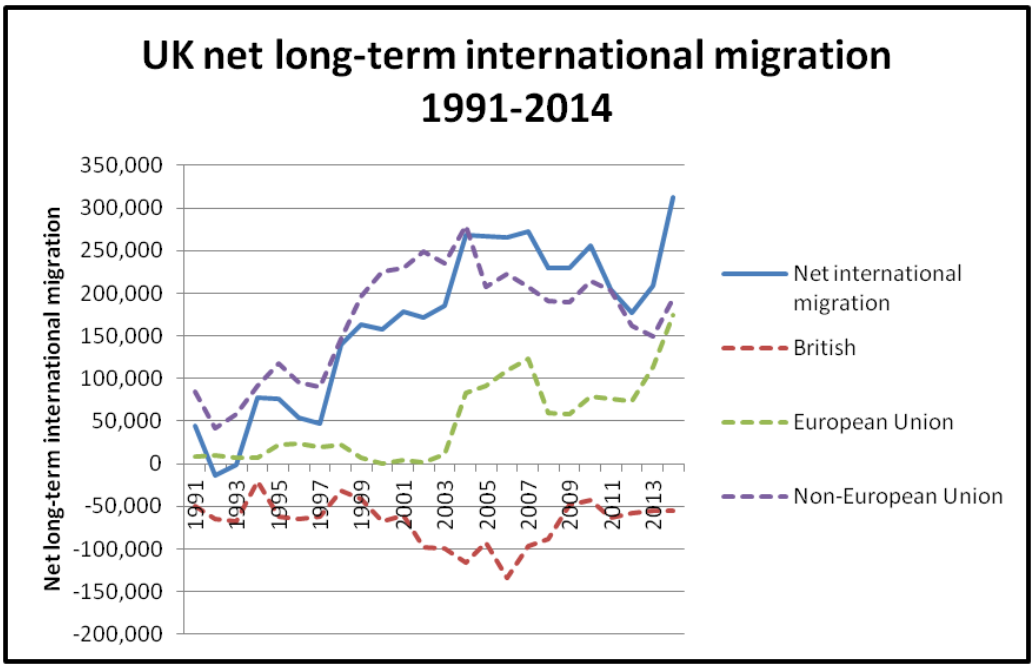
5.19 The table below compares the projected international migration for England from the first two years of the ONS 2012-based population projections with that identified in the ONS mid-year estimates.

	Net international migration		
	2012-2013	2013-2014	2012-2014
2012-based population projection	151,100	151,800	302,900
Mid-year estimate component	174,836	243,561	418,397
Difference	23,736	91,761	115,497

5.20 This shows that there has been significantly higher net international migration than expected in the first two years of the ONS 2012-based projection period, which raises questions regarding the likely accuracy of the forecast reduction in international migration. However, there have been clear statements by the Government that their ambition is to significantly reduce net international migration to the UK.

5.21 The following graph shows levels of net long-term international migration for the UK, rather than England, which provides a longer timeline. It also shows how that overall figure is made up in terms of the country of birth of those migrating (country of citizenship for 2014).

[4] Office for National Statistics (May 2014) *Methodology: 2012-based Subnational Population Projections*, p.6-7



5.22 The graph shows a significant upward trend in net long-term international migration from the early 1990s, when there were actually two years that saw net out-migration (1992 and 1993). This increase appeared to have peaked in the mid 2000s, with some reduction to 2012, but there has since been an increase again with 2014 recording the highest levels of net long-term international migration over this period. The average level of international migration for 1991-2014 was just over 165,500.

5.23 There was a very significant increase in non-European Union migration up to 2004, since when there has been a gradual reduction overall. Long-term migration from the European Union was very low up to 2003, with the enlargement of the EU then resulting in a rapid increase in the mid 2000s, followed by a levelling off but then a further large increase over the last few years, which may be associated with the economic performance of the UK economy relative to many other parts of the EU. Although EU migration has tended to dominate political debates, it has stayed below the level of non-EU migration throughout this period, albeit coming very close in 2014. The net out-migration of British people peaked in the mid 2000s, but has since returned to the levels that were typical throughout the 1990s.

5.24 This data shows how significantly net international migration can fluctuate over a short space of time, and therefore the difficulties in forecasting future levels. The overall trajectory of the graph is upwards in terms of total net international migration, but the key issue is whether the factors contributing to that increase are likely to continue or if a return to earlier past levels is more realistic. The initial increase in net international migration to the early 2000s appears to be the result of much greater net migration from outside the EU, and this source has seen a gradual decline over the last decade. The initial burst of net migration from the EU associated with its expansion in 2004 reduced somewhat after the first four years but to a level notably higher than pre-2004, indicating that part of the fluctuation may be temporary and part

potentially permanent. If the very recent increase in EU migration has been driven by perceptions of a strong UK economy and major economic problems across many parts of the EU then it might be anticipated that this is unlikely to be a permanent change, and so the question then becomes one of how long the current peak might be expected to extend into the future, with the expectation that at some point it should reduce to levels seen in the late 2000s/early 2010s or lower as most countries in the EU recover to growth rates similar to those of the UK.

5.25 The other key unknown is how Government policy may impact on levels of migration. There have been clear statements by the current Government that their ambition is to significantly reduce net international migration to the UK. This is a central part of the ongoing 'renegotiations' between the Government and the EU, and is likely to be a dominant issue during the referendum on EU membership in 2017. Immigration has undoubtedly risen up the political agenda over recent years, and is typically identified by voters as being in the top three issues facing Britain along with the economy and the NHS[5]. A YouGov poll in March 2015 indicated that 76% of people want immigration reduced, and 52% want it reduced by a lot[6]. It would therefore seem likely that Government policy will continue to seek to exert a downward pressure on net international migration.

5.26 Forecasts of future international migration have also changed quite considerably over time. The ONS 2010-based population projections assumed a gradual reduction for the UK from 236,000 in 2009/10 to a long-term figure of 200,000 per annum from 2016/17. However, in the 2012-based projections, published in November 2013, ONS assume a long-term figure of 165,000 per annum from 2018/19. Initially, the Office for Budget Responsibility actually based its economic forecasts on a lower net international migration figure of 105,000 from mid-2019. It was only in March 2015 that the Office for Budget Responsibility began to use the migration figures from the main population projection, explaining the situation as follows:

"Net migration in the year to September 2014 rose to 298,000, up from 210,000 in the year to September 2013. Our previous forecasts have been underpinned by the assumption in the ONS low migration population projections that net migration will move towards 105,000 a year by mid-2019. A reduction over time seems consistent with the international environment and with the Government's declared efforts to reduce it. But in light of recent evidence, it no longer seems central to assume it will decline so steeply. So we now assume that net migration flows will tend towards 165,000 in the long term, consistent with the ONS principal population projections. Relative to our December forecast, this raises potential output growth by 0.5 per cent over the forecast period via 16+ population growth."[7]

[5] See for example https://yougov.co.uk/news/2015/04/15/health-tops-immigration-second-most-important-issu/
[6] https://d25d2506sfb94s.cloudfront.net/cumulus_uploads/document/r4762fpv66/YG-Archive-Pol-Sunday-Times-results-060315.pdf
[7] Office for Budget Responsibility (March 2015) *Economic and fiscal* outlook, paragraph 3.17

5.27 Thus, the Office for Budget Responsibility considers that the international migration assumptions in the ONS 2012-based population projections appear realistic in light of the recent high figures, rather than being a cause for concern.

5.28 On this basis, it would seem unlikely that there will be a sudden reduction in the short-term to the levels of international migration foreseen in the ONS 2012-based projections. However, in the medium to long-term, as variations in economic performance across the EU reduce and policy interventions are implemented, a reduction to levels reasonably similar to the ONS projections would seem likely.

Recent population change

5.29 The next table shows the difference between the projected components of change for each Greater Manchester district over the period 2012-2014 in the ONS 2012-based sub-national population projections and that calculated from the 2012 and 2014 mid-year estimates (figures may not add up due to the components of change in the projections being rounded to the nearest 100).

	Difference between population change 2012-2014 identified in mid-year estimates and that projected in the 2012-based ONS sub-national population projections								
	Components of change								Total popu-lation change
Area	Natural Change	Internal Migration Inflow	Internal Migration Outflow	Internal Migration Net	Inter-national Migration Inflow	Inter-national Migration Outflow	Inter-national Migration Net	Other	
Bolton	-167	-412	1,255	-1,667	520	670	-150	39	-1,724
Bury	-141	226	511	-285	-312	-307	-5	6	-448
Manchester	-530	-823	-1,488	665	2,825	1,081	1,744	-36	1,970
Oldham	108	1,704	861	843	289	-210	499	40	1,249
Rochdale	-197	457	200	257	298	146	152	30	220
Salford	18	513	1,047	-534	511	340	171	100	-101
Stockport	198	1,159	675	484	111	-20	131	45	674
Tameside	-93	404	2,047	-1,643	-52	12	-64	30	-1,862
Trafford	-67	808	-365	1,173	-274	-228	-46	32	1,130
Wigan	-251	468	612	-144	-521	167	-688	88	-899
Greater Manchester	-1,322	-1,089	-237	-852	3,595	1,451	2,144	375	209
England	-33,966	4,856	7,664	-2,808	65,003	-50,494	115,497	9,966	88,759

5.30 Overall, the estimated population change for Greater Manchester over the period 2012-2014 was almost identical to that projected, exceeding it by just 209. However, there were quite significant differences in the distribution of that population change within Greater Manchester and the components of the population change. All districts saw a population increase over those two years, but this was much less than anticipated in the case of Bolton and Tameside, and considerably higher for Manchester, Oldham and Trafford. The projections were most accurate for Salford and Rochdale, in terms of total population change.

5.31 As with England as a whole, the mid-year estimates suggest that Greater Manchester has seen less natural growth (the balance of births and deaths) than projected, and only Oldham, Salford and Stockport have seen more natural growth than expected. Greater Manchester has also seen higher net internal out-migration than projected (10,652 compared to the projected 9,800). Bolton and Tameside in particular have seen much higher internal outflows than predicted, whereas Trafford has had significantly higher net inflows. The lower than anticipated natural change and net internal migration was more than offset for Greater Manchester as a whole by the higher than expected international migration, which saw net inflows more than 2,100 greater than projected. The vast majority of this difference was accounted for by Manchester, although it was also reasonably significant for Oldham. Flows in both directions were significantly underestimated in the projections for Bolton and Salford, but this had relatively little impact on the net figures for those two districts. Wigan saw significantly less net international migration than projected.

Unattributable population change

5.32 The mid-year estimates between the last two censuses include an allowance for 'unattributable population change'. Essentially, once the ONS had estimated the births, deaths, migration flows and other changes over that period, they were left with a gap between the population that was recorded in the 2011 Census and that which they would have expected. This difference is referred to as the unattributable population change (UPC). It was positive for the country as a whole, although some individual districts had a negative UPC.

5.33 The ONS has described the UPC as follows:

> "Following the 2011 Census, the intercensal population estimates were rebased so that the midyear estimates (MYEs) for the period mid-2002 to mid-2011 were in line with the 2011 Census. After making allowances for methodological changes and estimated errors in the components during the decade, the remaining difference between the rolled forward 2011 MYEs and the 2011 Census based MYEs for England was 103,700. This is referred to as Unattributable Population Change (UPC) in this paper."[8]

5.34 The table below shows the total UPC for Greater Manchester and its ten districts for the period 2001-2011 split by age group.

	Unattributable population change 2001-2011						
	Age group						Total
Area	0-14	15-29	30-44	45-59	60-74	75+	UPC
Bolton	937	850	2,222	1,143	185	-356	4,981
Bury	-596	-826	428	-149	44	-179	-1,278

[8] Office for National Statistics (January 2014) *2012-based Subnational Population Projections for England: Report on Unattributable Population Change*, p.2

Area	Unattributable population change 2001-2011						
	Age group						Total UPC
	0-14	15-29	30-44	45-59	60-74	75+	
Manchester	10,086	-1,833	9,355	3,187	-300	-1,906	18,589
Oldham	1,155	1,710	796	-295	-373	-164	2,829
Rochdale	1,230	1,768	1,790	183	269	-309	4,931
Salford	2,114	-4,718	1,472	764	4	-330	-694
Stockport	-354	-1,380	-1,126	-294	-179	-240	-3,573
Tameside	-280	41	142	685	159	-407	340
Trafford	2,374	974	1,928	1,530	817	249	7,872
Wigan	1,478	1,428	2,491	1,353	-116	98	6,732
Greater Manchester	18,144	-1,986	19,498	8,107	510	-3,544	40,729

5.35 The ONS identified a total UPC for England of 103,700[9], and in this context the figure of over 40,700 for Greater Manchester would appear significant. Almost half of Greater Manchester's UPC related to Manchester, but there were also quite high figures for Trafford, Wigan, Bolton and Rochdale. The UPC was very small for Tameside, and Bury, Salford and Stockport had negative UPCs. Greater Manchester's UPC was concentrated in the 0-14 and 30-44 age groups.

5.36 The ONS has suggested that: "The UPC is likely to be due to a combination of sampling variety, or other issues, in the following:

- International migration estimates
- Census estimates, both 2001 and 2011
- Internal migration estimates (at subnational level only)"[10]

5.37 All three of these issues could be relevant in the case of Greater Manchester. For example, there was an acknowledged undercount of around 30,000 residents in Manchester in the 2001 Census, which highlights the potential inaccuracy of the estimates for both the start and end points of the 2001-2011 period. It is possible that this undercount was actually higher, or that it was also seen in 2011 and/or in other districts.

5.38 In September 2015, the Office for National Statistics published a detailed report and associated data tool on the unattributable population change. The report explains that:

"The aim of this research is to provide indications of whether the accuracy of measurement of each component of the rolled forward mid-year estimates would have led to a tendency for the estimates to be either over or under estimated. It should be noted that this work does not seek to precisely quantify the contribution of any sub optimal estimation of each component to

[9] Office for National Statistics (January 2014) *2012-based Subnational Population Projections for England: Report on Unattributable Population Change*, p.3
[10] Ibid, p.3

the overall discrepancy. The results of applying these approaches for each lower tier and unitary local authority in England and Wales by five year age and sex are provided in the accompanying data tool." [11]

5.39 A shortcoming of the work is that it has not been possible to make an assessment of the likely contribution of international emigration to unattributable population change.

5.40 The report considers that part of the UPC at the national level "may have been that the population estimated by the 2001 Census was too low. However, it is also likely that the net international migration and international immigration in particular were partly responsible for this difference"[12].

5.41 The data tool provides a general indication of the components that may have been responsible for the inconsistencies between the mid-year estimates and the 2011 Census for individual districts. However, as noted in the quote above, it does not provide any quantification and nor does it claim to be definitive. It indicates that the UPC for Manchester may have been due to a combination of inaccuracies in both the 2001 Census and international migration estimates, the UPCs for Bolton, Oldham, Rochdale, Salford and Wigan may have been primarily the result of an undercount of international migration, the UPCs for Trafford and Bury may have resulted from a combination of inaccuracies in internal and international migration as well as 2001 Census figures, and Stockport's negative UPC and Tameside's small positive UPC may be mainly due to inaccurate estimates of internal migration.

5.42 The ONS did not make any adjustment to its 2012-based population projections to take account of UPC. It explains that:

"An adjustment for UPC could only be made if it can be demonstrated that it measures a bias in the trend data that will continue into the future.

Quality assurance of the 2012-based Subnational Population Projections did not reveal any problems indicating that adjustments for UPC are necessary. The resulting projections generally appear to better reflect trends across all the LAs than recent sets of projections.

ONS decided not to make an adjustment for UPC in the 2012-based National Population Projections or in the series of population estimates based on the 2011 Census. This is because the UPC for England (103,700) is within the confidence interval for the international migration estimates. It is also within the sum of the confidence intervals for the 2001 and 2011 Census.

The UPC is unlikely to be seen in continuing subnational trends as:

- It is unclear what proportion of the UPC is due to sampling error in the 2001 Census, adjustments made to MYEs post the 2001 Census,

[11] Office for National Statistics (September 2015) *Further understanding of the causes of discrepancies between rolled forward and census based local authority mid-year population estimates for 2011*, p.3
[12] Ibid, p.25

sampling error in the 2011 Census and/or error in the intercensal components (mainly migration).

- If it is due to either 2001 Census or 2011 Census then the components of population change will be unaffected
- If it is due to international migration, it is likely that the biggest impacts will be seen earlier in the decade and will have less of an impact in the later years, because of improvements introduced to migration estimates in the majority of these years.

Therefore ONS propose that no adjustment be made in the 2012-based Subnational Population Projections for the unexplained component of population change in the revised population estimates series."[13]

5.43 The key issue is the extent to which not including the UPC may have led to an under- or over-estimate of likely future net international migration to individual districts within Greater Manchester. The recent ONS report on understanding the causes of the UPC stated that:

"In order to produce the revised series of population estimates for the last decade, the UPC was apportioned across each of the 10 years using the cohort method which takes account of the fact that individuals age as the decade progresses. This method was applied to both the national and subnational MYEs."[14]

5.44 This effectively means that the reasons for the UPC were assumed to apply evenly across the period 2001-2011, rather than the UPC potentially being concentrated in particular years due to changes in the methodologies used to produce the various components in the mid-year estimates and/or specific short-term issues that made estimating the components more difficult.

5.45 A report on the methods used to revise the mid-year estimates between the last two censuses explains that:

"In November 2011, as part of its Migration Statistics Improvement Programme, ONS published immigration totals using an improved method for the years ending mid-2006 onwards. At the time the new method totals were described as 'indicative' and did not replace the official totals created using the old method. However, following analysis and user consultation, the new method has been adopted as the way forward for future estimates.

In addition the new method (indicative) estimates for the years ending mid-2006 to mid-2011 have been applied to the revised estimates, replacing the previous international immigration figures. However, for the years ending mid-

[13] Office for National Statistics (January 2014) *2012-based Subnational Population Projections for England: Report on Unattributable Population Change*, p.4
[14] Office for National Statistics (January 2014) *2012-based Subnational Population Projections for England: Report on Unattributable Population Change*, p.2

2002 to mid-2005 the existing immigration flows have been retained as the administrative data required by the new method are not available."[15]

5.46 This new method is similar to the one used in the ONS report on understanding the causes of the UPC in order to identify the potential contribution that inaccuracies in international migration estimates may have made to the UPC. Consequently, it would appear likely that any UPC associated with problems in accurately recording international migration will be concentrated in the early years of the period 2001-2011, whereas the methodology for apportioning the UPC between the mid-year estimates applied evenly across that period, as explained above.

5.47 The methodology report on the 2012-based sub-national population projections explains that:

"For immigration (international inflows) an average of six years' historic trend data from 2006/7 to 2011/12 has been used to give an average count of moves of international migrants into local authorities in England."[16]

5.48 Thus, the mid-year estimates for the period that has influenced the international migration trends underpinning the 2012-based sub-national population projections have included a revised approach to estimating international migration, which should be much more accurate than that used in earlier years. Therefore, it would seem likely that any UPC associated with international migration was in fact concentrated in the period 2001-2005, and has had limited influence on the sub-national population projections.

5.49 The methodology report on the 2012-based sub-national projections highlights that:

"The reconciliation work that took place following the 2011 Census has already identified some areas in which IPS [international passenger survey] based international immigration understated the level of flows. For example the flow of EU immigrants is thought to have been understated by around 250,000 over the decade and was particularly concentrated around the period 2005-2009"[17].

5.50 However, a separate report on the 2012-based sub-national population projections explains that: "Estimates from mid-2006 to mid-2011 will include the adjustments for additional EU8 migrants identified when the population estimates were revised after the 2011 Census"[18]. Thus, the trend data used to

[15] Office for National Statistics (April 2013) *Methods used to revise the subnational population estimates for mid-2002 to mid-2010*, p.4
[16] Office for National Statistics (May 2014) *Methodology: 2012-based Subnational Population Projections*, p.11
[17] Office for National Statistics (September 2015) *Further understanding of the causes of discrepancies between rolled forward and census based local authority mid-year population estimates for 2011*, p.27
[18] Office for National Statistics (May 2014) *Methodology: 2012-based Subnational Population Projections*, p.10

inform the 2012-based subnational population projections has been corrected for this error.

5.51 This analysis would suggest that the UPC for Greater Manchester may have been the result of a combination of factors, including errors in the 2001 Census and unrecorded international migration. However, improvements in estimates of international migration, and the revision of mid-year estimates from 2006 to account for this, means that the UPC associated with international migration is likely to have been concentrated in the period 2001-2006. Therefore, the trend data used to inform the 2012-based sub-national population projections should provide a more accurate picture with no allowance being made for unattributable population change, and seeking to add in the UPC would be likely to lead to a significant overestimate of future population growth.

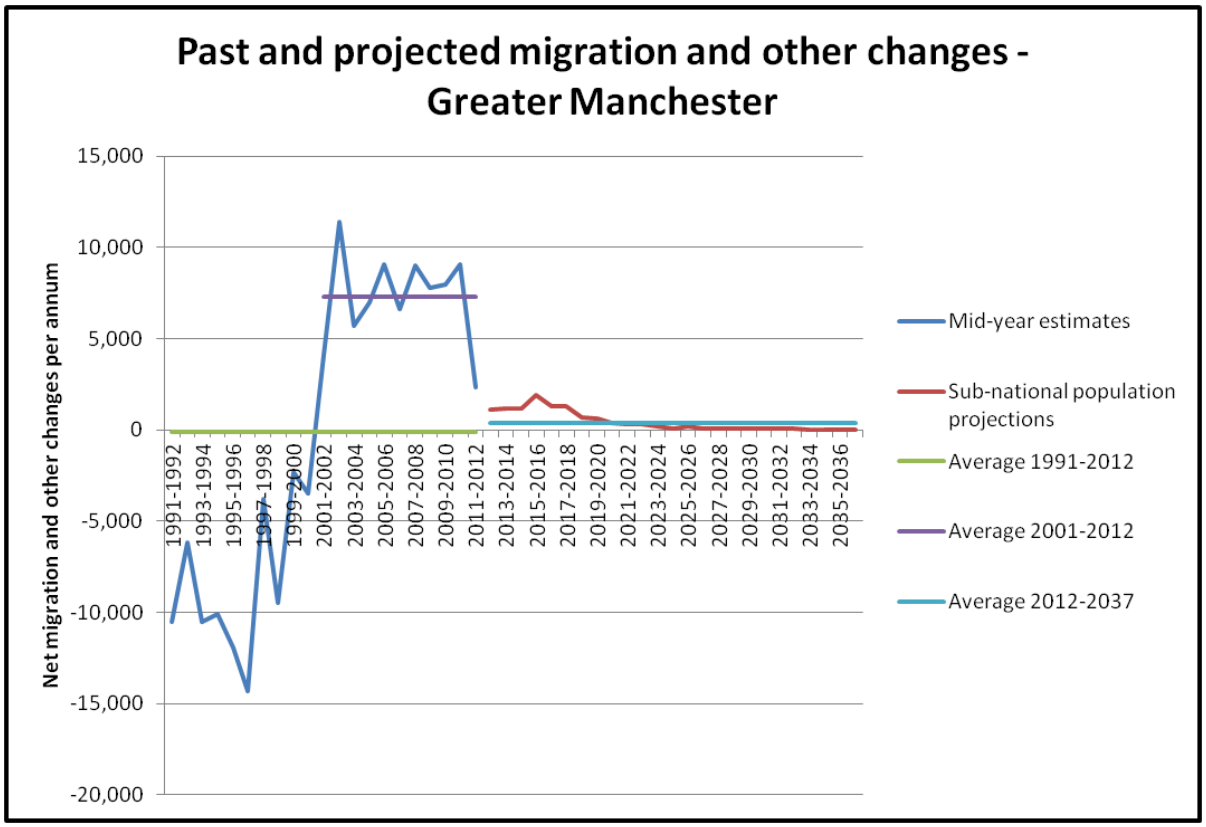
Migration and other changes

5.52 In addition to births, deaths, migration and unattributable population change, the mid-year estimates also include components for:

- Special changes, which relate to special populations comprising prisoners, and armed forces and their overseas dependent populations
- Other adjustments, which relate to other issues such as minor local authority boundary changes and large postcode areas that overlap local authority boundaries[19]

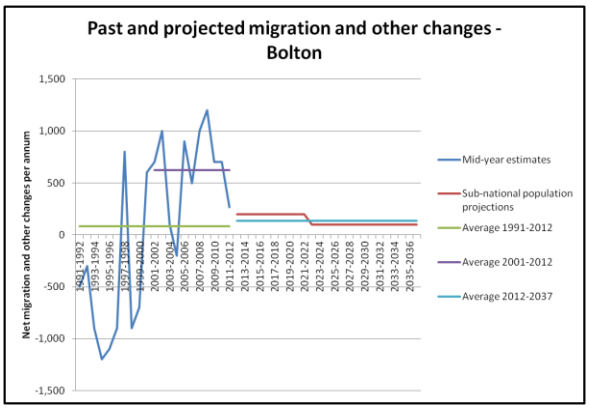
5.53 The mid-year estimates before 2001 grouped migration and all other changes together. Consequently, it is not possible to compare migration alone from before 2001 with the migration component of the mid-year estimates, but it is possible to compare migration and other changes. This is done in the following graph for Greater Manchester, using a start date of 1991.

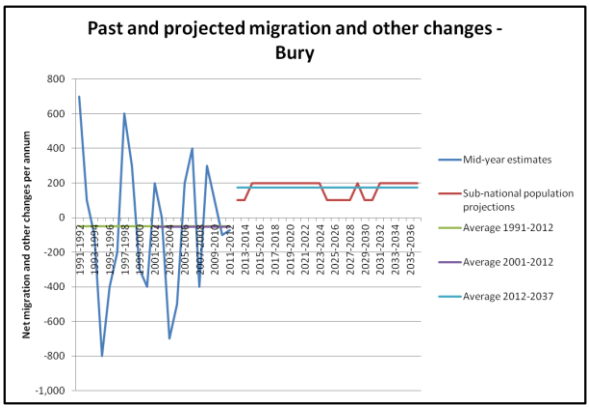
[19] Office for National Statistics (September 2014) *Population estimates and components of population change: Detailed time series 2001 to 2013*

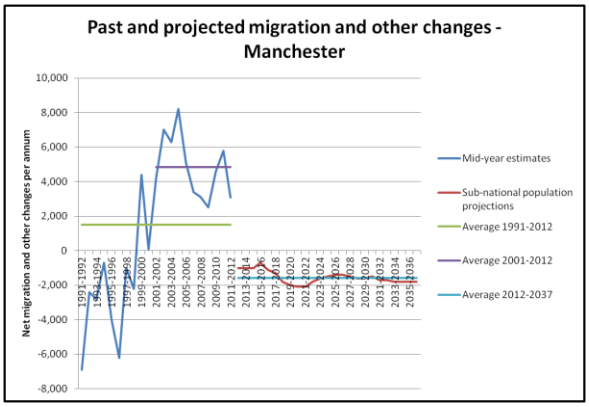


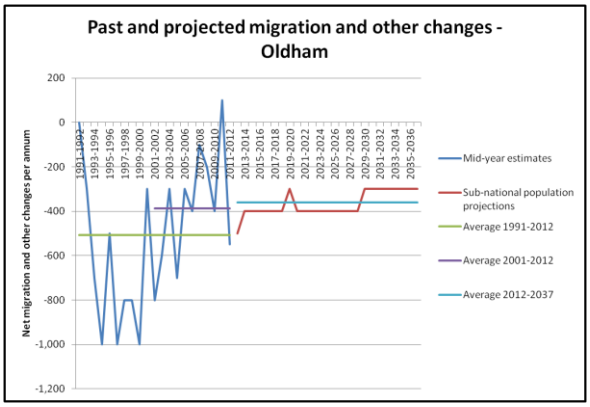
5.54 Looking over this longer time period, the projected level of net migration is very similar to the average level of net migration and other changes seen since 1991. The average for the period 1991-2012 masks a very substantial change between the 1990s and 2000s, which immediately raises the question as to whether the higher figures for the 2000s are likely to be continued in the long-term or a partial or full reversion to the levels of the 1990s might be expected, and equally if either of those situations is desirable.

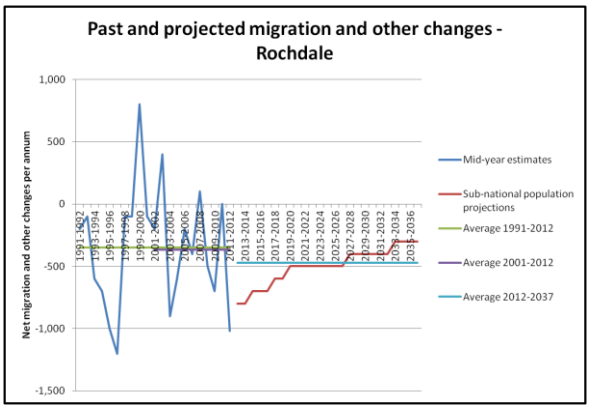
5.55 The following set of graphs displays the same information for each of the ten districts.

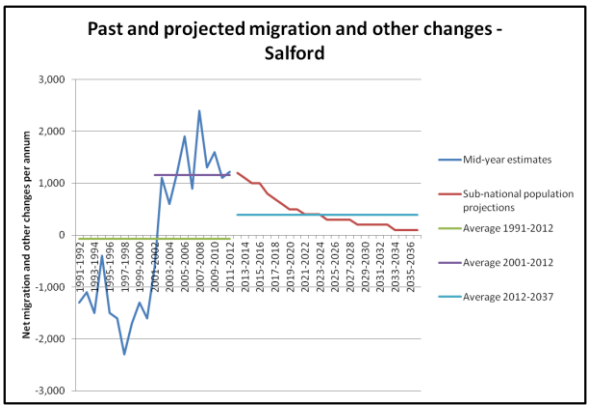


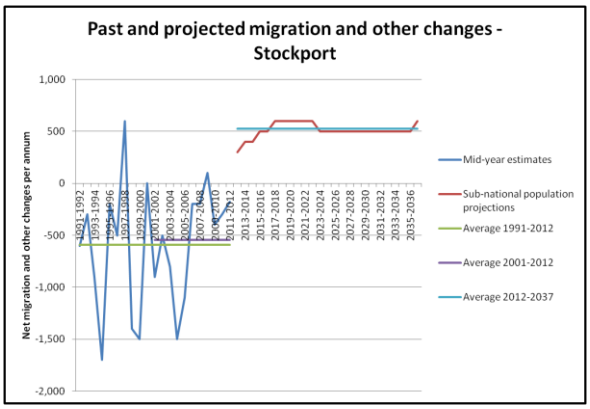


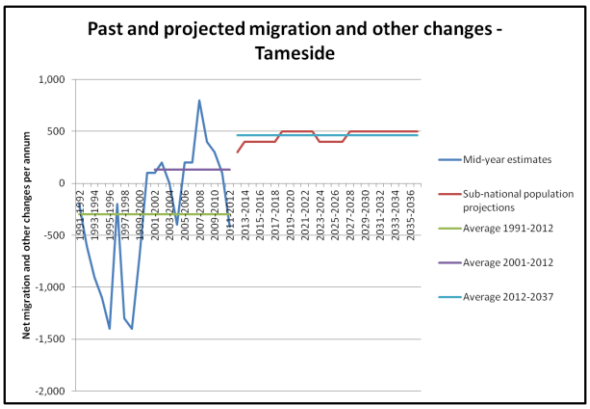


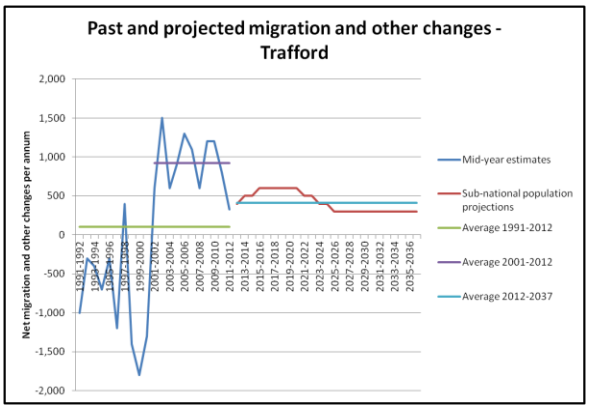


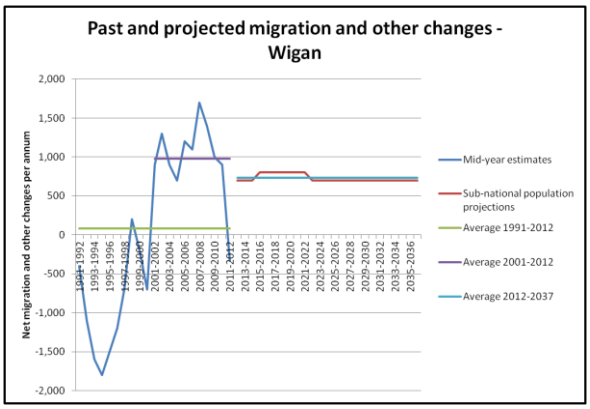








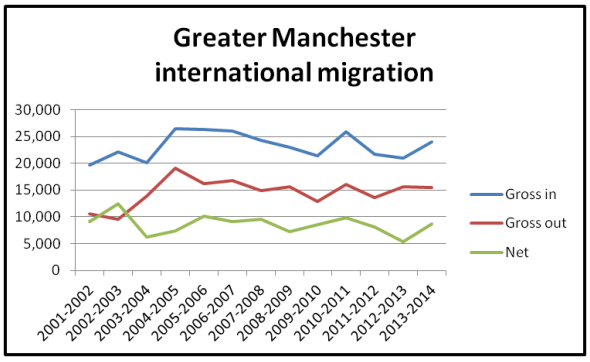


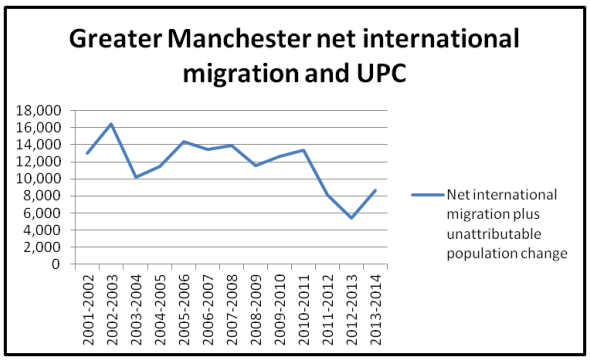


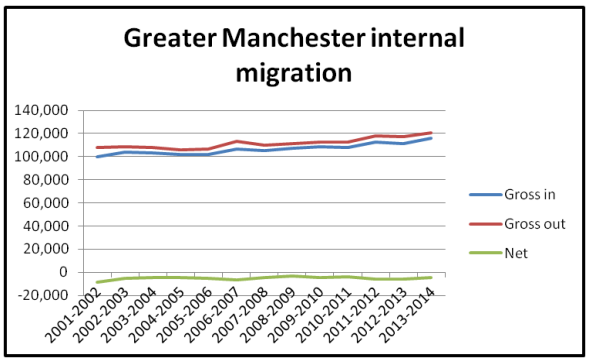
5.56 As with the graphs for migration alone, the level of fluctuation in the past figures is very noticeable. Several of the districts have similar patterns to Greater Manchester as a whole, with the average figures being much higher

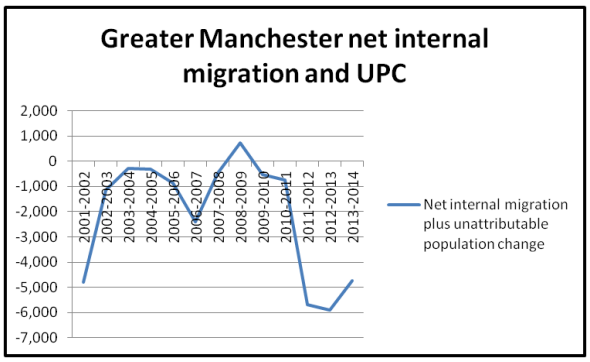
in the 2000s than the 1990s, whereas there is little discernible difference in the cases of Bury, Rochdale and Stockport. Only Manchester and Rochdale have a lower average figure for the projection period of 2012-2037 than they do for 1991-2012.

5.57 The unattributable population change is only included within the components of change for the mid-year estimates over the period 2001-2011. Information on the components of change for the period 2011-2014 is now available, where it is assumed that all population change can be attributed (noting the ONS discussion of UPC above, which suggests that international migration counts have improved). This enables a comparison of migration components before and after 2011 to determine whether there has been any significant alteration in trajectory that might be explained by the unattributable population change (UPC). The first graph below shows the international migration components of change from the mid-year estimates for Greater Manchester. The second graph then plots net international migration plus the UPC, if it were assumed that the UPC was solely due to international migration. The third graph shows the internal migration components of change for Greater Manchester, and the fourth plots the internal migration plus the UPC, if it were to be assumed that all of the UPC was the result of inaccuracies in the sub-national internal migration estimates.









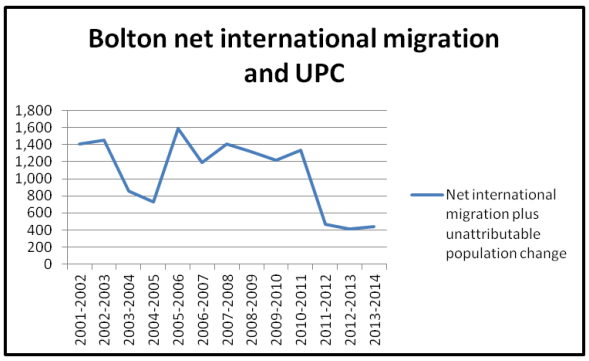
5.58 The international migration graph has some variance in the components, but overall there appears to be a slight downward trend for each line since 2004. If the UPC was due to inaccuracies in the international migration estimates for the whole of the period 2001-2011, then it would be expected that, all other things being equal, there would be a significant increase in the levels of international migration as the graph changes from only showing part of the international migration up to 2011 (because the UPC is excluded) to showing

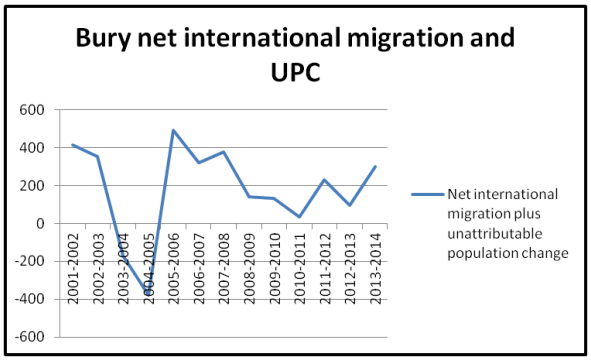
all of it from 2011 (on the basis that all international migration is now recorded). However, there is no such fluctuation. This is reflected in the second graph, which shows a sudden decline in 2011 once the UPC is added to the net international migration for 2001-2011. This suggests that either there was an abrupt change in international migration in 2011, or the inclusion of the UPC as international migration is inappropriate. In the absence of any other evidence for a sudden shift in international migration in 2011, the latter would appear to be a more appropriate conclusion.

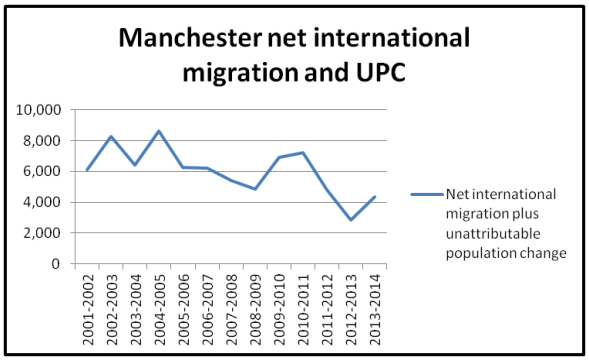
5.59 A similar picture emerges from the two internal migration graphs, with the components all showing very little fluctuation and a very gradual upward trend, but the final graph has a very sudden drop in 2011 when the UPC is added to the internal migration for the period 2001-2011.

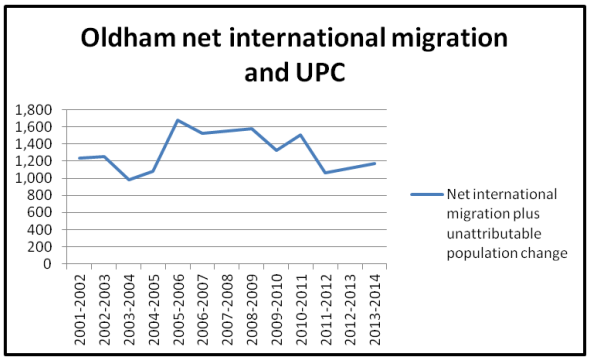
5.60 These graphs reiterate the earlier conclusion that adding the UPC to the 2012-based sub-national population projections would be likely to lead to an overestimate of future population growth, and that the migration assumptions within those projections are reflective of actual past trends.

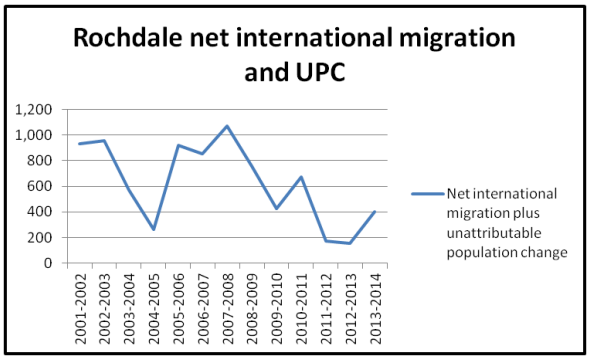
5.61 This can also be seen at the district level. The next set of graphs show the sum of the net international migration and UPC for each of the ten districts.

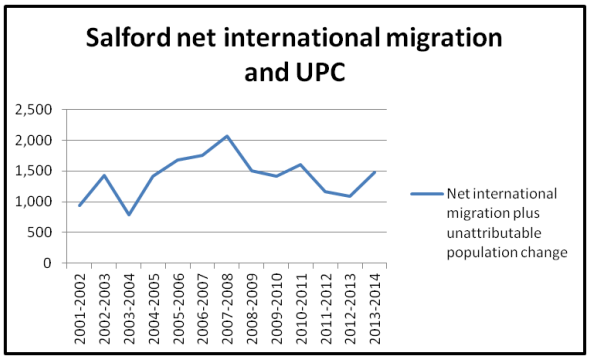


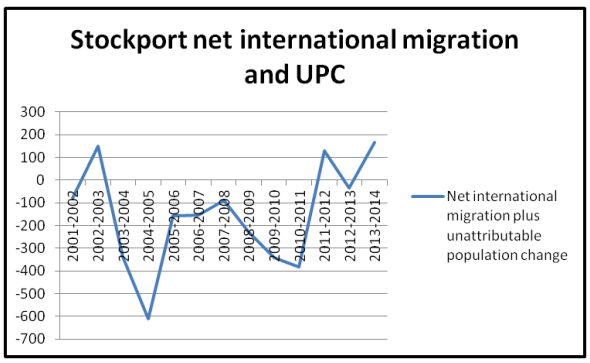


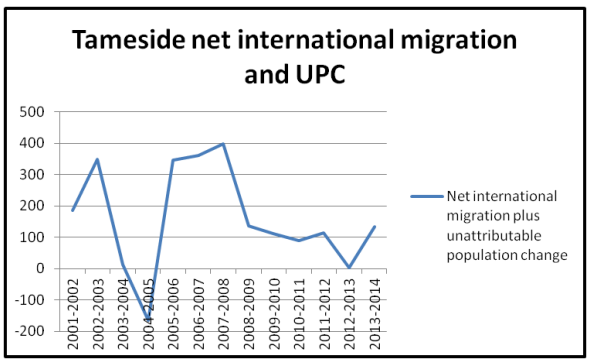


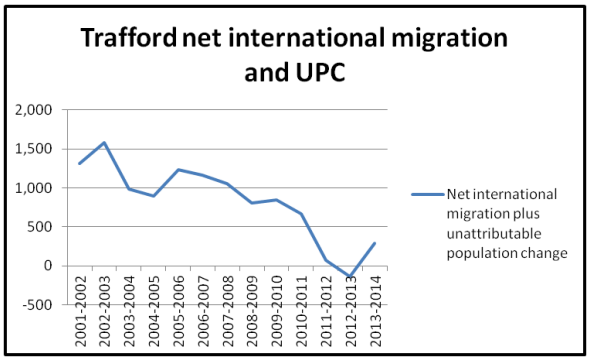


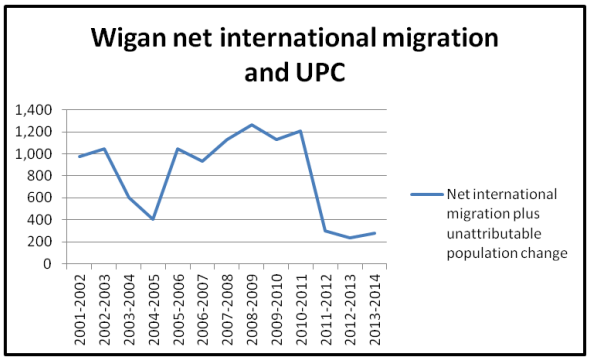












5.62 The districts with the highest positive UPCs, such as Bolton, Manchester, Rochdale, Trafford and Wigan have graphs similar to that for Greater Manchester, with significant reductions in the last three years displayed, suggesting that adding the UPC to the net international migration does not identify a realistic trend. The graph for Stockport displays the opposite issue, with the negative UPC depressing the line for most of the period, with it then rising considerably in the last three years when the UPC is not included.

Testing alternative population scenarios

5.63 The Government's Planning Practice Guidance explains that:

"The household projections produced by the Department for Communities and Local Government are statistically robust and are based on nationally consistent assumptions. However, plan makers may consider sensitivity testing, specific to their local circumstances, based on alternative assumptions in relation to the underlying demographic projections and

household formation rates. Account should also be taken of the most recent demographic evidence including the latest Office of National Statistics population estimates." (paragraph 2a-017-20140306)

5.64 In response to the issues raised through the 2014 GMSF consultation, a series of alternative population scenarios have been modelled using Popgroup software[20]. These focus on alternative assumptions around migration rates, and all of the scenarios use the same birth and death rates as the ONS 2012-based sub-national population projections. This does not mean that these alternative assumptions are considered to be appropriate, or more likely to be realised than those underpinning the ONS projections, but instead reflects the need to test the impact of adjusting certain key variables.

5.65 Changes in the birth and death rates could also be modelled, leading to increases or decreases in forecast population. The comparison earlier in this section of the mid-year estimates and the 2012-based sub-national population projections for the period 2012-2014 showed that the natural change (births minus deaths) in Greater Manchester has been more than 1,000 lower than expected, and this was solely due to an overestimate of births, with the deaths slightly below the projection. Consequently, the only evidence available would suggest that the birth and death rates used in the projections may lead to an overestimate of natural change, but at this stage it is considered appropriate to assume that the long-term estimates are the most accurate basis on which to forecast population change.

5.66 In order to maintain full comparability with the ONS 2012-based sub-national population projections, the main scenarios set out below all use the 2012 mid-year estimates as their starting point. However, two further mid-year estimates have since been published by ONS, for 2013 and 2014, and therefore more up-to-date base population figures are available as well as a further two years of trend data on migration. Separate sensitivity testing has been undertaken to gauge the potential impact of this, and is described later in this report.

5.67 As the ONS notes:

"The 2012-based subnational population projections for England provide an indication of the possible size and structure of the future population, based on the continuation of recent demographic trends and are produced on a consistent basis across all local authorities in England. … The projections are trend-based, making assumptions about future fertility, mortality and migration levels based on trends in recent estimates, usually over a five-year reference period. They give an indication of what the future population size and age and sex structure might be if recent trends continued. They are not forecasts and take no account of policy nor development aims that have not yet had an impact on observed trends"[21].

[20] Popgroup is a demographic model that uses Microsoft's Excel software. It was developed by Bradford Council, the University of Manchester and Andelin Associates, and is managed by Edge Analytics on behalf of the Local Government Association.
[21] Office for National Statistics (May 2014) *Methodology: 2012-based Subnational Population Projections*, p.1

5.68 A key point here is that the ONS sub-national population projections are internally consistent. The alteration of any assumptions that would lead to a different level of population growth in Greater Manchester would be expected to have knock-in implications for other parts of the country. This is particularly the case for internal migration within the UK, but would also be seen if international migration flows differed, since some of those international migrants would then move within the UK.

5.69 It is also important to recognise that the ONS sub-national population projections seek to take full account of recent demographic trends. Any scenarios based on different migration assumptions that are also informed by past trends therefore simply reflect an alternative approach to modelling population growth. They are not inherently better simply because they more explicitly use a particular assumption based on past trends, and indeed could be considered less robust as they lack the more comprehensive and integrated approach taken by ONS. In many ways they are more simplistic, as they take average past migration rates rather than reflecting changing trends in the levels of migration.

5.70 The main scenarios that have been modelled using Popgroup are described in turn below. The migration assumptions are made by sex and five-year age group (with an aggregated 75+ age group) for each district in Greater Manchester[22]. Ten-year averages are used in these scenarios, but some separate sensitivity testing using five-year averages has also been undertaken, and is discussed later below. It should be noted that the running of these scenarios in no way suggests that the assumptions behind them are considered to be more appropriate than those made by the ONS in its population projections, and they simply enable the impact of different assumptions to be recognised.

1) ONS 2012-based sub-national population projections
The ONS projections have been replicated using Popgroup.

2) 10-year average internal migration rates
The 10-year average annual rates of internal (within the UK) migration inflows and outflows have been calculated from the ONS mid-year estimates for the period 2002-2012, and those average rates have been applied to each year of the projection period. The international migration flows assumed in the ONS projections have remained unchanged.

3) 10-year average international migration flows
The 10-year average absolute international migration inflows and outflows have been calculated from the ONS mid-year estimates for the period 2002-2012, and that average has been applied to each year of

[22] Where internal rates rather than flows have been used, then these are for single years of age, with the an aggregated 90+ age group.

the projection period. The internal (within the UK) migration rates in the ONS projections have been applied, rather than absolute flows [23].

4) 10-year average international migration flows, and unattributable population change

This is the same as scenario 3, but it also makes an allowance for unattributable population change (UPC). This has been done by assuming that all of the UPC is due to unrecorded international migration. The average annual UPC has been added to the 10-year average annual international inflows when it is positive, and it has been added to the 10-year average annual international outflows when it is negative. The average annual UPC has been calculated for the period 2002-2012 for consistency with the period used to calculate the average annual migration flows, but since no UPC was identified in 2011-2012 this involves dividing the UPC for 2002-2011 by nine rather than ten to give an annual average.

5) 10-year average internal and international migration flows

This is the same as scenario 3, but uses the average absolute internal migration flows from the period 2002-2012 rather than the average rates or the rates from the ONS projections. This scenario therefore ignores the fact that the levels of internal migration are likely to adjust as population sizes of individual districts and the UK as a whole change over time.

6) 10-year average internal and international migration flows, and unattributable population change

This is the same as scenario 4, but uses the average absolute internal migration flows from the period 2002-2012 rather than the average rates or the rates from the ONS projections. It is therefore similar to scenario 5, but with the addition of unattributable population change.

7) 10-year unattributable population change plus ONS international flows

This scenario assumes that the ONS migration projections are correct, apart from the fact that they take no account of unattributable population change. It uses the internal migration rates from the ONS projections, and also takes the ONS international migration absolute flows as its starting point. It then makes an allowance for the average annual UPC from the period 2001-2011, by adding it to the international inflows when it is positive and adding it to the outflows when it is negative.

8) 10-year average international migration flows to 2019 returning to ONS projected flows by 2023

This scenario responds to the fact that international migration has been higher than projected over the period 2012-2014, and that this may

[23] Rates relate to the number of people moving per 1,000 population, whereas the absolute flows relate to the actual number of people moving irrespective of the total population size.

continue in the short-term but in the longer term a reduction to projected figures might be expected. The 10-year average annual international migration inflows and outflows have been calculated from the ONS mid-year estimates for the period 2002-2012, and that average has been applied to each year of the projection for the period 2012-2019. It has then been assumed that there is a gradual return to the ONS projected international migration flows, which are applied from 2023 onwards. The internal migration rates assumed in the ONS projections have remained unchanged throughout the projection period.

5.71 In addition to the Popgroup modelling, a ninth demographic scenario has been produced using the Greater Manchester Forecasting Model (GMFM). The GMFM is produced by Oxford Economics on behalf of AGMA. It uses historic data as a basis for estimating the inter-relationships between variables, based on a detailed analysis of data and research. The baseline forecast is consistent with the regional, national and global models produced by Oxford Economics. The latest version of the GMFM baseline forecast was published in December 2014 (referred to hereafter as the 2014 GMFM). The 2014 GMFM uses the same birth and death rates as the ONS 2012-based sub-national population projections, but then models migration using a range of economic variables such as differentials in house prices, wages and unemployment. The 2014 GMFM assumes that net international migration to the UK will be lower than identified in the ONS projections.

5.72 The June 2015 forecasts from Experian have also informed this stage of work on the Greater Manchester Spatial Framework (GMSF). They take the ONS 2013 mid-year estimates as their starting point, and then apply the ONS 2012-based sub-national population projections by single year of age, constraining the total to the national projections. This gives a slightly lower population in 2035 than the ONS projections themselves, 3,028,690 compared to 3,030,133, but given the very limited difference to the official projections and the fact that they essentially use the same assumptions, the Experian population outputs are not considered further in this report.

5.73 No scenarios have been produced that specifically seek to remove any implications of the last recession. There is no indication that Greater Manchester performed significantly better or worse during the recession than other locations in the UK with which it has a reasonably strong migration relationship, and so past trends for internal migration are likely to provide a good indication of future levels. In terms of international migration, if anything there has been a suggestion that the relatively strong economic performance of the UK, particularly compared to the rest of the European Union, has promoted higher net inflows over recent years than would otherwise have been expected. Consequently, it is not considered that the recession will result in past trends underestimating future net migration, and so no population scenarios have been run that specifically seek to address this issue. The potential impact of the recession on household formation, and therefore on the translation of population into households, is discussed in the next section.

5.74 The results of these nine demographic scenarios for Greater Manchester are summarised in the table below. It also identifies, for comparison, the actual population change recorded in the ONS mid-year estimates for the periods 1989-2012 (i.e. the 23-year period prior to the projection period 2012-2035 of the same length), 2002-2012 (previous ten years) and 2007-2012 (previous five years).

		Population change 2012-2035			
		Absolute change		% change	
Scenario		2012-2035	Per annum	2012-2035	Per annum
1	2012-based population projections	327,924	14,258	12.14	0.50
2	10-year average internal migration rates	258,694	11,248	9.57	0.40
3	10-year average international migration flows	363,891	15,821	13.47	0.55
4	10-year average international migration flows and unattributable population change	445,663	19,377	16.49	0.67
5	10-year average internal and international migration flows	440,465	19,151	16.30	0.66
6	10-year average internal and international migration flows, and unattributable population change	563,979	24,521	20.87	0.83
7	10-year unattributable population change plus ONS international flows	409,494	17,804	15.15	0.62
8	10-year average international migration flows to 2019, return to ONS flows by 2023	337,151	14,659	12.48	0.51
9	2014 GMFM	241,306	10,492	8.93	0.37
		Absolute change		% change	
Past population change		Total for period	Per annum		Per annum
	ONS mid-year estimates 1989-2012	159,900	6,952		0.27
	ONS mid-year estimates 2002-2012	179,000	17,900		0.69
	ONS mid-year estimates 2007-2012	103,600	20,720		0.78

5.75 The various scenarios span a wide range of population growth for Greater Manchester, from 241,306 in the 2014 GMFM to 563,979 in the '10-year average internal and international migration flows, and unattributable population change' scenario, which equates to a proportionate increase of between 8.93% and 20.87%.

5.76 The ONS 2012-based sub-national population projections sit towards the bottom of this range, with a total increase of 327,924 or 12.14%. The '10-year average internal migration rates' scenario only differs from the ONS projections in using calculated average internal migration rates rather than the trend-based rates from the period 2007-2012 used by ONS. However, this results in a significantly lower population growth forecast of 258,694 or 8.93%.

5.77 Using the 10-year average international migration flows rather than the projected ONS flows, as in scenario 3, leads to an uplift in population growth of about 10% compared to the ONS projections, as this extrapolates a period of high net international migration throughout the forecast period rather than assuming a reduction as in the ONS projections. If unattributable population change is then added in, as in scenario 4, this leads to a very significant increase.

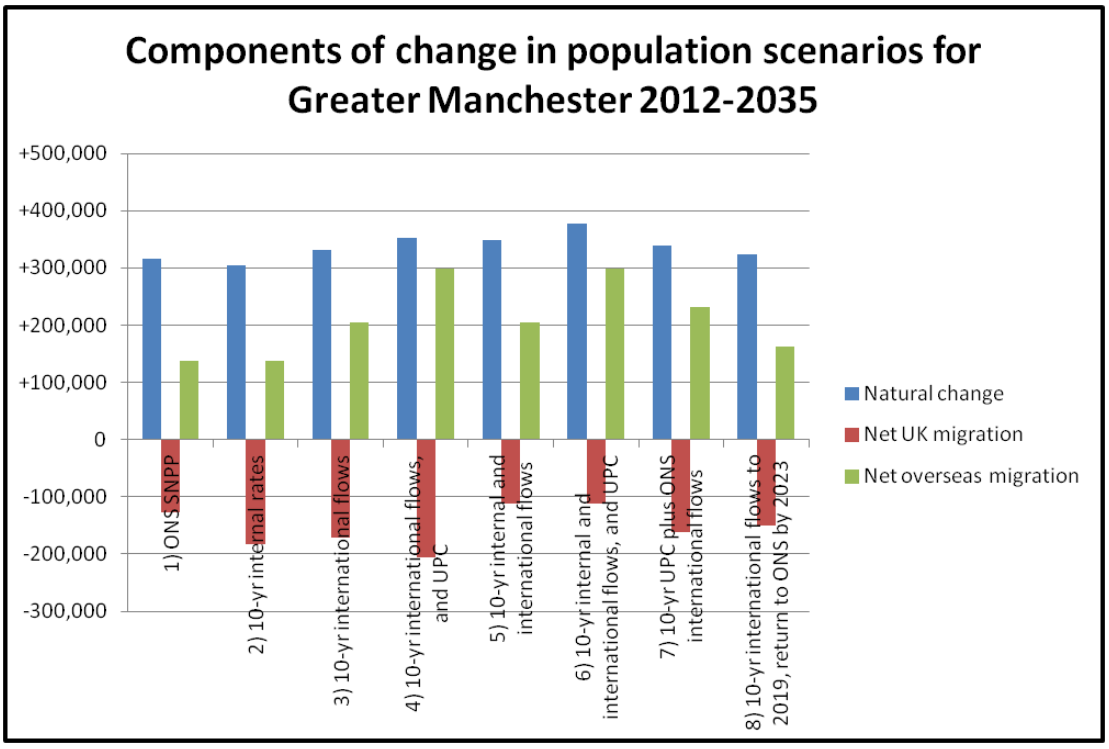
5.78 If absolute internal migration flows rather internal migration rates are used then this leads to a further major increase in population growth, as in scenarios 5 and 6. However, as noted above, this raises methodological issues as in practice internal migration flows would be expected to alter as population levels change. The significant impact of adding in the UPC alone, without changing the ONS baseline international migration assumptions, can be seen in scenario 7.

5.79 Assuming higher levels of international migration in the early years of the forecast period, as in scenario 8, has a relatively small impact on the level of population growth in Greater Manchester over the period 2012-2035, adding an average of 400 additional people per annum compared to the ONS projections.

5.80 The final column in the table, which is the average percentage change per annum, enables a comparison with the different past periods. The scenarios range from 0.37% to 0.83% per annum, with a figure of 0.50% per annum for the ONS 2012-based sub-national population projections. The long-term past average for the period 1989-2012 is substantially below the bottom end of that range, at 0.27% per annum. Population growth has been more rapid in recent years, with an average rate of 0.69% per annum for 2002-2012 and 0.78% per annum for 2007-2012, which are towards the top end of the range and are only exceeded by scenario 6.

5.81 As a comparison, the total population in England and Wales increased by an average of 0.50% per annum over the period 1989-2012, 0.73% per annum in 2002-2012, and 0.79% per annum in 2007-2012.

5.82 The graph below shows the components of change for each scenario over the period 2012-2035.



5.83 The largest difference between the forecasts is in the migration components, although the natural change also varies to a reasonable extent due to the impact of migration and total population on birth rates. Scenarios 5 and 6, which use average absolute internal migration flows rather than average rates, have the lowest levels of net out-migration from Greater Manchester. Using the 10-year average international migration flows rather than the ONS assumptions leads to an uplift in the net international in-migration, but also an increase in the net internal out-migration as overseas migrants disperse to other parts of the country. The addition of the unattributable population change as international migration can also be seen to have a significant impact on overall net international in-migration, for example increasing it by about 50% in scenario 4 compared to scenario 3.

5.84 The next table compares the total population change over the period 2012-2035 from the various scenarios for each of the ten districts in Greater Manchester.

Scenario		Population change 2012-2035				
		Bolton	Bury	Manchester	Oldham	Rochdale
1	2012-based population projections	33,125	19,623	75,279	18,303	10,196
2	10-year average internal migration rates	26,599	18,729	43,648	16,496	8,050
3	10-year average international migration flows	38,037	21,153	100,736	17,918	11,976
4	10-year average international migration flows and unattributable population change	48,352	20,139	131,286	24,337	22,348
5	10-year average internal and international migration flows	33,976	16,340	222,881	13,599	342
6	10-year average internal and international migration flows, and unattributable population change	49,216	13,918	274,293	24,858	17,626

7	10-year unattributable population change plus ONS international flows	43,502	18,653	105,602	24,632	20,610
8	10-year average international migration flows to 2019, return to ONS flows by 2023	34,858	20,172	81,884	18,250	10,803
9	2014 GMFM	25,007	17,936	75,990	9,503	6,508
		Population change 2012-2035				
Scenario		Salford	Stockport	Tameside	Trafford	Wigan
1	2012-based population projections	48,957	27,687	26,937	32,612	35,206
2	10-year average internal migration rates	36,400	22,402	24,186	25,259	36,927
3	10-year average international migration flows	54,877	29,636	27,570	34,892	27,095
4	10-year average international migration flows and unattributable population change	56,637	24,220	29,173	48,347	40,825
5	10-year average internal and international migration flows	77,025	9,418	18,973	26,433	21,478
6	10-year average internal and international migration flows, and unattributable population change	73,561	649	21,127	48,649	40,082
7	10-year unattributable population change plus ONS international flows	50,674	22,310	28,587	46,109	48,816
8	10-year average international migration flows to 2019, return to ONS flows by 2023	50,575	28,334	27,115	33,226	31,936
9	2014 GMFM	40,707	22,042	11,571	18,709	13,335

5.85 There is very significant variation between the scenarios for most districts. None of the individual districts has precisely the same relative position in the scenarios as does Greater Manchester as a whole, but Manchester and Salford are very similar and typically have the highest levels of population growth. The 2014 GMFM scenario gives the lowest population growth figure for six of the districts.

5.86 In this context, scenario 6 (the '10-year average internal and international migration flows, and unattributable population change' scenario) is a clear outlier. It results in the highest level of population growth of any of the scenarios for six of the districts, but the lowest for two districts and the third lowest for one. In the case of Stockport, seven of the other scenarios identify population growth in the 20,000s, but scenario 6 results in a figure of just 649. At the other end of the spectrum, scenario 6 gives Manchester a figure of over 274,000, which is not far behind the ONS population projection for the whole of Greater Manchester, would represent a 54% increase on Manchester's population in 2012, and is greater than the current population of six of the districts in Greater Manchester. In the case of Salford, scenario 5 results in the highest population growth, which is the same as scenario 6 but without any allowance for unattributable population change.

5.87 The use of calculated 10-year average internal migration rates in scenario 2, rather than the trend-based rates used by ONS, results in relatively low population growth for most districts compared to the other scenarios. In the cases of Manchester and Salford, this scenario produces by far the lowest figures of any scenarios, and gives the second lowest figure, after the 2014 GMFM, for three other districts.

5.88 The next table shows the percentage change per annum in population for each district under the various scenarios, which enables a direct comparison with past rates of population change.

Scenario		% population change per annum 2012-2035				
		Bolton	Bury	Manchester	Oldham	Rochdale
1	2012-based population projections	0.49	0.44	0.60	0.34	0.20
2	10-year average internal migration rates	0.40	0.42	0.36	0.31	0.16
3	10-year average international migration flows	0.56	0.47	0.79	0.33	0.24
4	10-year average international migration flows and unattributable population change	0.70	0.45	1.00	0.45	0.44
5	10-year average internal and international migration flows	0.50	0.37	1.59	0.25	0.01
6	10-year average internal and international migration flows, and unattributable population change	0.71	0.31	1.89	0.45	0.35
7	10-year unattributable population change plus ONS international flows	0.63	0.42	0.82	0.45	0.40
8	10-year average international migration flows to 2019, return to ONS flows by 2023	0.51	0.45	0.65	0.34	0.22
9	2014 GMFM	0.37	0.40	0.60	0.18	0.13
	Past population change	*% population change per annum over identified period*				
	ONS mid-year estimates 1989-2012	0.32	0.24	0.75	0.17	0.20
	ONS mid-year estimates 2002-2012	0.62	0.28	1.78	0.33	0.25
	ONS mid-year estimates 2007-2012	0.79	0.38	1.66	0.47	0.34
Scenario		Population change 2012-2035				
		Salford	Stockport	Tameside	Trafford	Wigan
1	2012-based population projections	0.82	0.41	0.50	0.58	0.46
2	10-year average internal migration rates	0.62	0.33	0.45	0.46	0.48
3	10-year average international migration flows	0.91	0.43	0.51	0.62	0.36
4	10-year average international migration flows and unattributable population change	0.94	0.36	0.54	0.84	0.53
5	10-year average internal and international migration flows	1.23	0.14	0.36	0.48	0.28
6	10-year average internal and international migration flows, and unattributable population change	1.18	0.01	0.40	0.84	0.52
7	10-year unattributable population change plus ONS international flows	0.85	0.33	0.53	0.80	0.62
8	10-year average international migration flows to 2019, return to ONS flows by 2023	0.84	0.41	0.51	0.59	0.42
9	2014 GMFM	0.69	0.33	0.22	0.34	0.18
	Past population change	*% population change per annum over identified period*				
	ONS mid-year estimates 1989-2012	0.08	-0.07	0.08	0.25	0.21
	ONS mid-year estimates 2002-2012	0.92	0.01	0.32	0.80	0.53
	ONS mid-year estimates 2007-2012	1.19	0.21	0.50	0.82	0.59

5.89 Each district in Greater Manchester saw a higher population growth rate over the period 2007-2012 than during 2002-2012, which in turn was higher in each case than that seen for the period 1989-2012, often very significantly so.

Some of the projections for several of the districts are above the high growth rates seen in the five years prior to 2012, whereas other forecasts are more akin for some districts to the low average population growth seen over the period 1989-2012.

5.90 The next table shows the difference between the population growth for the period 2012-2014 identified in each scenario for each district with that recorded in the mid-year estimates for 2012 and 2014. A positive number means that growth forecast in the scenario was higher than that identified in the mid-year estimates.

Scenario		Difference between forecast and estimated population change for the period 2012-2014					
		Greater Manchester	Bolton	Bury	Manchester	Oldham	Rochdale
1	2012-based population projections	-264	1,779	423	-1,927	-1,259	-278
2	10-year average internal migration rates	-8,540	1,083	348	-6,173	-1,408	-457
3	10-year average international migration flows	5,314	2,245	566	2,088	-1,353	-102
4	10-year average international migration flows and unattributable population change	13,661	3,247	327	5,866	-770	904
5	10-year average internal and international migration flows	5,654	1,723	232	6,961	-1,552	-453
6	10-year average internal and international migration flows, and unattributable population change	14,147	2,745	-17	10,826	-951	579
7	10-year unattributable population change plus ONS international flows	8,028	2,790	189	1,785	-679	735
8	10-year average international migration flows to 2019, return to ONS flows by 2023	5,314	2,245	566	2,088	-1,353	-102
9	2014 GMFM	-4,032	914	-187	-1,912	-454	-502
Scenario		Difference between forecast and estimated population change for the period 2012-2014					
			Salford	Stockport	Tameside	Trafford	Wigan
1	2012-based population projections		156	-716	1,792	-1,138	904
2	10-year average internal migration rates		-1,268	-1,319	1,503	-1,958	1,109
3	10-year average international migration flows		1,008	-490	1,872	-818	297
4	10-year average international migration flows and unattributable population change		908	-1,191	1,946	762	1,662
5	10-year average internal and international migration flows		668	-1,818	1,328	-1,610	174
6	10-year average internal and international migration flows, and unattributable population change		530	-2,539	1,403	10	1,561
7	10-year unattributable population change plus ONS international flows		51	-1,414	1,875	439	2,259
8	10-year average international		1,008	-490	1,872	-818	297

	migration flows to 2019, return to ONS flows by 2023						
9	2014 GMFM		-963	-612	351	-582	-85

5.91 As noted earlier, the population change for Greater Manchester over the period 2012-2014 that was recorded in the mid-year estimates was very similar to that projected in the ONS 2012-based sub-national population projections. The 2014 GMFM forecast was more than 4,000 lower than the change identified in the mid-year estimates, and the '10 year average internal migration rates' scenario more than 8,500 lower. All of the other scenarios forecast population growth at least 5,000 higher than that actually recorded, with two of the scenarios around 14,000 higher. The figures in the table are the same for scenarios 3 and 8 as they both use the same assumptions up to 2019. Thus, at least over this short period, the ONS projections appear quite robust whereas those with alternative migration assumptions considerably under- or overestimate population growth.

5.92 In terms of individual districts, the forecast population growth for Bolton and Tameside was higher in all scenarios than that identified in the mid-year estimates, and only the 2014 GMFM forecast was lower than the mid-year estimates for Wigan. Scenario 6 overestimated population growth in Manchester by more than 10,000 people, which was more than the total ONS estimate of population growth in Manchester over those two years.

5.93 The population growth identified in the mid-year estimates for both Oldham and Stockport was higher than that forecast in every scenario, with scenario 6 again standing out for the latter, and most scenarios forecast lower than recorded population growth for Rochdale and Trafford.

Additional sensitivity testing

Average period

5.94 All of the amended migration assumptions in the population scenarios set out above use 10-year averages, whether this is in terms of migration flows or rates, and international or internal migration. However, the ONS typically uses a shorter period of 5 or 6 years, with the 2012-based projections utilising internal and cross-border migration trends for 2007-2012 and international migration trends for 2006-2012.

5.95 Some of the scenarios discussed above have been repeated using five-year averages from the period 2007-2012 rather than ten-year averages for 2002-2012. The results are shown below, with '10-year' rows being the scenario versions discussed earlier, and the '5-year' rows showing what difference would be made by using the five-year rather than ten-year averages.

Sensitivity test	Forecast population growth 2012-2035										
	GM	Bolton	Bury	Man-chester	Old-ham	Roch-dale	Sal-ford	Stock-port	Tame-side	Traf-ford	Wigan
Average internal migration rates (scenario 2)											
10-year	258,694	26,599	18,729	43,648	16,496	8,050	36,400	22,402	24,186	25,259	36,927
5-year	281,195	29,758	17,473	57,196	16,360	8,355	42,314	23,988	25,076	27,578	33,096

Sensitivity test	Forecast population growth 2012-2035										
	GM	Bolton	Bury	Man-chester	Old-ham	Roch-dale	Sal-ford	Stock-port	Tame-side	Traf-ford	Wigan
Difference	*22,501*	*3,159*	*-1,256*	*13,549*	*-135*	*305*	*5,914*	*1,586*	*890*	*2,318*	*-3,830*
Average international migration flows (scenario 3)											
10-year	363,891	38,037	21,153	100,736	17,918	11,976	54,877	29,636	27,570	34,892	27,095
5-year	364,300	39,292	21,847	94,556	20,316	12,509	55,922	29,447	28,080	32,414	29,916
Difference	*410*	*1,255*	*694*	*-6,179*	*2,398*	*533*	*1,045*	*-189*	*510*	*-2,478*	*2,821*
Average international migration flows and unattributable population change (scenario 4)											
10-year	445,663	48,352	20,139	131,286	24,337	22,348	56,637	24,220	29,173	48,347	40,825
5-year	443,551	48,850	20,191	125,202	26,971	22,119	57,197	23,806	28,997	45,845	44,372
Difference	*-2,113*	*498*	*52*	*-6,084*	*2,634*	*-229*	*560*	*-413*	*-176*	*-2,502*	*3,547*
Average internal and international migration flows (scenario 5)											
10-year	440,465	33,976	16,340	222,881	13,599	342	77,025	9,418	18,973	26,433	21,478
5-year	426,196	40,512	16,968	186,504	17,197	2,187	80,980	15,524	21,390	23,016	21,917
Difference	*-14,269*	*6,537*	*629*	*-36,377*	*3,598*	*1,844*	*3,955*	*6,106*	*2,417*	*-3,417*	*439*
Average internal and international migration flows, and unattributable population change (scenario 6)											
10-year	563,979	49,216	13,918	274,293	24,858	17,626	73,561	649	21,127	48,649	40,082
5-year	545,289	54,464	13,378	238,317	28,525	18,043	77,179	6,587	22,389	45,254	41,152
Difference	*-18,690*	*5,248*	*-540*	*-35,976*	*3,668*	*417*	*3,618*	*5,938*	*1,263*	*-3,394*	*1,070*

5.96 Using the five-year averages rather than the ten-year averages makes very little difference to the Greater Manchester totals for scenarios 3 and 4, which are based around adjusting the international migration flows, either with or without unattributable population change. However, there are more significant differences in terms of the distribution of population growth within Greater Manchester, with Manchester seeing population growth more than 6,000 lower in the five-year average versions of both scenarios 3 and 4, although in the context of the overall forecast population growth for the city this is still relatively small. Trafford's growth is also noticeably lower using the five-year averages in these two scenarios, whereas that of Wigan and Oldham is higher by around 10%.

5.97 Applying the ten-year average internal migration rates in scenario 2 resulted in a considerably lower level of population growth than in the ONS projections, as discussed above, but using the five-year averages instead reduces this gap by more than one-third. Most of the difference is in the figures for Manchester and Salford, although Wigan's population growth actually reduces by more than 10% when using the five-year average compared to the ten-year figure.

5.98 The application of the five-year rather than ten-year averages for scenarios 5 and 6 results in significantly lower forecasts of population growth for Greater Manchester, although the figure for scenario 6 is still far higher than all of the other scenarios discussed above. The reductions in Manchester for both scenarios when using the five-year averages are about twice those for Greater Manchester as a whole, with Stockport, Bolton, Oldham and Salford all seeing quite substantial increases when using the five-year rather than ten-year averages.

5.99 Thus, the use of five-year averages instead of ten-year averages in these four scenarios does make some differences to the forecasts, but these change the total forecast Greater Manchester population growth by less than 10%. Some of the differences for individual districts are more substantial, but are generally less than 15%.

Base date

5.100 The other additional sensitivity that has been tested is the base date. As noted above, there are now mid-year estimates available for 2013 and 2014, which offer the potential for both a more up-to-date base for the forecasts and more recent trends to apply in terms of internal and international migration. There is a wider variety of ways in which this sensitivity could be applied, resulting in numerous scenarios, and so a limited number are considered here to aid understanding.

5.101 Scenario 2 discussed above replaces the ONS migration rates with average rates calculated for the ten-year period 2002-2012. The table below compares the resulting figures with those from a similar forecast that instead uses the average internal migration rates calculated for the period 2004-2014 (but continuing to use the international migration flows from the ONS projections, as in scenario 2). The first row of the table repeats the figures from scenario 2, the second row shows the similar forecast with a base of the 2014 mid-year estimates, and the third row repeats the figures from the ONS 2012-based sub-national population projection for comparison. The second part of the table provides similar figures but for the shorter period 2014-2035.

Sensitivity test	GM	Bolton	Bury	Man-chester	Old-ham	Roch-dale	Sal-ford	Stock-port	Tame-side	Traf-ford	Wigan
	Forecast population growth 2012-2035										
Scenario 2	258,694	26,599	18,729	43,648	16,496	8,050	36,400	22,402	24,186	25,259	36,927
2014 base	273,691	24,691	18,055	56,346	18,775	8,128	39,946	24,165	20,221	29,385	33,977
SNPP	327,924	33,125	19,623	75,279	18,303	10,196	48,957	27,687	26,937	32,612	35,206
	Forecast population growth 2014-2035										
Scenario 2	236,534	24,116	17,081	40,420	15,004	7,507	32,768	20,821	22,082	23,218	33,518
2014 base	243,046	23,236	16,780	46,903	15,885	7,186	34,991	21,307	19,691	25,393	31,672
SNPP	297,488	29,946	17,900	67,806	16,662	9,474	43,901	25,503	24,545	29,750	32,002

5.102 As noted above, scenario 2 forecasts significantly lower population growth for Greater Manchester than the ONS 2012-based sub-national population projection. The revised scenario using a 2014 base date results in a higher population forecast for Greater Manchester than scenario 2, but still considerably below the ONS figure. Manchester is the primary source of the increase compared to scenario 2, but the 2014-based figure remains well below the ONS projection. Using a 2014 base date results in a smaller increase when looking at the period 2014-2035 rather than 2012-2035, as scenario 2 appears to have underestimated the population in 2014 compared to the mid-year estimates.

5.103 The next table considers scenario 8, which uses the 10-year average international migration flows to 2019 and then a return to the ONS projection international migration flows by 2023, but otherwise uses all of the ONS

assumptions. An alternative has been modelled with a base of the 2014 mid-year estimates, using the 10-year average international migration flows calculated for 2004-2014 rather than 2002-2012.

Sensitivity test	GM	Bolton	Bury	Man-chester	Old-ham	Roch-dale	Sal-ford	Stock-port	Tame-side	Traf-ford	Wigan
	Forecast population growth 2012-2035										
Scenario 8	337,151	34,858	20,172	81,884	18,250	10,803	50,575	28,334	27,115	33,226	31,936
2014 base	333,799	33,214	19,735	81,113	19,298	10,679	50,582	28,358	25,916	33,137	31,767
SNPP	327,924	33,125	19,623	75,279	18,303	10,196	48,957	27,687	26,937	32,612	35,206
	Forecast population growth 2014-2035										
Scenario 8	301,137	31,213	18,305	70,396	16,703	9,904	44,667	25,924	24,643	30,043	29,339
2014 base	303,154	31,759	18,460	71,670	16,408	9,737	45,627	25,500	25,386	29,145	29,462
SNPP	297,488	29,946	17,900	67,806	16,662	9,474	43,901	25,503	24,545	29,750	32,002

5.104 Using a 2014 base reduces the increase in population growth across Greater Manchester compared to the ONS projections when looking at the period 2012-2035, but actually increases it slightly when considering the shorter period 2014-2035. The largest reductions for 2012-2035 are in Bolton and Tameside, with Oldham seeing an increase, whereas the main increase for 2014-2035 is in Manchester.

5.105 The ONS projections are generally based on trends over the preceding 5-years rather than 10-years, and so it is also useful to consider additional scenarios that have not been discussed above. In order to take account of potential shifts in trends due to the additional two years of data from 2012-2014, some further forecasting has been conducted that focuses on using calculated average internal migration rates rather than using the ONS 2012-based rates. Four different broad scenarios are presented below, each with a version using the 2012 mid-year estimates as the base and a second version using the 2014 mid-year estimates, with the past average rates/flows calculated up to those relevant base years.

Sensitivity test	Forecast population growth 2012-2035										
	GM	Bolton	Bury	Man-chester	Old-ham	Roch-dale	Sal-ford	Stock-port	Tame-side	Traf-ford	Wigan
5-year average internal migration rates and international migration flows											
2012-based	316,881	35,905	19,699	76,022	18,368	10,664	49,110	25,719	26,214	27,339	27,840
2014-based	310,086	26,054	17,551	88,940	22,083	9,775	47,565	26,263	16,237	33,458	22,161
10-year average internal migration rates and international migration flows											
2012-based	293,775	31,508	20,274	68,449	16,117	9,814	42,205	24,306	24,836	27,491	28,776
2014-based	303,602	28,473	19,555	76,358	19,648	9,908	46,240	25,294	20,716	30,479	26,931
5-year average internal migration rates and international migration flows, and unattributable population change											
2012-based	395,839	45,428	18,053	106,382	25,008	20,251	50,526	20,097	27,133	40,695	42,266
2014-based	385,209	35,554	16,595	117,335	27,754	19,335	49,096	21,191	17,668	46,070	34,611
10-year average internal migration rates and international migration flows, and unattributable population change											
2012-based	374,650	41,739	19,274	98,323	22,542	20,109	43,994	18,975	26,435	40,737	42,522
2014-based	378,990	38,029	18,597	104,584	25,452	19,525	47,828	20,252	22,179	43,036	39,509

5.106 Each of the five-year average forecasts is lower when using a 2014 base than a 2012 base. This is likely to reflect the fact that there was higher net internal out-migration and lower net international in-migration in 2012-2014 than 2007-

2009. In contrast, the ten-year average forecasts are higher when using a 2014 base date. However, the key issue is that the differences between using a 2012 and 2014 base date are relatively small, particularly compared with the differences between scenarios that differ on other assumptions.

5.107 It is anticipated that new 2014-based sub-national population projections will be published by ONS before there is a consultation on a draft Greater Manchester Spatial Framework, and these will be used to update the evidence base on population and housing. This sensitivity testing suggests that they should not result in significantly different population growth forecasts up to 2035.

6. Household scenarios

Testing alternative household scenarios

6.1 The process for translating population forecasts into household forecasts essentially comprises the following steps:

1) Deduct the institutional population (i.e. those in communal accommodation such as care homes) to give a household population
2) Apply household representative rates to the household population, with those rates varying by sex and age

6.2 The national Planning Policy Guidance suggests that it may be appropriate to consider alternative assumptions around household representative rates when forecasting future household growth. The latest estimates of household representative rates for individual districts are provided by the DCLG 2012-based household projections, which take the ONS 2012-based population projections as their starting point. DCLG also produced interim 2011-based household projections, but these only extended to 2021. The previous long-term estimates of household representative rates were contained in DCLG's 2008-based household projections.

DCLG household projections

6.3 As noted earlier, the latest DCLG 2012-based household projections take partial but not full account of the results of the 2011 Census. It is possible that the full incorporation of data from the 2011 Census could increase or decrease the projections relating to household formation, and therefore the overall household growth projections, but at this stage there is insufficient evidence to determine whether they may prove to be an under or over-estimate of household formation.

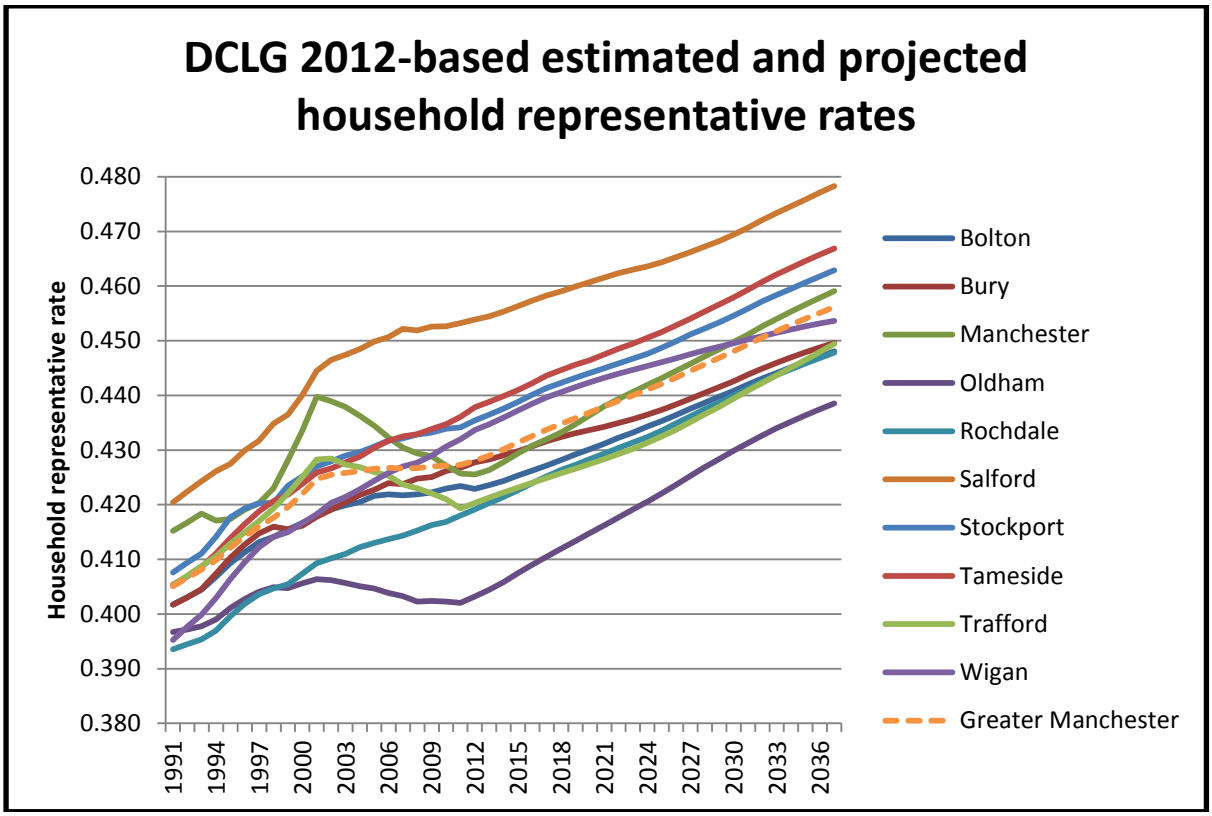
6.4 DCLG has identified three main uncertainties in their 2012-based household projections:

1) Application of the change in household representative rates by age from the Labour Force Survey to the aggregate Census points in 2011
2) Use of the 2008-based marital status projections, which have not been updated with the results from the 2011 Census
3) Cohort effects that are ignored by the current methodology, such as the potential for falls in household representative rates for younger age groups to carry forward through a cohort process into older age groups in future years[24]

[24] Department for Communities and Local Government (February 2015) *Household Projections 2012-based: Methodological Report*, p.24-25

6.5 There is no quantification of these uncertainties, and there is potential for them to work in both directions in terms of producing higher or lower projected household growth. The specific example given by DCLG in relation to point 3 above would result in lower household formation and therefore lower household growth, but this then raises the issue of whether this would be a desirable outcome and the potential actions that may be available to support higher household formation.

6.6 The following graph compares the average household representative rates from the DCLG 2012-based household projections for Greater Manchester and the ten districts.



6.7 The average household representative rates for the districts cover a reasonably narrow range in each year, although this increased from 0.026 in 1991 (0.394-0.420) to 0.051 in 2011 (0.402-0.453), but is projected to decrease again to 0.040 in 2035 (0.436-0.476). All of the districts follow a similar considerable upward trajectory, although Manchester, Oldham and Trafford all saw a decline in their average household representative rates between 2001 and 2011, before returning to the same rate of increase as the other districts from 2011 to 2035. Salford consistently has the highest rate, and Oldham the lowest rate since 1999.

6.8 The ONS has published some limited sensitivity testing for the 2012-based household projections, which it describes as follows:

"To help users, sensitivity tests have been performed by applying the 2012-based assumption of household formation to the 2011-based household

population projections, which were used for the 2011-based interim household projections. A further sensitivity test has been performed by applying the 2011-based assumptions of household formation to the 2012-based household population projections. These sensitivity tests were run at local authority level to help users understand the impact of the changes to the population projections and the changes in household formation on the household projections."[25]

6.9 The table below summarises the results of these sensitivity tests for Greater Manchester and England, comparing them with the actual 2012-based household projections. The figures are given as averages per annum.

	DCLG 2012-based household projections		
	Average household growth per annum (2012-2021)		
Area	Projection	Sensitivity test 1	Sensitivity test 2
Bolton	964	1,038	852
Bury	555	633	545
Manchester	2,247	1,546	2,275
Oldham	699	581	640
Rochdale	442	349	410
Salford	1,324	1,358	1,293
Stockport	875	910	805
Tameside	818	794	785
Trafford	883	925	797
Wigan	1,096	1,128	996
Greater Manchester	9,902	9,262	9,397
England	220,560	241,583	199,789

6.10 At the national level, sensitivity test 1 results in average household growth per annum 9.5% higher than in the projection whereas sensitivity test 2 has growth 9.4% lower than the projection. The picture is different for Greater Manchester, with both of the sensitivity tests resulting in lower average household growth per annum than in the projection (6.5% and 5.1% lower, respectively, thereby showing less deviation than nationally). There is a more mixed picture at the district level, with some similar to Greater Manchester and others to England in terms of the relative positions of the sensitivity tests and the projections. However, overall, this basic sensitivity testing does not raise any concerns regarding the likely accuracy of the DCLG projections for Greater Manchester.

Independent analysis of household formation

[25] Department for Communities and Local Government (February 2015) *Household Projections 2012-based: Methodological Report*, p.23

6.11 There has been very limited analysis of the latest DCLG 2012-based household projections, but some of the work on the previous interim 2011-based projections may be informative.

6.12 The Town and Country Planning Association (TCPA) published a report in September 2013 on housing demand and need in England, looking at the period 2011-2031[26], and this highlights the fact that the number of households in England identified in the 2011 Census was 287,000 lower than that forecast for 2011 in the DCLG 2008-based household projections[27]. It calculates that, when taking into account the higher than forecast population recorded in the 2011 Census, this actually translates into the 2008-based projections overestimating the number of households by 375,000.

6.13 The TCPA report suggests that part of the 375,000 difference in the number of households in England in 2011 between the 2008-based projection and the 2011-based estimate is permanent, and part is temporary. It estimates that around 200,000 is permanent, due to the 2008-based projection not taking into account the higher levels of international in-migration since 2001 and the lower than average household formation rates for that population. The other 175,000 is attributed to the household formation rates being depressed by unaffordable house prices, economic conditions and the subsequent housing slump. It suggests that this element of the household formation rates will return to previous levels by 2022.

6.14 Consequently, the household representative rates used in the DCLG 2011-based household projections are likely to be an underestimate of household formation, and those in the DCLG 2008-based household projections to be an overestimate. The TCPA report set out a 'modified trend projection', which extrapolated the ONS 2011-based population projections and then applied the aforementioned assumptions regarding a partial but not full return to the household representative rates in the DCLG 2008-based household projections. An 'extended official projection' was also produced, which used the same population base but applied extrapolated DCLG 2011-based household representative rates. The results of these projections for England are shown in the table below, together with the figures from the DCLG 2008-based and 2012-based household projections, and the associated ONS population projections (the figure for the extrapolation of the total population from the ONS 2011-based population projections to 2031 is not provided in the TCPA report).

	Total households (000s)			Change in households (000s)			
				2011-2021		2021-2031	
Projection for England	2011	2021	2031	Total	Per annum	Total	Per annum
DCLG 2008-based projection	22,389	24,843	27,124	2,454	245.4	2,281	228.1

[26] Holmans, A.E. (September 2013) *Town & Country Planning Tomorrow Series Paper 16: New Estimates of Housing Demand and Need in England, 2011 to 2031*

[27] All references to the 2011 Census in the TCPA report actually relate to the 2011 figures identified in the DCLG 2011-based interim household projections, which are based on but different to the Census figures and informed by the 2011 mid-year population estimates.

Extended official projection (2011-based)	22,102	24,307	26,326	2,205	220.5	2,019	201.9
Modified trend projection (2011-based)	22,102	24,332	26,593	2,230	223.0	2,261	226.1
DCLG 2012-based projection	22,104	24,290	26,407	2,186	218.6	2,117	211.7
	Total population (000s)			Change in population (000s)			
				2011-2021		2021-2031	
Projection for England	2011	2021	2031	Total	Per annum	Total	Per annum
ONS 2008-based projection	52,577	56,433	60,071	3,855	385.5	3,638	363.8
ONS 2011-based projection	53,107	57,688	N/A	4,581	458.1	N/A	N/A
ONS 2012-based projection	53,107	56,962	60,419	3,855	385.5	3,457	345.7

6.15 Due to the methodology used, there is only a limited difference between the extended official projection and the modified trend projection in 2021 (25,000), but this increases to 267,000 by 2031. In terms of the average change in households per annum over the period 2021-2031, this results in an increase of 201,900 per annum in the extended official projection (2011-based) and 226,100 per annum in the modified trend projection. The 211,700 per annum figure from the DCLG 2012-based household projections sits roughly between those two figures, whereas the 228,000 per annum average from the DCLG 2008-based household projections is slightly above the modified trend projection average.

6.16 Looking at the period 2011-2021, the projected population increase is significantly higher in the ONS 2011-based population projections (458,100 per annum) than the ONS 2012-based projections (385,500), which would be expected to feed through to a considerable difference in household growth. However, the difference between the projected household increase in the modified trend projection, which sought to take into account the impacts of the changing population characteristics and a recovery from the recession on household formation rates, and that in the DCLG 2012-based household projection is only relatively small, with annual average figures for 2011-2021 of 223,000 and 218,600 respectively. This gap then grows for the period 2021-2031, with the rate of household growth accelerating in the modified trend projection to 226,100 per annum and decreasing in the ONS 2012-based projection to 211,700. There is insufficient information to determine whether this is due to the differences in the relative rates of change in population, household formation, or a combination of the two.

6.17 The next table provides similar information to the previous one but this time for the North West region. The TCPA did not provide regional figures for the extended official projection using the 2011-based projections.

				Change in households (000s)			
	Total households (000s)			2011-2021		2021-2031	
Projection for North West	2011	2021	2031	Total	Per annum	Total	Per annum
DCLG 2008-based projection	3,000	3,233	3,437	233	23.3	203	20.3
DCLG 2011-based projection	3,011	3,187		175	17.5		
Modified trend projection (2011-based)	3,011	3,187	3,371	176	17.6	184	18.4
DCLG 2012-based projection	3,011	3,216	3,397	205	20.5	181	18.1
Projection for North West	Total population (000s)			Change in population (000s)			

				2011-2021		2021-2031	
	2011	2021	2031	Total	Per annum	Total	Per annum
ONS 2008-based projection	6,942	7,197	7,433	255	25.5	236	23.6
ONS 2011-based projection	7,056	7,364		308	30.8		
ONS 2012-based projection	7,056	7,316	7,543	260	26.0	226	22.6

6.18 For the North West, the projected annual average household increase for the period 2011-2021 is higher in the DCLG 2012-based household projection than in the modified trend projection (2011-based) (20,500 per annum and 17,600 per annum, respectively), despite the former being based on a lower population increase than the latter (26,000 per annum and 30,800 per annum, respectively). It would be expected that an extrapolation of the ONS 2011-based population projections to 2031 would continue to result in higher average population growth per annum for the North West over the period 2021-2031 than projected in the ONS 2012-based population projections. The DCLG 2012-based household projection average growth for the period 2021-2031 is slightly below that identified in the modified trend projection (2011-based) (18,100 per annum and 18,400 per annum, respectively), but this would be expected if the underlying population growth was also lower.

6.19 Consequently, although there is limited evidence available, at the level of the North West region, a comparison of the household growth rates from the different projections suggest that the impact of changing household characteristics on household formation rates is reflected in the DCLG 2012-based household projections. Thus, in very broad terms, those rates would appear consistent with the available evidence, in terms of not extrapolating short-term downward pressures on household formation whilst reflecting more structural changes in the propensity to form new households.

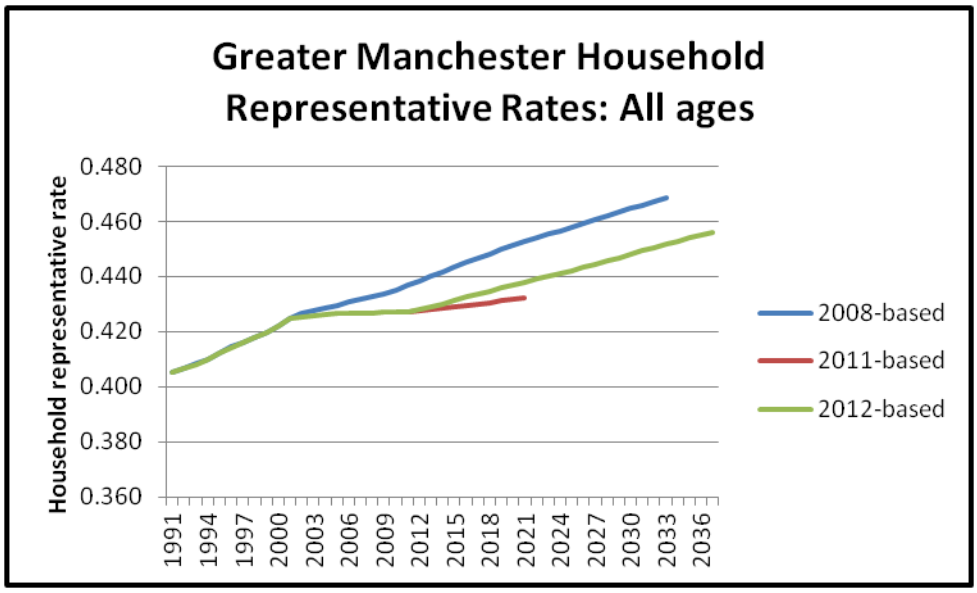
6.20 The RTPI also published a report on the DCLG interim 2011-based household projections[28], which refers to the TCPA report discussed above. It also concludes that lower than expected household formation rates may partly have been the result of high levels of international migration, and suggests that consideration should be given as to whether international migration might reduce in the future which could lead to increases again in household formation.

6.21 The RTPI report identifies that the biggest reduction in headship rates in the 2011 Census compared to the DCLG 2008-based household projections is in single person households. Consequently, if household formation does increase again, then this could impact significantly not only on the total scale of household growth but also the size and type of accommodation required by the additional households.

Comparison of recent household projections

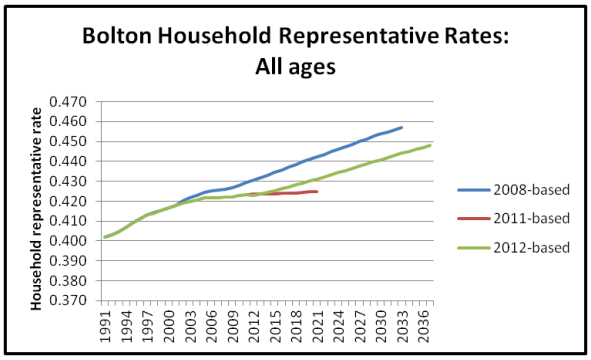
[28] McDonald, N and Wiliams, P (January 2014) *Planning for housing in England: Understanding recent changes in household formation rates and their implications for planning for housing in England – RTPI Research Report no.1*

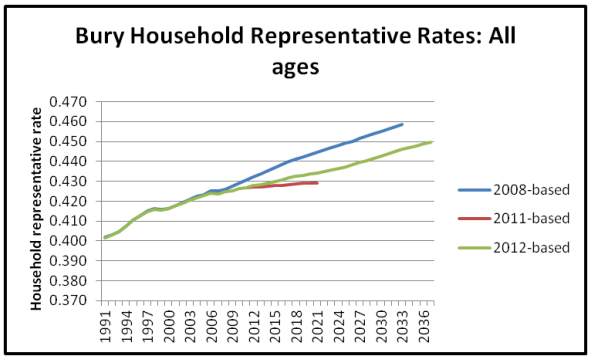
6.22 The graph below compares the estimated past and projected future average household representative rates for Greater Manchester from the last three DCLG household projections.

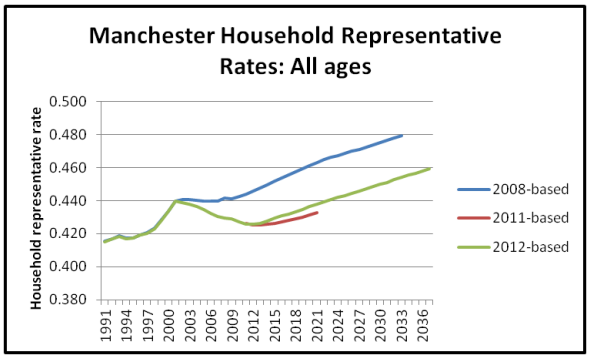


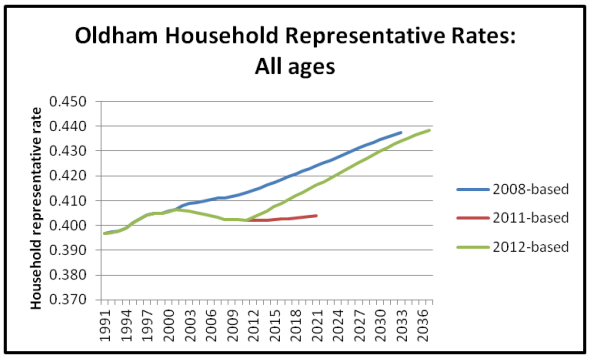
6.23 The DCLG 2008-based household projections indicated that the upward trend in Greater Manchester's average household representative rate would continue broadly along a similar trajectory. The DCLG 2012-based projections suggest that the actual trajectory was almost flat over the period 2001-2011. The DCLG 2011-based projections foresaw an increase from 2011, but at a much slower rate than prior to 2001. This growth rate has been adjusted considerably in the 2012-based projections, and is much more akin to the rate of increase in the average household representative rate indicated in the 2008-based projections. However, over the period 2012-2033, the absolute increase in the average household representative rate in the 2012-based projections remains below that in the 2008-based projections (0.024 compared to 0.030). Thus, the 2012-based projections suggests a significant recovery in the rate of increase in the household representative rate compared to that foreseen in the 2011-based projections and estimated over the period 2001-2011, but not fully to the same rate of increase or the absolute levels suggested in the 2008-based projections. This is consistent with the TCPA analysis of household formation discussed above.

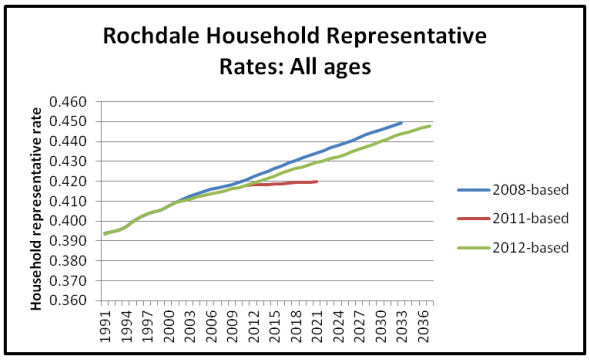
6.24 The next series of graphs provides the same information for each of the ten districts in Greater Manchester.

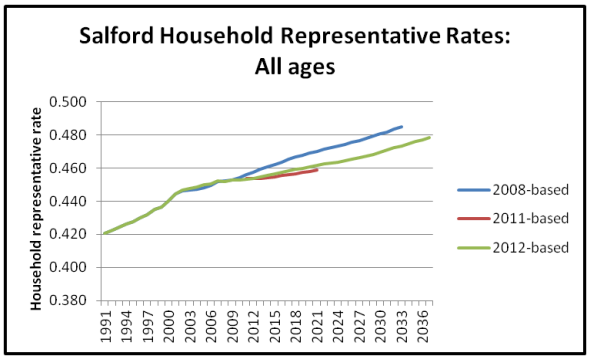

Bolton Household Representative Rates: All ages
Household representative rate
0.470
0.460
0.450
0.440
0.430
0.420
0.410
0.400
0.390
0.380
0.370
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

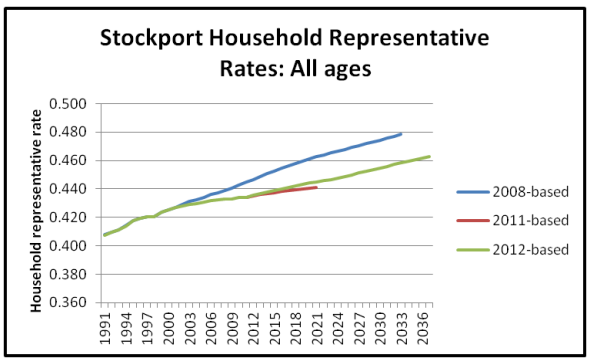

Bury Household Representative Rates: All ages
Household representative rate
0.470
0.460
0.450
0.440
0.430
0.420
0.410
0.400
0.390
0.380
0.370
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

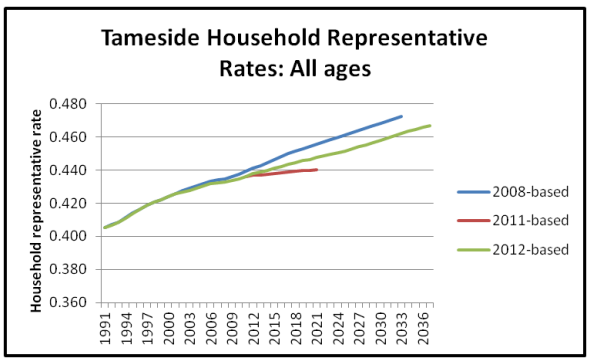

Manchester Household Representative Rates: All ages
Household representative rate
0.500
0.480
0.460
0.440
0.420
0.400
0.380
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

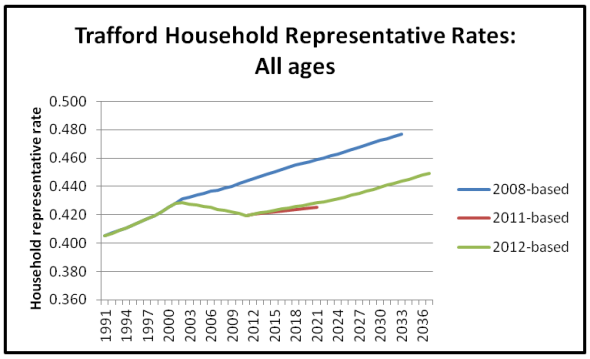

Oldham Household Representative Rates: All ages
Household representative rate
0.450
0.440
0.430
0.420
0.410
0.400
0.390
0.380
0.370
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

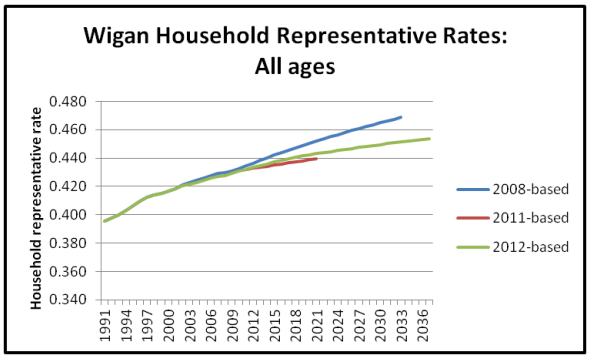

Rochdale Household Representative Rates: All ages
Household representative rate
0.460
0.450
0.440
0.430
0.420
0.410
0.400
0.390
0.380
0.370
0.360
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based


Salford Household Representative Rates: All ages
Household representative rate
0.500
0.480
0.460
0.440
0.420
0.400
0.380
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based


Stockport Household Representative Rates: All ages
Household representative rate
0.500
0.480
0.460
0.440
0.420
0.400
0.380
0.360
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

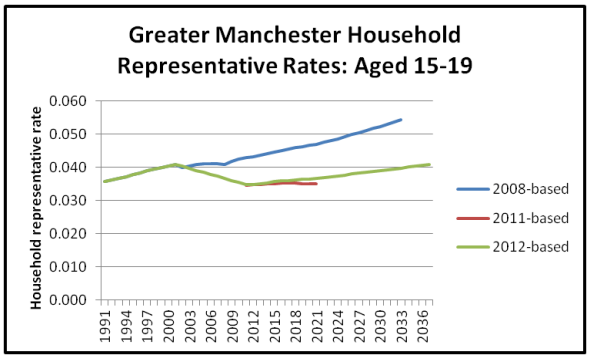

Tameside Household Representative Rates: All ages
Household representative rate
0.480
0.460
0.440
0.420
0.400
0.380
0.360
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

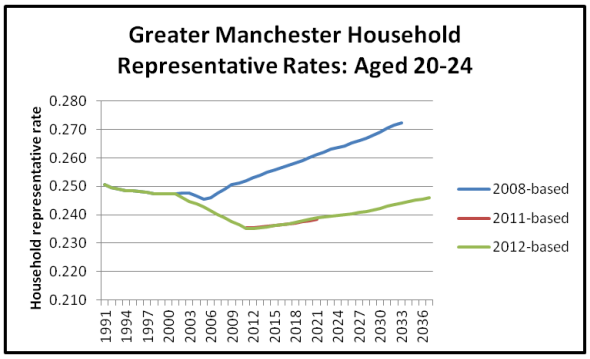


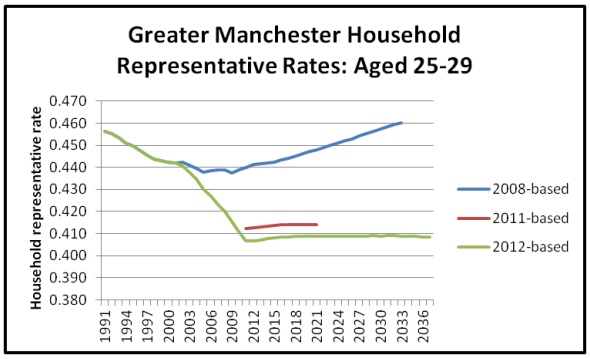


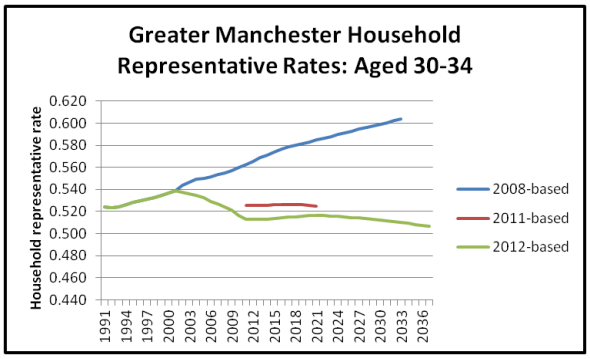
6.25 The graphs for the individual districts are generally similar to that for Greater Manchester as a whole, but with dips in the household representative rates for 2001-2011 identified in the 2012-based projections as discussed above. The gap between the household representative rates for 2012 and 2033 in the 2008-based and 2012-based projections increases for all districts by varying degrees, except in the case of Oldham where it narrows from 0.011 to 0.003. The gap widens the most over the period 2012-2033 for Wigan (increasing by 0.015). The largest differences between the average household representative rates in the 2012-based and 2008-based projections are in Trafford (where it increases from 0.025 in 2012 to 0.033 in 2035) and in Manchester (where it increases from 0.020 in 2012 to 0.026 in 2035). In all cases, the average household representative rates in the 2012-based projections are higher than those in the interim 2011-based projections.

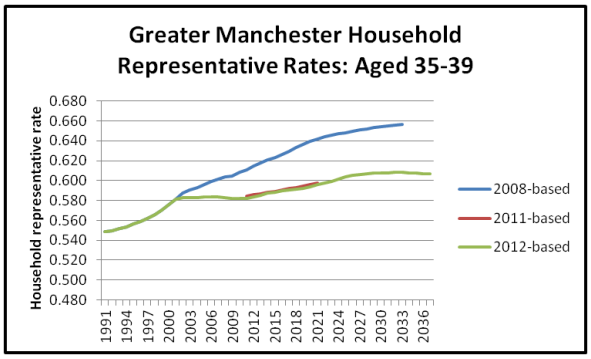
6.26 The following graphs provide the same information from the last three household projections for each five-year age group in Greater Manchester.

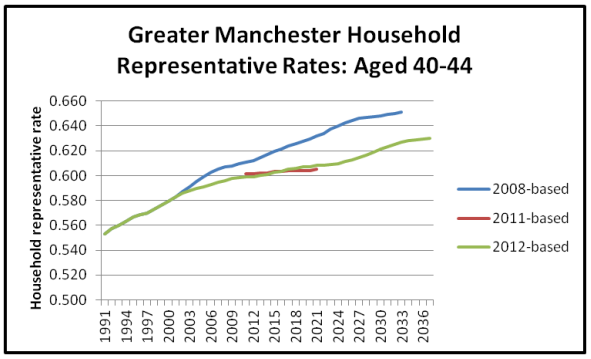


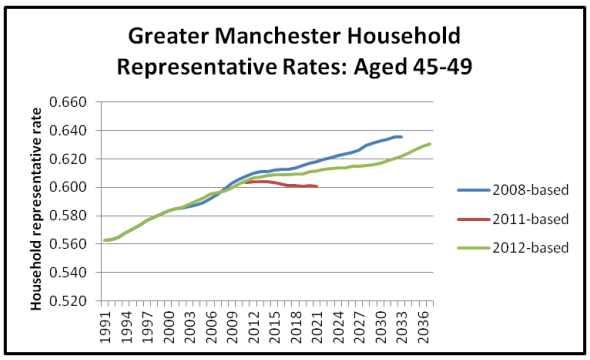


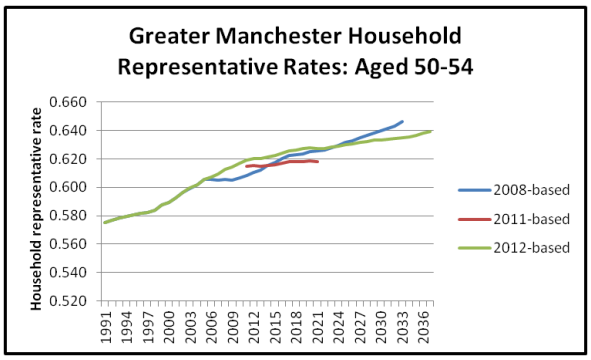


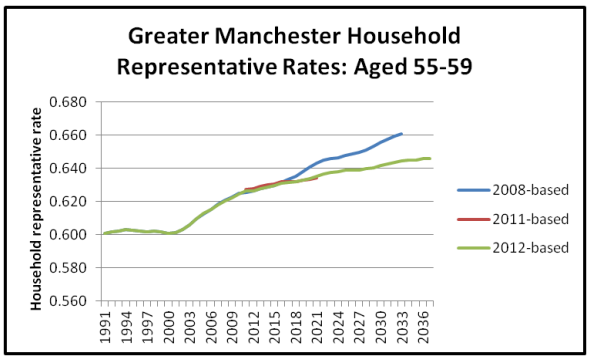


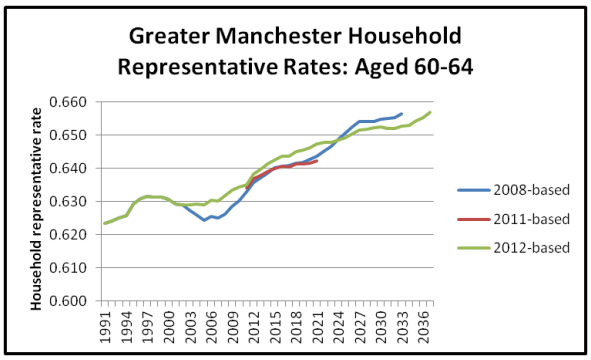

Greater Manchester Household Representative Rates: Aged 35-39
Household representative rate
0.680
0.660
0.640
0.620
0.600
0.580
0.560
0.540
0.520
0.500
0.480
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

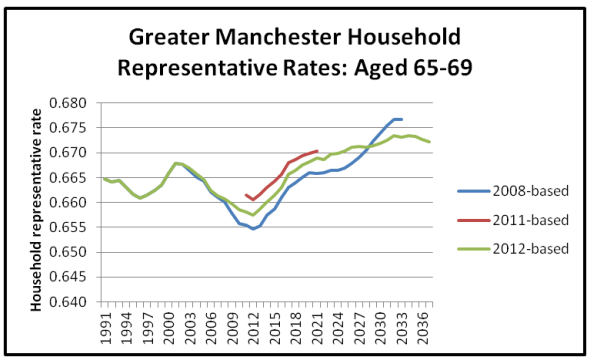

Greater Manchester Household Representative Rates: Aged 40-44
Household representative rate
0.660
0.640
0.620
0.600
0.580
0.560
0.540
0.520
0.500
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

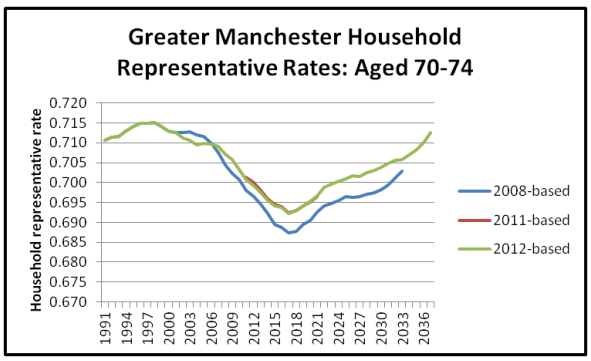

Greater Manchester Household Representative Rates: Aged 45-49
Household representative rate
0.660
0.640
0.620
0.600
0.580
0.560
0.540
0.520
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

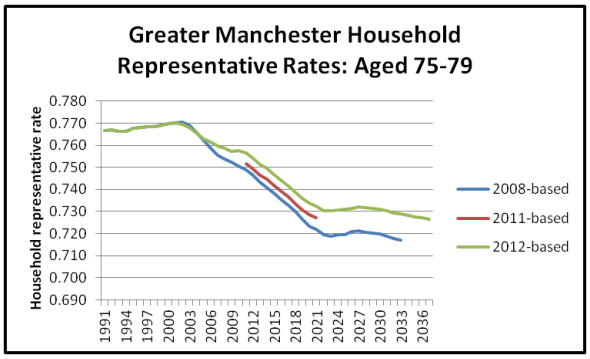

Greater Manchester Household Representative Rates: Aged 50-54
Household representative rate
0.660
0.640
0.620
0.600
0.580
0.560
0.540
0.520
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

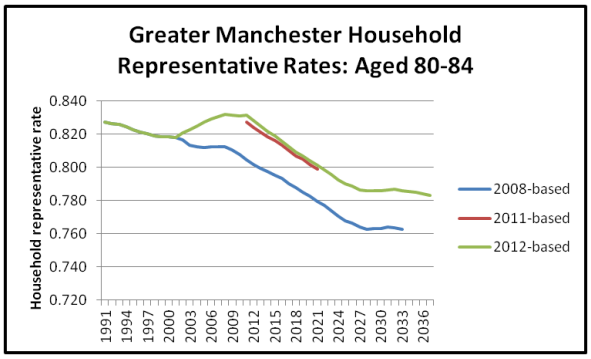

Greater Manchester Household Representative Rates: Aged 55-59
Household representative rate
0.680
0.660
0.640
0.620
0.600
0.580
0.560
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based

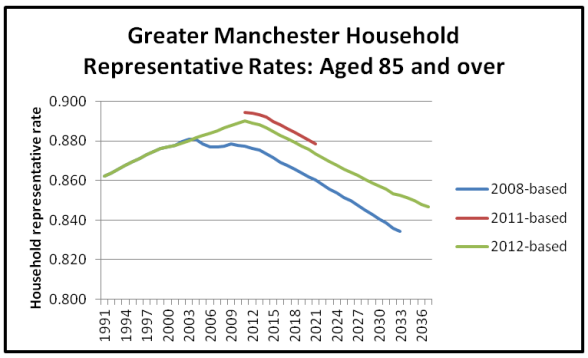

Greater Manchester Household Representative Rates: Aged 60-64
Household representative rate
0.660
0.650
0.640
0.630
0.620
0.610
0.600
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based


Greater Manchester Household Representative Rates: Aged 65-69
Household representative rate
0.680
0.675
0.670
0.665
0.660
0.655
0.650
0.645
0.640
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based


Greater Manchester Household Representative Rates: Aged 70-74
Household representative rate
0.720
0.715
0.710
0.705
0.700
0.695
0.690
0.685
0.680
0.675
0.670
1991 1994 1997 2000 2003 2006 2009 2012 2015 2018 2021 2024 2027 2030 2033 2036
2008-based
2011-based
2012-based







6.27 These graphs show a quite varied picture, both in the trajectory of the household representative rates, and the relative positions of the last three household projections. Both the 20-24 and 25-29 age groups saw a decline in their household representative rates over the period 1991-2001, which the 2008-based projections were expecting would quickly halt and then reverse, with a significant upward trajectory to 2033. The 2012-based projections suggest that in both cases the decline actually accelerated over the period 2001-2011, with the rates for the 25-29 age group being projected to be broadly steady up to 2037 and those for the 20-24 age group increasing so that they return to 2002 levels by 2037. It is notable that in both cases, the 2012-based projections do not foresee a continuation of the long-term trend of decreasing household representative rates for these age groups, and in the case of 20-24 year olds see a reversal of that trend.

6.28 The 15-19 and 30-34 age groups saw an increase in their household representative rates over the period 1991-2011, and were projected to continue to do so from 2011 onwards in the 2008-based projections. The 2012-based projections indicate that these two age groups instead had a reduction in their household representative rates over the period 2001-2011. A further slight reduction is projected for the 30-34 age group, whereas a return to an increase in rates is expected for the 15-19 group, though not quite as fast as in the 2008-based projections.

6.29 The household representative rates for the 35-39 and 40-44 age groups rose over the period 1991-2001, and the 2008-based projections expected this to continue at a similar rate up to 2033. The 2012-based projections indicate that growth was slower than expected over the period 2001-2011 for the 40-44 age group and broadly flat for the 35-39 group. Both groups are now expected

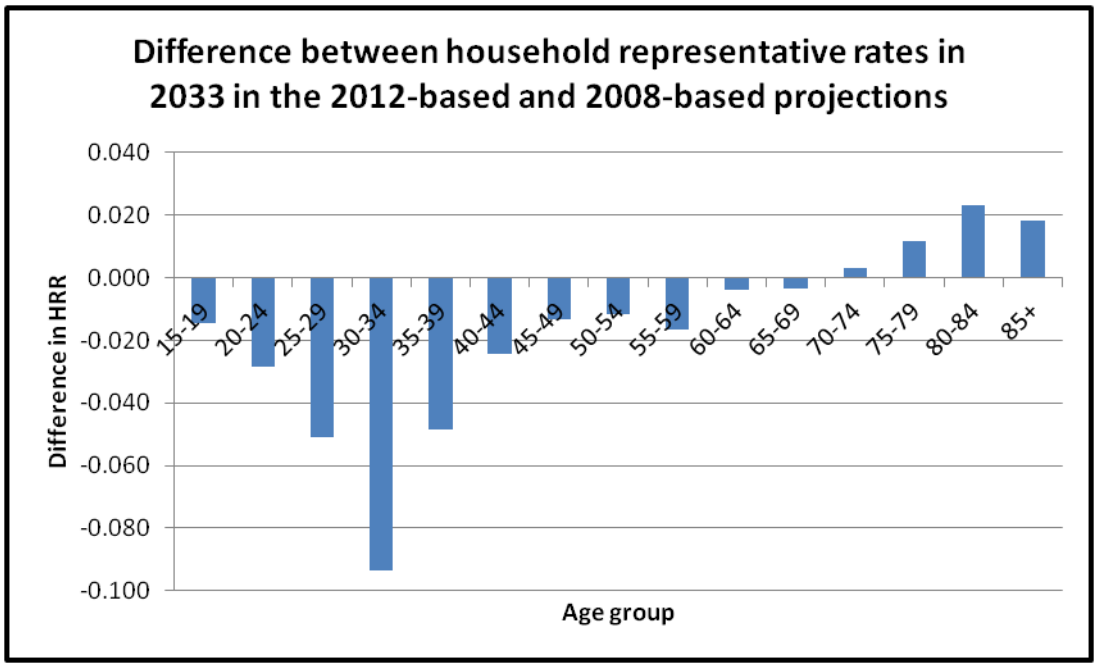
to see increasing household representative rates up to 2037, but slightly slower than suggested by the 2008-based projections.

6.30 The age 45-49, 50-54 and 55-59 age groups all have upward trajectories in their household representative rates in the two long-term projections, but the 2012-based projections foresee smaller increases in the later years. The interim 2011-based projection for 45-49 stands out as being particularly pessimistic about the household representative rates, anticipating a decline rather than the steady growth now suggested by the 2012-based projections.

6.31 The graphs for the 60-64, 65-69 and 70-74 age groups all show a more fluctuating average household representative rate over time, with it falling before increasing again, and the lowest point is later on as the age increases. The three projections are quite similar, with the 2008-based projections showing higher rates for the 60-64 and 65-69 age groups by the 2030s than the 2012-based projections, and the 2012-based projections showing higher rates for the 70-74 age groups.

6.32 After varying levels of growth in their household representative rates in the early part of the period, the three oldest age groups are all expected to see a significant reduction in their rates over the next 20 years. Unlike for many of the other age groups, the 2012-based projections indicate higher household representative rates in the future for the 75-79, 80-84 and 85 and over age groups than the 2008-based projections.

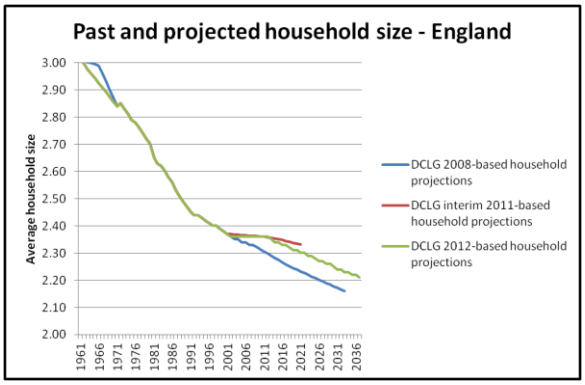
6.33 The next graph summarises the difference between the 2012-based and 2008-based household representative rates for each age group in 2033.

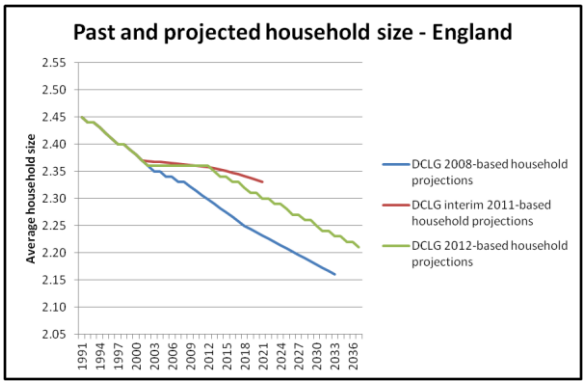


6.34 Overall, as would be expected from the figures for all age groups, the 2012-based projections indicate lower household representative rates for many of

the age groups over the next two decades than the 2008-based projections did, but this reflects the fact that the estimated rates over the period 2001-2011 were often quite different from that shown in the 2008-based projections. The 2012-based projections therefore often start from a different point than the 2008-based projections, both in terms of the absolute rates and the trend over the last decade in those rates. Although there were downward trends in the household representative rates of the younger age groups over the period 2001-2011, contrary to what was thought would be the case in the 2008-based projections, the 2012-based projections do not expect these trends to continue, and in many cases suggest they will be reversed. Consequently, they appear to mirror the partial recovery in household representative rates expected in the TCPA report, but not a full return to the levels expected in the 2008-based rates, which the TCPA report considered would be unrealistic due to the changing household characteristics of the population resulting from high levels of international migration. This suggests that they should be relatively robust.

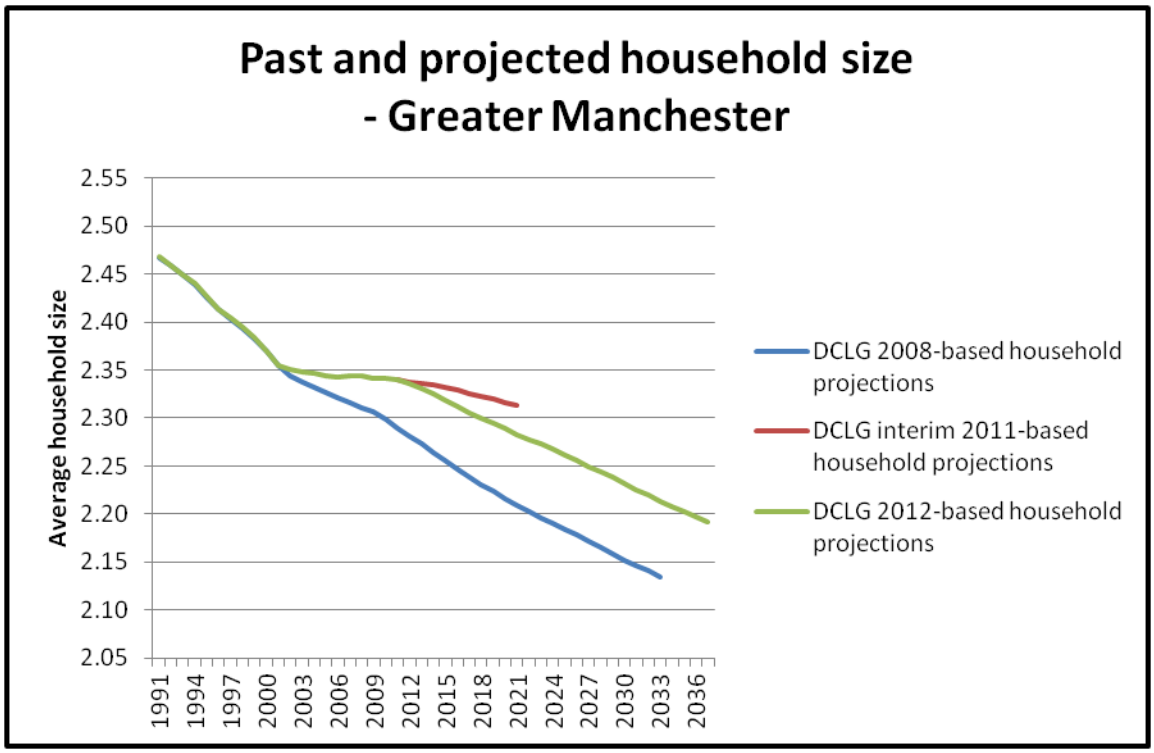
6.35 The next two graphs show the estimated and projected average household size for England, covering the periods from 1961 and 1991, from the last three household projections.



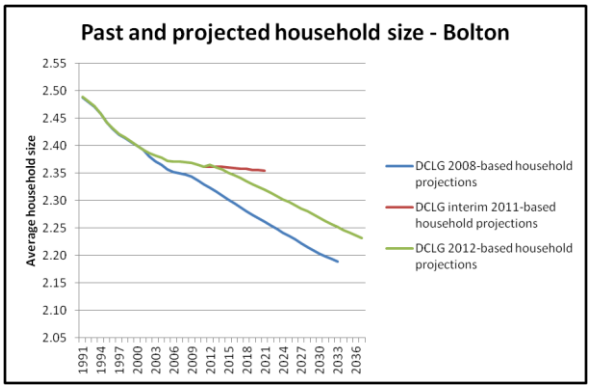


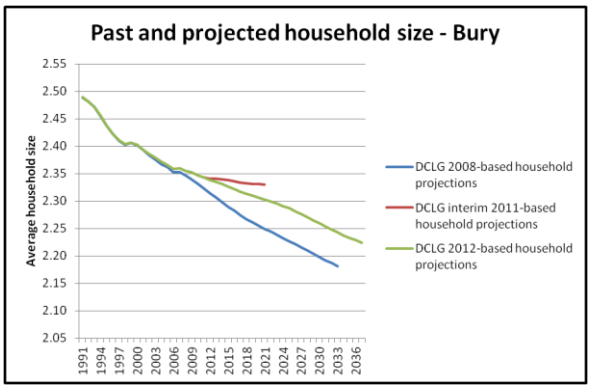
6.36 The second graph shows that the 2008-based projections were essentially projecting forward the same rate of decline in the national average household size as was seen over the period 1991-2001, although the first graph shows that this was a slower rate of reduction than had been seen since 1961. The 2012-based projections indicate that household size remained virtually unchanged over the period 2001-2011, rather than seeing the continued reduction suggested in the 2008-based projections, but from 2011 it is expected to see a rate of decline similar to that foreseen in those earlier projections.

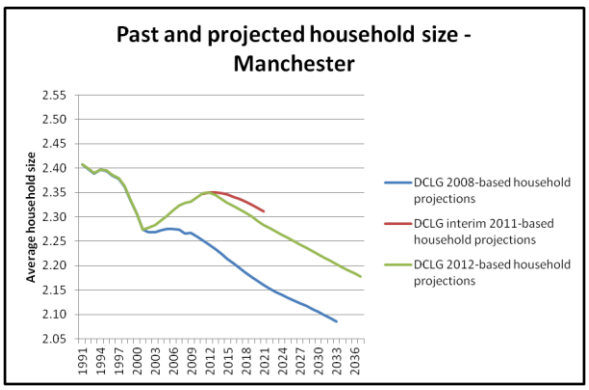
6.37 The next graph displays the same information from 1991 for Greater Manchester, and the picture it presents is very similar to that for England shown above.

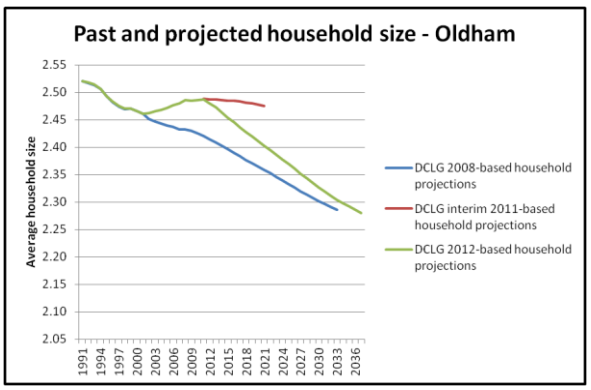


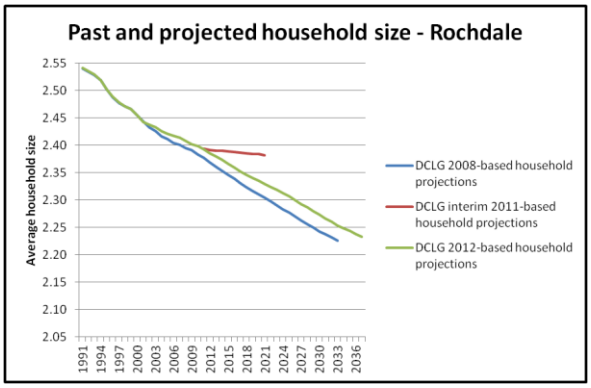
6.38 The following series of graphs shows the same information for each district in Greater Manchester.

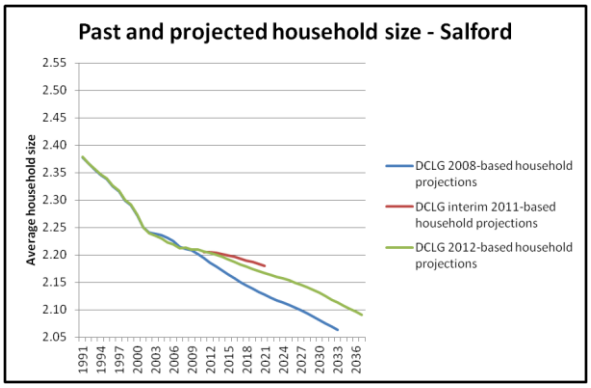


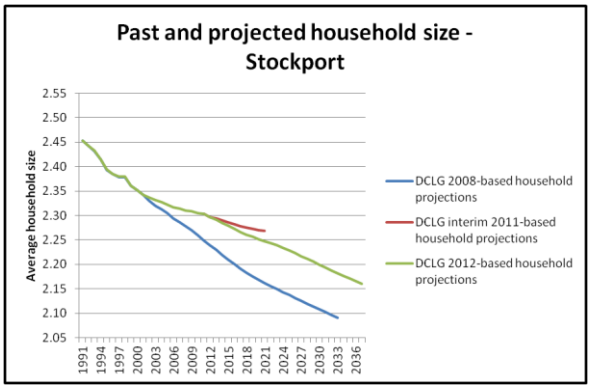


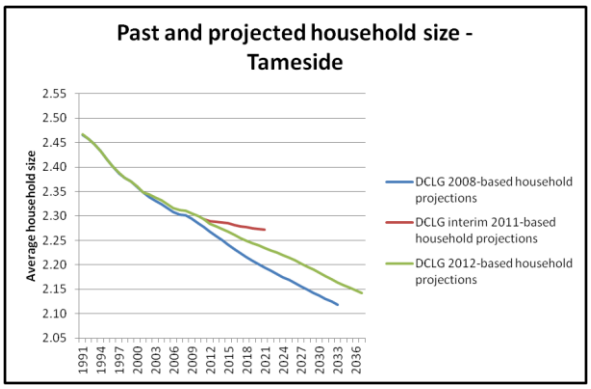


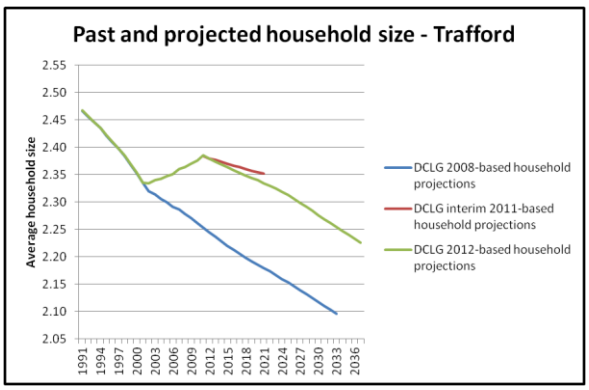


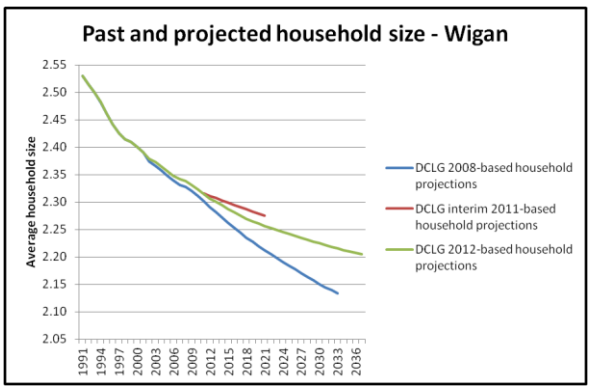












6.39 The trajectories of the average household size are what might be expected given the household representative rates described above. The long-term trend in all districts is that of a large reduction in average household size, with the 2008-based projections indicating a rate of reduction broadly the same, or slightly slower, than that seen over the period 1991-2001. The 2012-based projections suggest that all districts had a lower rate of reduction in their average household size than identified in the 2008-based projections, with Manchester, Oldham and Trafford actually seeing an increase in average household size, replicating the trend in their household representative rates. The 2012-based projections expect all districts to have a significant reduction in their average household size over the next two decades. In the case of Oldham, this is actually faster than the rate of reduction foreseen in the 2008-based projections, so the gap between them is closed, whereas most of the other districts are expected to see a decline broadly at a similar rate to that expected in the 2008-based projections, though Wigan's average household size is projected to reduce more slowly.

6.40 It would seem likely that a combination of the withdrawal of high loan-to-value mortgages, the need for larger deposits, substantial student loans and reduced availability of social rented housing will all impact on the household formation rates for younger age groups, although this may be offset to some extent by government initiatives such as Help to Buy and starter homes. A return to the rates projected by DCLG in the 2008-based projections therefore seems unlikely. Such issues may also impact on the type and location of new housing that is required, for example with income pressures reducing the amount of money that households have to spend on transport.

6.41 Overall, this analysis indicates that the household representative rates for Greater Manchester used in the DCLG 2012-based household projections involve a reasonable range of assumptions both overall and in terms of individual age groups. They involve a partial but not full return to the rates envisaged in the 2008-based household projections, reflecting the fact that actual changes in household formation and size over the period 2001-2011 were quite different to what had been expected in the 2008-based projections. This results in different starting points and modified future trends, but the 2012-based projections avoid simply extrapolating some of the downward trends in the household representative rates of younger age groups, and so factor in the likely increases in household formation as the economy recovers. The 2012-based projections expect a continuation of the downward trend in average household size, though at a slightly reduced rate compared to the 2008-based projections, and it is inevitable that household sizes cannot decline indefinitely and at some point must start to flatten out. In light of this, it is considered that the household representative rates in the 2012-based household projections are likely to provide a good estimate of future household formation.

Testing alternative household scenarios

6.42 Notwithstanding the above conclusion, in order to enable an appreciation of the implications of using different household representative rates, two approaches have been used for translating each of the population scenarios described in the previous section into household forecasts (except for the 2014 GMFM):

A) Application of the household representative rates from the DCLG 2012-based household projections for all years of the scenario (referred to hereafter as the 2012-based headship rates)
B) Application of the household representative rates from the DCLG 2012-based household projections in 2012, with a gradual return from to the DCLG 2008-based projections which are then applied in full from 2033 to 2035 (referred to hereafter as the return to 2008-based headship rates)

6.43 The household representative rates from each of the projections are available for each district by sex, five-year age group, and whether the household head

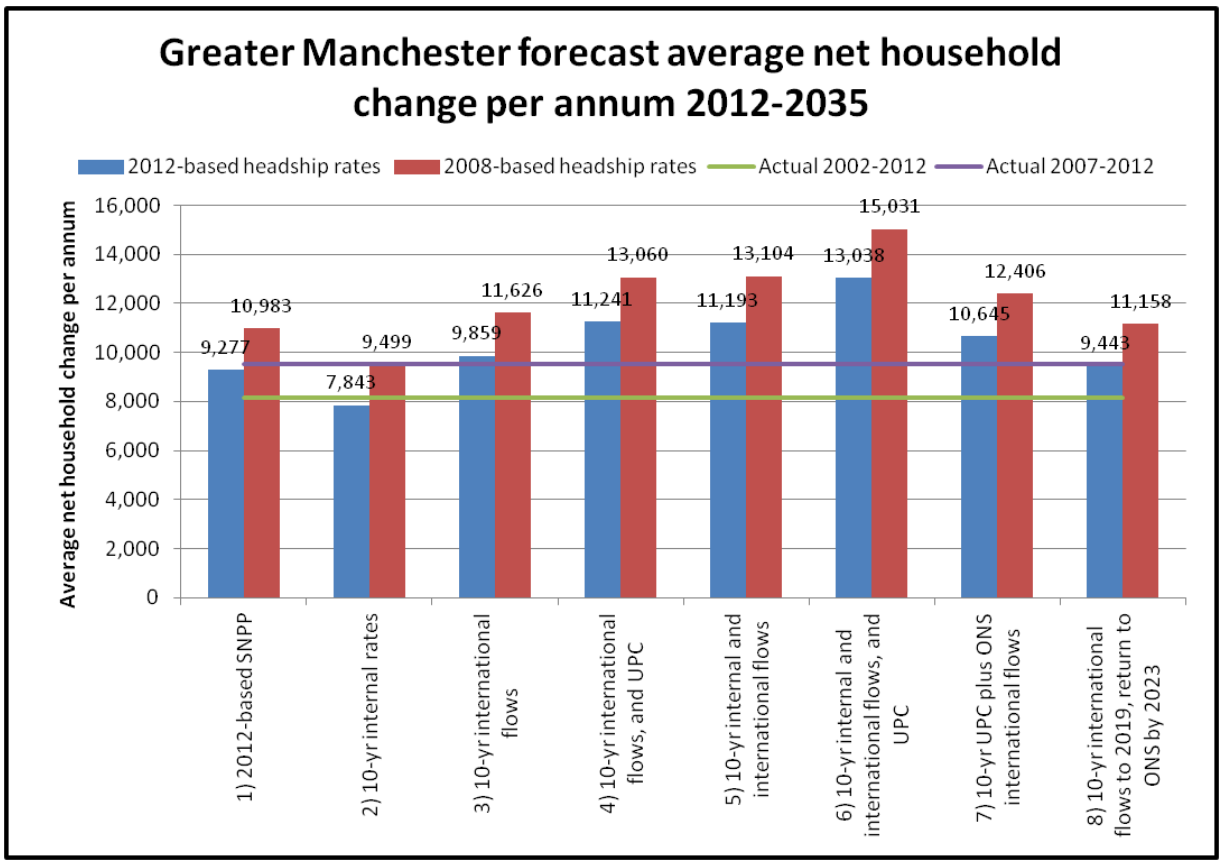
is single, previously-married or in a couple, and they have been applied to the population projections at this level of detail.

6.44 The 2014 GMFM incorporates its own assumptions around household formation. These use an extrapolation of the DCLG interim 2011-based household projections, as the 2014 GMFM was produced before the DCLG 2012-based household projections had been published. The household outputs are therefore likely to be lower than might be expected for any given population in light of the higher household representative rates in the 2012-based projections.

6.45 The results of the application of these household representative rates to each of the first eight population scenarios are summarised in the table below, together with the 2014 GMFM household outputs. The per annum figures for each scenario are also shown in the following graph.

Scenario		Household change 2012-2035			
		Absolute change		% change	
		2012-2035	Per annum	2012-2035	Per annum
1A	2012-based population projections with 2012-based headship rates	213,380	9,277	18.75	0.75
1B	2012-based population projections with return to 2008-based headship rates	252,615	10,983	22.19	0.88
2A	10-year average internal migration rates with 2012-based headship rates	180,391	7,843	15.85	0.64
2B	10-year average internal migration rates with return to 2008-based headship rates	218,472	9,499	19.19	0.77
3A	10-year average international migration flows with 2012-based headship rates	226,746	9,859	19.92	0.79
3B	10-year average international migration flows with return to 2008-based headship rates	267,393	11,626	23.49	0.92
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	258,534	11,241	22.71	0.89
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	300,372	13,060	26.39	1.02
5A	10-year average internal and international migration flows with 2012-based headship rates	257,433	11,193	22.62	0.89
5B	10-year average internal and international migration flows with return to 2008-based headship rates	301,386	13,104	26.48	1.03
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	299,873	13,038	26.34	1.02
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	345,715	15,031	30.37	1.16
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	244,827	10,645	21.51	0.85
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	285,327	12,406	25.07	0.98
8A	10-year average international flows to 2019, return	217,182	9,443	19.08	0.76

Scenario		Household change 2012-2035			
		Absolute change		% change	
		2012-2035	Per annum	2012-2035	Per annum
	to ONS flows by 2023, with 2012-based headship rates				
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	256,644	11,158	22.55	0.89
9	2014 GMFM	138,690	6,030	12.20	0.50
	Past household change (from Census figures[29])	*Total change*	*Per annum*		*% per annum*
	1931-1951	146,189	7,309		0.95
	1951-1971	96,109	4,805		0.54
	1971-1981	2,655	266		0.03
	1981-1991	54,038	5,404		0.56
	1991-2001	41,954	4,195		0.41
	2001-2011	87,869	8,787		0.81



6.46 This results in a very wide range of household growth scenarios for Greater Manchester, ranging from an increase of 138,690 households for the period 2012-2035 in the 2014 GMFM to 345,715 in scenario 6B (10-year average internal and international migration, and unattributable population change, with return to 2008-based headship rates). The 2014 GMFM is by far the

[29] GB Historical GIS / University of Portsmouth, the West Midlands GovOf through time | Housing Statistics | Total Households, A Vision of Britain through Time: www.visionofbritain.org.uk (accessed 26 February 2015)

lowest figure, with the next lowest being an increase of 180,391 households in scenario 1A (which is the replication of the DCLG 2012-based household projections), and scenario 6B is by far the highest.

6.47 The proportionate rate of household growth of 0.75% per annum in scenario 1A (replication of the DCLG 2012-based household projections) is relatively high compared to the past rates of change identified from the censuses. Several of the scenarios involve higher long-term household growth rates than seen during any of the inter-census periods. The growth rate of 0.50% per annum in the 2014 GMFM appears relatively low historically.

6.48 The assumption of a gradual return to the 2008-based household representative rates results in household growth around 1,700-2,000 per annum higher than is the case when applying the 2012-based household representative rates throughout the projection period for the same population. This highlights the significant impacts that changing trends in household formation can have on total household growth.

6.49 The next table compares the various household scenarios for each of the ten districts in Greater Manchester.

Scenario		Household change 2012-2035				
		Bolton	Bury	Manchester	Oldham	Rochdale
1A	2012-based population projections with 2012-based headship rates	20,758	12,037	49,191	14,952	9,759
1B	2012-based population projections with return to 2008-based headship rates	23,897	14,347	62,558	18,342	10,831
2A	10-year average internal migration rates with 2012-based headship rates	18,338	11,463	33,482	14,045	9,173
2B	10-year average internal migration rates with return to 2008-based headship rates	21,349	13,784	46,036	17,402	10,254
3A	10-year average international migration flows with 2012-based headship rates	22,657	12,237	59,770	13,461	9,700
3B	10-year average international migration flows with return to 2008-based headship rates	25,884	14,568	74,101	16,861	10,828
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	27,426	11,986	70,742	14,867	12,967
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	30,742	14,259	85,809	18,454	14,182
5A	10-year average internal and international migration flows with 2012-based headship rates	21,349	8,997	112,923	11,679	5,728
5B	10-year average internal and international migration flows with return to 2008-based headship rates	24,552	11,321	131,122	15,057	6,732
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	27,641	7,970	131,310	14,283	10,693
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	30,985	10,145	150,780	17,952	11,846
7A	10-year unattributable population change plus ONS international flows, with 2012-	25,481	11,789	59,983	16,302	12,981

	based headship rates					
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	28,717	14,049	74,120	19,881	14,144
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates	21,376	12,093	52,137	14,457	9,762
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	24,521	14,408	65,649	17,858	10,846
9	2014 GMFM	11,840	8,340	44,921	5,299	3,858
		Household change 2012-2035				
Scenario		Salford	Stockport	Tameside	Trafford	Wigan
1A	2012-based population projections with 2012-based headship rates	28,108	19,307	17,827	20,243	21,198
1B	2012-based population projections with return to 2008-based headship rates	29,369	23,555	20,191	25,645	23,879
2A	10-year average internal migration rates with 2012-based headship rates	22,326	16,563	16,156	16,934	21,911
2B	10-year average internal migration rates with return to 2008-based headship rates	23,514	20,778	18,516	22,204	24,635
3A	10-year average international migration flows with 2012-based headship rates	29,786	19,734	17,458	21,752	20,191
3B	10-year average international migration flows with return to 2008-based headship rates	31,126	24,062	19,875	27,233	22,856
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	30,053	17,721	19,231	26,703	26,840
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	31,294	21,939	21,665	32,463	29,563
5A	10-year average internal and international migration flows with 2012-based headship rates	37,994	10,604	12,452	18,053	17,654
5B	10-year average internal and international migration flows with return to 2008-based headship rates	39,491	14,660	14,769	23,407	20,276
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	35,439	7,121	14,426	24,971	26,019
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	36,717	10,956	16,739	30,863	28,731
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	28,401	17,347	19,595	25,168	27,780
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	29,572	21,490	21,980	30,851	30,523
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates	28,549	19,466	17,718	20,717	20,907
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	29,817	23,727	20,090	26,129	23,599
9	2014 GMFM	22,025	13,246	7,090	10,733	11,339

6.50 As with the underlying population scenarios and Greater Manchester as a whole, there is very significant variation between the household scenarios for

each district, particularly Manchester. Scenario 6B forecasts higher household growth in the city of Manchester alone than the 2014 GMFM does for the whole of Greater Manchester.

6.51 The next table shows the percentage change per annum in households for each district under the various scenarios, which enables a direct comparison with past rates of household change from censuses.

Scenario		% household change per annum 2012-2035				
		Bolton	Bury	Manchester	Oldham	Rochdale
1A	2012-based population projections with 2012-based headship rates	0.71	0.62	0.93	0.67	0.46
1B	2012-based population projections with return to 2008-based headship rates	0.81	0.73	1.15	0.81	0.51
2A	10-year average internal migration rates with 2012-based headship rates	0.63	0.59	0.65	0.63	0.43
2B	10-year average internal migration rates with return to 2008-based headship rates	0.73	0.70	0.87	0.77	0.48
3A	10-year average international migration flows with 2012-based headship rates	0.77	0.63	1.10	0.61	0.46
3B	10-year average international migration flows with return to 2008-based headship rates	0.87	0.74	1.33	0.75	0.51
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	0.92	0.62	1.28	0.66	0.60
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	1.02	0.73	1.51	0.81	0.65
5A	10-year average internal and international migration flows with 2012-based headship rates	0.73	0.47	1.90	0.53	0.27
5B	10-year average internal and international migration flows with return to 2008-based headship rates	0.83	0.59	2.15	0.67	0.32
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	0.93	0.42	2.15	0.64	0.50
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	1.03	0.53	2.40	0.79	0.55
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	0.86	0.61	1.11	0.72	0.60
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	0.96	0.72	1.33	0.87	0.65
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates	0.73	0.62	0.98	0.65	0.46
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	0.83	0.73	1.20	0.79	0.51
9	2014 GMFM	0.42	0.44	0.85	0.25	0.19
	Past household change (from Census[30])	*% household change per annum over identified period*				
	1931-1951	0.80	1.11	0.59	0.65	0.68
	1951-1971	0.59	1.37	-0.66	0.40	0.95

[30] Ibid

	1971-1981	0.39	0.55	-1.18	0.16	0.54
	1981-1991	0.66	0.90	0.30	0.49	0.62
	1991-2001	0.61	0.71	-0.09	0.30	0.52
	2001-2011	0.74	0.50	2.04	0.21	0.49
Scenario		Household change 2012-2035				
		Salford	Stockport	Tameside	Trafford	Wigan
1A	2012-based population projections with 2012-based headship rates	1.04	0.64	0.75	0.84	0.63
1B	2012-based population projections with return to 2008-based headship rates	1.08	0.77	0.84	1.04	0.70
2A	10-year average internal migration rates with 2012-based headship rates	0.84	0.55	0.68	0.71	0.65
2B	10-year average internal migration rates with return to 2008-based headship rates	0.88	0.68	0.77	0.91	0.72
3A	10-year average international migration flows with 2012-based headship rates	1.09	0.65	0.73	0.90	0.60
3B	10-year average international migration flows with return to 2008-based headship rates	1.13	0.78	0.82	1.10	0.67
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	1.10	0.59	0.80	1.08	0.78
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	1.14	0.72	0.89	1.28	0.85
5A	10-year average internal and international migration flows with 2012-based headship rates	1.35	0.36	0.53	0.76	0.53
5B	10-year average internal and international migration flows with return to 2008-based headship rates	1.40	0.49	0.63	0.96	0.60
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	1.27	0.25	0.61	1.02	0.76
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	1.31	0.37	0.70	1.23	0.83
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	1.05	0.58	0.81	1.02	0.80
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	1.08	0.70	0.90	1.22	0.88
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates	1.05	0.64	0.74	0.86	0.62
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	1.09	0.77	0.83	1.06	0.69
9	2014 GMFM	0.83	0.45	0.31	0.47	0.35
	Past household change	*% household change per annum over identified period*				
	1931-1951	0.55	1.86	1.38	2.30	0.96
	1951-1971	0.16	1.62	0.72	0.92	1.43
	1971-1981	-0.67	0.49	0.20	0.37	0.73
	1981-1991	0.17	0.74	0.84	0.45	0.66
	1991-2001	0.33	0.60	0.36	0.62	0.54
	2001-2011	0.95	0.13	0.54	0.57	0.87

6.52 The historic pattern of household growth is very varied, both between districts and over time. Some of the individual districts had very high rates of household growth over the period 1931-1971, whereas Manchester had particularly rapid growth over the period 2001-2011 at 2.04% per annum. In this context, the sustained high rates of household growth in many of the scenarios would represent very significant increases historically, particularly given that the growth would affect most districts rather than simply being focused in a small number as has tended to happen in the past.

Past household projections

6.53 The following two tables compare the last five household projections published by the Government. The first table compares the average household change per annum over the maximum period for which the five projections overlap, which is 2012-2021. The second table compares the average household change per annum for the full period of the projections from their base dates, which is 25 years except in the case of the 2011-based projections where it is 10 years. Each table also shows the difference between the highest and lowest figures from the projections for each area, to provide an indication of the extent to which the projections can vary over a relatively short space of time.

	Average household growth per annum (2012-2021)					
	Household projection					Difference between highest and lowest
Area	Revised 2004-based	2006-based	2008-based	2011-based	2012-based	
Bolton	1,000	800	778	920	964	222
Bury	689	800	489	627	555	311
Manchester	2,978	4,067	3,133	1,581	2,247	2,486
Oldham	600	800	578	518	699	282
Rochdale	889	800	400	320	442	569
Salford	689	978	1,089	1,343	1,324	654
Stockport	911	1,000	978	833	875	167
Tameside	889	1,089	800	764	818	325
Trafford	911	1,200	1,089	841	883	359
Wigan	1,178	1,200	1,000	1,023	1,096	200
Greater Manchester	10,756	12,578	10,311	8,769	9,902	3,808
England	232,111	268,800	243,844	220,453	220,560	48,347

	Average household growth per annum over period of the projection					
	Household projection and period					Difference between highest and lowest
Area	Revised 2004-based (2004-2029)	2006-based (2006-2031)	2008-based (2008-2033)	2011-based (2011-2021)	2012-based (2012-2037)	
Bolton	880	720	680	916	892	236
Bury	600	760	520	626	516	244
Manchester	3,000	3,760	2,960	1,571	2,123	2,189

Area	Average household growth per annum over period of the projection					
	Household projection and period					Difference between highest and lowest
	Revised 2004-based (2004-2029)	2006-based (2006-2031)	2008-based (2008-2033)	2011-based (2011-2021)	2012-based (2012-2037)	
Oldham	560	640	560	513	639	127
Rochdale	840	680	400	322	419	518
Salford	600	960	1,080	1,354	1,214	754
Stockport	760	920	920	836	832	160
Tameside	800	960	760	769	768	200
Trafford	840	1,120	1,040	838	877	282
Wigan	1,040	1,080	880	1,022	900	200
Greater Manchester	9,880	11,640	9,680	8,766	9,179	2,874
England	217,360	252,120	232,200	220,526	209,740	42,380

6.54 There has been a significant change in the forecast levels of household growth between the projections, particularly for the common period of 2012-2021. For Greater Manchester over the period 2012-2021, there is a difference of 3,800 between the highest and lowest projections, but a figure of just over 10,000 households per annum appears to be typical. The difference in the averages for the full time periods of the various projections is lower though still considerable for Greater Manchester, with growth of just over 9,500 households per annum being typical.

6.55 Within Greater Manchester, the figures for Manchester show the difficulties in basing planning strategy on household projections that are liable to significant change over a short space of time. For the period 2012-2021, the 2006-based projections anticipated average household growth of 4,067 per annum, but this had reduced dramatically in the 2011-based projections to 1,581 per annum. This means that there is a difference of almost 2,500 households per annum between these two projections, and the smallest difference between consecutive projections for Manchester is 666 dwellings per annum (between the 2011 and 2012-based projections), which is equivalent to the full scale of projected household growth in many districts. The deviation is slightly less for the full periods of the projections, but is still very considerable. Salford and Rochdale have also seen significant changes in their forecast household growth over the last five projections.

6.56 In contrast, given the size of the household growth anticipated, several of the other districts in Greater Manchester have relatively consistent forecast growth, particularly when looking at the full period of each projection rather than the period 2012-2021. The difference between the highest and lowest figures is less than 25% of the lowest figure in the case of Oldham, Stockport and Wigan, and only a little higher in the case of Tameside. Consequently, there seems to be an underlying level of household growth that consistently appears in the projections for those districts, whereas there is much more uncertainty within the projections for Manchester, Salford and Rochdale, which could be the result of varying levels of migration.

7. Dwelling scenarios

Translating household growth into a dwelling figure

7.1 The 2014 GMSF consultation assumed that 3% of all new dwellings in Greater Manchester would be vacant, and 0.5% would be second homes. Some of the responses to the consultation suggested that it would be more appropriate to use different figures for each district, for example based on census data, to reflect the fact that the rates of vacancies and second homes can vary considerably between different locations.

7.2 The table below shows the ratio of households to dwellings in each district from the 2011 Census, and the number of dwellings that would be required to accommodate the household growth identified in the projections if that ratio remained the same throughout the period 2012-2035. Figures using the methodology from the previous consultation (3% vacancy, 0.5% second homes) are included for comparison.

	Net additional dwellings required 2012-2035 using DCLG 2012-based sub-national household projections						
	Using the household:dwelling ratio for each district from the 2011 Census					Using 3% vacancy and 0.5% second homes	
Area	Household: dwelling ratio	2012	2035	2012-2035	Per annum	2012-2035	Per annum
Bolton	96.3%	121,619	143,164	21,545	937	21,508	935
Bury	95.9%	82,098	94,642	12,544	545	12,470	542
Manchester	96.0%	216,667	267,914	51,247	2,228	50,977	2,216
Oldham	96.5%	93,684	109,189	15,504	674	15,497	674
Rochdale	97.3%	90,385	100,409	10,024	436	10,109	440
Salford	95.3%	110,188	139,666	29,479	1,282	29,127	1,266
Stockport	97.0%	126,415	146,330	19,914	866	20,008	870
Tameside	95.8%	99,951	118,569	18,618	809	18,478	803
Trafford	97.3%	98,141	118,949	20,809	905	20,976	912
Wigan	96.4%	142,447	164,443	21,997	956	21,968	955
Greater Manchester		1,181,595	1,403,277	221,682	9,638	221,119	9,614

7.3 It can be seen that the difference in the methodologies has only a limited impact on the total number of dwellings that would be required to meet the household growth identified in the DCLG 2012-based household projections. The use of the household:dwelling ratio from the 2011 Census gives a slightly higher total figure for Greater Manchester, although the district figures are lower for Rochdale, Stockport and Trafford.

7.4 Data from DCLG live tables 615 and 125 indicates that the dwelling vacancy rate in Greater Manchester has reduced from 4.0% in 2011 to 2.9% in 2014. Therefore, the use of the household:dwelling ratio from the 2011 Census is

likely to overestimate the number of additional dwellings required to accommodate household growth. However, this could be offset by a reduction in the number of households that are sharing accommodation, which can potentially lead to overcrowding. Applying the 2011 Census ratios also has the benefit of using an approach that takes into account the varying characteristics of the Greater Manchester district, rather than applying a simple assumption to the sub-region as a whole. This does not mean that other approaches would be less robust, but for simplicity the household:dwelling ratio from the 2011 Census will be used hereon. The 2014 GMFM integrates calculations of dwelling stock based on DCLG data from the housing strategy statistical appendix tables.

7.5 The table below shows the increase in dwellings that would be required in Greater Manchester to accommodate the household change identified in each of the scenarios set out in the previous section.

Scenario		Dwelling change 2012-2035			
		Absolute change		% change	
		2012-2035	Per annum	2012-2035	Per annum
1A	2012-based population projections with 2012-based headship rates	221,682	9,638	18.76	0.75
1B	2012-based population projections with return to 2008-based headship rates	262,398	11,409	22.21	0.88
2A	10-year average internal migration rates with 2012-based headship rates	187,364	8,146	15.86	0.64
2B	10-year average internal migration rates with return to 2008-based headship rates	226,880	9,864	19.20	0.77
3A	10-year average international migration flows with 2012-based headship rates	235,598	10,243	19.94	0.79
3B	10-year average international migration flows with return to 2008-based headship rates	277,783	12,078	23.51	0.92
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	268,574	11,677	22.73	0.89
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	311,993	13,565	26.40	1.02
5A	10-year average internal and international migration flows with 2012-based headship rates	267,836	11,645	22.67	0.89
5B	10-year average internal and international migration flows with return to 2008-based headship rates	313,472	13,629	26.53	1.03
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	311,834	13,558	26.39	1.02
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	359,427	15,627	30.42	1.16
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	254,304	11,057	21.52	0.85
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	296,332	12,884	25.08	0.98
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates	225,639	9,810	19.10	0.76
8B	10-year average international flows to 2019, return to	266,592	11,591	22.56	0.89

Scenario		Dwelling change 2012-2035			
		Absolute change		% change	
		2012-2035	Per annum	2012-2035	Per annum
	ONS flows by 2023, with return to 2008-based headship rates				
9	2014 GMFM	141,869	6,168	12.08	0.50
	Past dwelling change (from DCLG live table 125)	*Total change*	*Per annum*		*% per annum*
	2002-2012	78,600	7,860		0.70
	2007-2012	35,250	7,050		0.61

7.6 The methodology for calculating the dwelling change means that the relative growth between the various scenarios is the same as for households discussed in the previous section. The comparison with the recent dwelling change recorded in DCLG live table 125 shows that all of the scenarios, other than the 2014 GMFM, would involve an accelerated rate of dwelling increases which would need to be maintained over a 23-year period. Other than the 2014 GMFM forecast and scenario 2A, all of the scenarios involve a 19-30% increase in the total dwelling stock in just over two decades, which would be a very significant expansion.

7.7 The next table provides details of the total dwelling change for each district in each scenario over the period 2012-2035.

Scenario		Dwelling change 2012-2035				
		Bolton	Bury	Manchester	Oldham	Rochdale
1A	2012-based population projections with 2012-based headship rates	21,548	12,547	51,246	15,501	10,028
1B	2012-based population projections with return to 2008-based headship rates	24,807	14,955	65,171	19,016	11,129
2A	10-year average internal migration rates with 2012-based headship rates	19,036	11,949	34,880	14,561	9,426
2B	10-year average internal migration rates with return to 2008-based headship rates	22,162	14,368	47,958	18,042	10,537
3A	10-year average international migration flows with 2012-based headship rates	23,520	12,755	62,266	13,956	9,967
3B	10-year average international migration flows with return to 2008-based headship rates	26,869	15,185	77,196	17,480	11,127
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	28,470	12,494	73,696	15,413	13,324
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	31,913	14,863	89,393	19,132	14,573
5A	10-year average internal and international migration flows with 2012-based headship rates	22,162	9,378	117,638	12,108	5,886
5B	10-year average internal and international migration flows with return to 2008-based headship rates	25,487	11,800	136,598	15,610	6,917
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	28,694	8,307	136,793	14,808	10,988
6B	10-year average internal and international migration flows, and unattributable	32,165	10,575	157,077	18,611	12,172

	population change, with return to 2008-based headship rates					
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	26,452	12,288	62,488	16,901	13,338
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	29,810	14,644	77,215	20,611	14,534
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates	22,190	12,605	54,314	14,988	10,031
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	25,454	15,018	68,391	18,514	11,145
9	2014 GMFM	12,087	8,724	47,282	5,085	4,314
Scenario		Dwelling change 2012-2035				
		Salford	Stockport	Tameside	Trafford	Wigan
1A	2012-based population projections with 2012-based headship rates	29,479	19,913	18,614	20,809	21,996
1B	2012-based population projections with return to 2008-based headship rates	30,802	24,295	21,083	26,363	24,778
2A	10-year average internal migration rates with 2012-based headship rates	23,415	17,084	16,870	17,408	22,736
2B	10-year average internal migration rates with return to 2008-based headship rates	24,661	21,431	19,333	22,825	25,562
3A	10-year average international migration flows with 2012-based headship rates	31,239	20,354	18,229	22,361	20,951
3B	10-year average international migration flows with return to 2008-based headship rates	32,644	24,818	20,753	27,995	23,716
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	31,519	18,277	20,080	27,451	27,850
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	32,821	22,628	22,622	33,372	30,676
5A	10-year average internal and international migration flows with 2012-based headship rates	39,847	10,937	13,002	18,559	18,319
5B	10-year average internal and international migration flows with return to 2008-based headship rates	41,417	15,121	15,421	24,063	21,039
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	37,167	7,345	15,063	25,670	26,998
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	38,508	11,300	17,479	31,727	29,813
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	29,786	17,892	20,460	25,873	28,825
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	31,014	22,165	22,951	31,715	31,672
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates	29,942	20,077	18,501	21,297	21,694
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	31,271	24,472	20,978	26,861	24,487
9	2014 GMFM	22,307	13,173	7,638	10,065	11,195

7.8 The following table provides the same information as the previous one, but instead on an average dwelling change per annum basis.

Scenario		Average dwelling change per annum 2012-2035					
		Greater Man-chester	Bolton	Bury	Man-chester	Oldham	Roch-dale
1A	2012-based population projections with 2012-based headship rates	9,638	937	546	2,228	674	436
1B	2012-based population projections with return to 2008-based headship rates	11,409	1,079	650	2,834	827	484
2A	10-year average internal migration rates with 2012-based headship rates	8,146	828	520	1,517	633	410
2B	10-year average internal migration rates with return to 2008-based headship rates	9,864	964	625	2,085	784	458
3A	10-year average international migration flows with 2012-based headship rates	10,243	1,023	555	2,707	607	433
3B	10-year average international migration flows with return to 2008-based headship rates	12,078	1,168	660	3,356	760	484
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	11,677	1,238	543	3,204	670	579
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	13,565	1,388	646	3,887	832	634
5A	10-year average internal and international migration flows with 2012-based headship rates	11,645	964	408	5,115	526	256
5B	10-year average internal and international migration flows with return to 2008-based headship rates	13,629	1,108	513	5,939	679	301
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	13,558	1,248	361	5,948	644	478
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	15,627	1,398	460	6,829	809	529
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	11,057	1,150	534	2,717	735	580
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	12,884	1,296	637	3,357	896	632
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates	9,810	965	548	2,361	652	436
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	11,591	1,107	653	2,974	805	485
9	2014 GMFM	6,168	526	379	2,056	221	188
Scenario		Average dwelling change per annum 2012-2035					
			Salford	Stock-port	Tame-side	Trafford	Wigan
1A	2012-based population projections with 2012-based headship rates		1,282	866	809	905	956
1B	2012-based population projections with return to 2008-based headship rates		1,339	1,056	917	1,146	1,077
2A	10-year average internal migration rates		1,018	743	733	757	989

	with 2012-based headship rates						
2B	10-year average internal migration rates with return to 2008-based headship rates		1,072	932	841	992	1,111
3A	10-year average international migration flows with 2012-based headship rates		1,358	885	793	972	911
3B	10-year average international migration flows with return to 2008-based headship rates		1,419	1,079	902	1,217	1,031
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates		1,370	795	873	1,194	1,211
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates		1,427	984	984	1,451	1,334
5A	10-year average internal and international migration flows with 2012-based headship rates		1,732	476	565	807	796
5B	10-year average internal and international migration flows with return to 2008-based headship rates		1,801	657	670	1,046	915
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates		1,616	319	655	1,116	1,174
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates		1,674	491	760	1,379	1,296
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates		1,295	778	890	1,125	1,253
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates		1,348	964	998	1,379	1,377
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates		1,302	873	804	926	943
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates		1,360	1,064	912	1,168	1,065
9	2014 GMFM		970	573	332	438	487

Dwelling change from 2014

7.9 The scenarios above have a base date of 2012, but net housing completions data is available for each district for the period 2012-2014, from local authority monitoring, and is shown in the table below.

	Net change in dwellings		
Area	2012/13	2013/14	2012-2014
Bolton	469	407	876
Bury	274	266	540
Manchester	1,007	541	1,548
Oldham	252	351	603
Rochdale	448	267	715
Salford	549	843	1,392
Stockport	298	374	672

Area	Net change in dwellings		
	2012/13	2013/14	2012-2014
Tameside	522	366	888
Trafford	32	145	177
Wigan	322	594	916
Greater Manchester	4,173	4,154	8,327

7.10 By deducting the net completions from the total dwelling figures for 2012-2035, a residual dwelling figure for 2014-2035 can be calculated for each scenario. The results of this are shown in the two tables below, the first relating to total dwelling change and the second to average dwelling change per annum. Since average completions were relatively low during 2012-2014, the average dwelling change per annum increases in all scenarios for the period 2014-2035 compared to the figures above for 2012-2035.

Scenario		Net dwelling change 2014-2035					
		Greater Man-chester	Bolton	Bury	Man-chester	Oldham	Roch-dale
1A	2012-based population projections with 2012-based headship rates	213,355	20,672	12,007	49,698	14,898	9,313
1B	2012-based population projections with return to 2008-based headship rates	254,071	23,931	14,415	63,623	18,413	10,414
2A	10-year average internal migration rates with 2012-based headship rates	179,037	18,160	11,409	33,332	13,958	8,711
2B	10-year average internal migration rates with return to 2008-based headship rates	218,553	21,286	13,828	46,410	17,439	9,822
3A	10-year average international migration flows with 2012-based headship rates	227,271	22,644	12,215	60,718	13,353	9,252
3B	10-year average international migration flows with return to 2008-based headship rates	269,456	25,993	14,645	75,648	16,877	10,412
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	260,247	27,594	11,954	72,148	14,810	12,609
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	303,666	31,037	14,323	87,845	18,529	13,858
5A	10-year average internal and international migration flows with 2012-based headship rates	259,509	21,286	8,838	116,090	11,505	5,171
5B	10-year average internal and international migration flows with return to 2008-based headship rates	305,145	24,611	11,260	135,050	15,007	6,202
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	303,507	27,818	7,767	135,245	14,205	10,273
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	351,100	31,289	10,035	155,529	18,008	11,457
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	245,977	25,576	11,748	60,940	16,298	12,623
7B	10-year unattributable population change plus ONS international flows, with return to	288,005	28,934	14,104	75,667	20,008	13,819

	2008-based headship rates						
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates	217,312	21,314	12,065	52,766	14,385	9,316
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	258,265	24,578	14,478	66,843	17,911	10,430
9	2014 GMFM	133,542	11,211	8,184	45,734	4,482	3,599

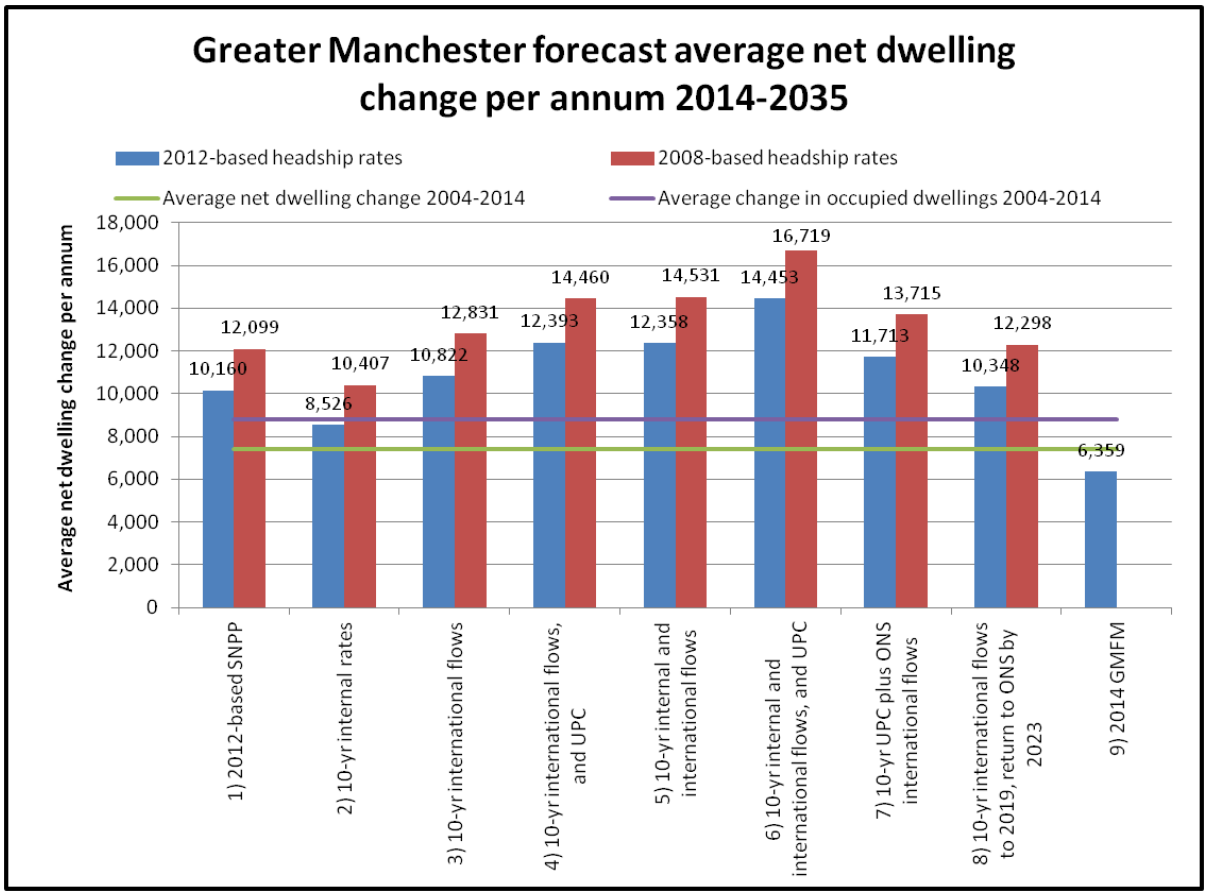
Scenario		Net dwelling change 2014-2035					
			Salford	Stock-port	Tame-side	Trafford	Wigan
1A	2012-based population projections with 2012-based headship rates		28,087	19,241	17,726	20,632	21,080
1B	2012-based population projections with return to 2008-based headship rates		29,410	23,623	20,195	26,186	23,862
2A	10-year average internal migration rates with 2012-based headship rates		22,023	16,412	15,982	17,231	21,820
2B	10-year average internal migration rates with return to 2008-based headship rates		23,269	20,759	18,445	22,648	24,646
3A	10-year average international migration flows with 2012-based headship rates		29,847	19,682	17,341	22,184	20,035
3B	10-year average international migration flows with return to 2008-based headship rates		31,252	24,146	19,865	27,818	22,800
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates		30,127	17,605	19,192	27,274	26,934
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates		31,429	21,956	21,734	33,195	29,760
5A	10-year average internal and international migration flows with 2012-based headship rates		38,455	10,265	12,114	18,382	17,403
5B	10-year average internal and international migration flows with return to 2008-based headship rates		40,025	14,449	14,533	23,886	20,123
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates		35,775	6,673	14,175	25,493	26,082
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates		37,116	10,628	16,591	31,550	28,897
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates		28,394	17,220	19,572	25,696	27,909
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates		29,622	21,493	22,063	31,538	30,756
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates		28,550	19,405	17,613	21,120	20,778
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates		29,879	23,800	20,090	26,684	23,571
9	2014 GMFM		20,915	12,501	6,750	9,888	10,279

Scenario	Average dwelling change per annum 2014-2035					
	Greater Man-chester	Bolton	Bury	Man-chester	Oldham	Roch-dale

1A	2012-based population projections with 2012-based headship rates	10,160	984	572	2,367	709	443
1B	2012-based population projections with return to 2008-based headship rates	12,099	1,140	686	3,030	877	496
2A	10-year average internal migration rates with 2012-based headship rates	8,526	865	543	1,587	665	415
2B	10-year average internal migration rates with return to 2008-based headship rates	10,407	1,014	658	2,210	830	468
3A	10-year average international migration flows with 2012-based headship rates	10,822	1,078	582	2,891	636	441
3B	10-year average international migration flows with return to 2008-based headship rates	12,831	1,238	697	3,602	804	496
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	12,393	1,314	569	3,436	705	600
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	14,460	1,478	682	4,183	882	660
5A	10-year average internal and international migration flows with 2012-based headship rates	12,358	1,014	421	5,528	548	246
5B	10-year average internal and international migration flows with return to 2008-based headship rates	14,531	1,172	536	6,431	715	295
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	14,453	1,325	370	6,440	676	489
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	16,719	1,490	478	7,406	858	546
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	11,713	1,218	559	2,902	776	601
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	13,715	1,378	672	3,603	953	658
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates	10,348	1,015	575	2,513	685	444
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	12,298	1,170	689	3,183	853	497
9	2014 GMFM	6,359	534	390	2,178	213	171
		Average dwelling change per annum 2014-2035					
Scenario			Salford	Stock-port	Tame-side	Trafford	Wigan
1A	2012-based population projections with 2012-based headship rates		1,337	916	844	982	1,004
1B	2012-based population projections with return to 2008-based headship rates		1,400	1,125	962	1,247	1,136
2A	10-year average internal migration rates with 2012-based headship rates		1,049	782	761	821	1,039
2B	10-year average internal migration rates with return to 2008-based headship rates		1,108	989	878	1,078	1,174
3A	10-year average international migration flows with 2012-based headship rates		1,421	937	826	1,056	954
3B	10-year average international migration flows with return to 2008-based headship rates		1,488	1,150	946	1,325	1,086
4A	10-year average international migration flows, and unattributable population		1,435	838	914	1,299	1,283

	change, with 2012-based headship rates						
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates		1,497	1,046	1,035	1,581	1,417
5A	10-year average internal and international migration flows with 2012-based headship rates		1,831	489	577	875	829
5B	10-year average internal and international migration flows with return to 2008-based headship rates		1,906	688	692	1,137	958
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates		1,704	318	675	1,214	1,242
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates		1,767	506	790	1,502	1,376
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates		1,352	820	932	1,224	1,329
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates		1,411	1,023	1,051	1,502	1,465
8A	10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates		1,360	924	839	1,006	989
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates		1,423	1,133	957	1,271	1,122
9	2014 GMFM		996	595	321	471	489

7.11 The following graph displays the average per annum figures for Greater Manchester. The average net dwelling change per annum for the period 2004-2014 is provided as a comparison, as is the average change in the number of occupied dwellings over the same period, which is higher than the net dwelling change due to a reduction in the number of vacant dwellings. Only two of the scenarios (2A and 9) are lower than the average change in the number of occupied dwellings over the last ten years, and only the 2014 GMFM scenario is lower than the average net dwelling change during 2004-2014.



Comparison with past change

7.12 The table below compares the range of annual average dwelling change for each district over the period 2014-2035 identified in the table above with the actual annual average net change in dwellings recorded in DCLG live table 122 for 2004-2014, and the DCLG 2012-based sub-national household projections are also specifically identified. This provides an indication of the scale of change in development activity that may be required in each district compared to the recent past, depending on the scenario that is used.

	Comparison of past completions and forecasts			
	Forecast dwelling change 2014-2035 (average per annum)		Net change in dwellings 2004-2014	
	DCLG 2012-based	Full range of scenarios	Average per annum	% of Greater Manchester
Bolton	984	534 – 1,490	663	8.97
Bury	572	370 – 697	405	5.48
Manchester	2,367	1,587 – 7,406	2,531	34.23
Oldham	709	213 – 953	146	1.97
Rochdale	443	171 – 660	339	4.58
Salford	1,337	996 – 1,906	1,006	13.60

	Comparison of past completions and forecasts			
	Forecast dwelling change 2014-2035 (average per annum)		Net change in dwellings 2004-2014	
	DCLG 2012-based	Full range of scenarios	Average per annum	% of Greater Manchester
Stockport	916	318 – 1,150	296	4.00
Tameside	844	321 – 1,051	561	7.59
Trafford	982	471 – 1,581	393	5.31
Wigan	1,004	489 – 1,465	1,054	14.25
Greater Manchester	10,160	6,359 – 16,719	7,395	

7.13 The recent average net change in dwellings in Greater Manchester sits at the bottom end of the range of scenarios. It is higher only than the 2014 GMFM output, and is 1,131 dwellings per annum lower than the next lowest scenario, which is scenario 2 using the 10-year average internal migration rates. The largest growth scenario is more than double the level of net additions for Greater Manchester seen over the period 2004-2014.

7.14 Manchester and Wigan are the only districts for which average completions over the last decade have exceeded the annual average 2014-2035 dwelling change based on the DCLG 2012-based household projections, although Manchester's past average sits towards the bottom end of the range of future dwelling change set out earlier. Wigan is the only district for which the past average completions are above the mid point of the range of future dwelling change identified. Oldham, Stockport and Trafford saw low average completions over the period 2004-2014 compared to their dwelling changes based on the DCLG projections, and indeed in each case those past averages are below the bottom end of the range of future dwelling changes that have been modelled.

7.15 The next table shows what the change in dwellings would be in each district over the period 2014-2035 if the rate of increase in the number of occupied dwellings remained at the same level as seen over the period 2005-2014 (the Bolton figures for 2004 appear erroneous and so this slightly shorter period has been used rather than the 2004-2014 period for which data has been published). The increase in the number of occupied dwellings has been translated into an increase in all dwellings by assuming that there is a 3% vacancy rate and 0.5% second homes. This is designed to provide an overall indication of the extent to which any of the future scenarios would deviate from what has actually been seen in terms of occupancy over the last decade. As with the previous table, the DCLG household projections and the range of dwelling change figures from the various scenarios are also included for comparison, but this time in the form of the average percentage increase per annum.

	Comparison of forecast annual average dwelling change and continuation of past rates of change in occupied dwellings

	Forecast dwelling change 2014-2035 (average % increase per annum)		Change in occupied dwellings		
	DCLG 2012-based	Full range of scenarios	% change per annum 2005-2014	Average change per annum 2014-2035 if occupied dwellings increase at 2005-2014 rate	Net change in dwellings 2014-2035 if 3% vacancy and 0.5% second homes
Bolton	0.75	0.42 – 1.09	0.69	865	896
Bury	0.65	0.43 – 0.78	0.48	397	411
Manchester	0.99	0.68 – 2.60	1.74	4,412	4,572
Oldham	0.71	0.22 – 0.88	0.34	319	331
Rochdale	0.46	0.18 – 0.68	0.48	446	462
Salford	1.09	0.83 – 1.49	1.38	1,697	1,759
Stockport	0.68	0.24 – 0.83	0.23	289	299
Tameside	0.78	0.31 – 0.94	0.77	816	845
Trafford	0.92	0.46 – 1.40	0.55	555	576
Wigan	0.66	0.33 – 0.91	0.74	1,102	1,142
Greater Manchester	0.79	0.51 – 1.24	0.83	10,353	10,728

7.16 The average rate of increase per annum in dwellings in Greater Manchester under the DCLG projections scenario is slightly lower than the average rate of change in occupied dwellings over the last decade. This is reflected in the 2014-2035 dwelling change figure if it was based on that past rate of increase in occupied dwellings, which is 10,728 per annum compared to 10,160 per annum under the DCLG projections. This would suggest that the DCLG projections reflect past changes quite accurately, irrespective of the approach to unattributable population change in the ONS sub-national population projections that underpin them. Twelve of the seventeen scenarios represent an increase in the rate of change in occupied dwellings compared to 2005-2014, and thereby involve an uplift on, rather than a continuation of, past trends.

7.17 If the future dwelling requirements were based on the rate of growth in occupied dwellings over the period 2004-2014, then there would be a much greater concentration of new housing in Manchester and Salford than under the DCLG projections, with the two cities accounting for 63% of growth. This is far higher than the 36% they account for in the DCLG projections, which show a more dispersed pattern of growth, and indeed is higher than their proportion in any of the scenarios. Taking this approach, Stockport would see a lower rate of growth than in any of the 17 scenarios discussed earlier, reflecting the low rate of increase in occupied dwellings that it has seen in recent years.

7.18 Consideration also needs to be given to whether it would be realistic or desirable to maintain the growth rates in the number of dwellings in some of these scenarios in the longer term beyond 2035. If the number of dwellings in Greater Manchester continued to increase at a rate of 0.79% per annum after 2035, in accordance with the scale of housing required to support the DCLG household projections, then there would be one-third more dwellings in Greater Manchester than in 2014 by 2050, over 50% more by 2070, and almost double by the end of the century. If the growth rate of 1.24% per annum in scenario 7B was achieved in the long term then the number of dwellings would have doubled by 2070, and Greater Manchester would be the current size of Greater London by 2100.

Other forecasts and suggested housing requirements

Existing development plans

7.19 Six of the ten districts have adopted core strategies (Bolton, Manchester, Oldham, Stockport, Trafford and Wigan), and Rochdale is due to adopt its core strategy in 2016. The table below summarises the net dwelling requirements in these core strategies.

	Net dwelling requirements in core strategies		
		Net dwelling requirements	
	Plan period	Total plan requirement	Average per annum
Bolton	2008-2026	12,492	694
Manchester	2009-2027	60,000	3,333
Oldham	2010-2026	5,075	317
Rochdale	2012-2028	7,360	460
Stockport	2011-2026	7,200	480
Trafford	2008-2026	12,210	678
Wigan	2011-2026	15,000	1,000

7.20 Three of the districts, Bury, Salford and Tameside, do not have adopted core strategies. In the absence of a dwelling requirement in an adopted development plan, the latest DCLG household projections are typically used, which are the same as scenario 1A described above. This would give Bury, Salford and Tameside annual dwelling requirements for 2014-2035 of 572, 1,337 and 844, respectively. Summing the seven core strategy annual requirements to these three scenario 1A annual dwelling requirements would give a total Greater Manchester requirement of 9,716 dwellings per annum.

7.21 However, this approach would not take into account actual levels of delivery in the early years of each core strategy period prior to 2014. The table below calculates what the requirement would be for the period 2014-2035 if the core strategy figures were extended, taking into account any under- or over-provision from the start dates of those plans.

	Net dwelling requirements for 2014-2035 based on existing core strategies						
	Plan period	Total net dwelling requirement		Net comple-tions to 2014[31]	Residual requirement 2014-35		Notes
		From plan	Extended to 2035[32]		Total	Per annum	
Bolton	2008-2026	12,492	18,738	3,023	15,715	748	Extended the annual average of 694 pa
Manchester	2009-2027	60,000	86,667	4,466	82,201	3,914	Extended the annual average of 3,333 pa
Oldham	2010-2026	5,075	7,676	674	7,002	333	Extended the annual average of 289 pa, plus 451 backlog from 2003-2010
Rochdale	2012-2028	7,360	10,580	715	9,865	470	Extended the annual average of 460 pa
Stockport	2011-2026	7,200	11,520	873	10,647	507	Extended the annual average of 480 pa
Trafford	2008-2026	12,210	17,412	1,260	16,152	769	Used annual average of 578 pa from 2026 (removing 20% growth point uplift used in the plan period 2008-2026)
Wigan	2011-2026	15,000	24,000	1,335	22,665	1,079	Extended the annual average of 1,000 pa

7.22 Adding the residual net dwelling requirements for 2014-2035 from the table above to the scenario 1A net dwelling requirements for Bury, Salford and Tameside, would give a figure for Greater Manchester based on existing development plans of 222,067 net additional dwellings over the period 2014-2035, which equates to an average of 10,575 per annum. This is slightly above the full scenario 1A figure of 10,160 net additional dwellings per annum that is based on the DCLG 2012-based sub-national household projections.

7.23 The inclusion of an allowance for the under-provision from the early years of the seven core strategies increases the annual average requirement from 9,716 to 10,575 net additional dwellings. This suggests that there is currently a gap between what is being planned for, and what is being delivered. Unless measures are taken to address such delivery issues, then significantly lower levels of additional housing would be likely to be provided than identified in current plans, well below the nominal figures of 9,716 or 10,575 net additional dwellings per annum. In this case, the existing land supply that has been identified by districts may provide a better indication of future delivery under existing development plans, and this supply is discussed in section 14 of this report.

Housing the Powerhouse

[31] From the start date of the plan to 2014, using figures from development monitoring undertaken by the district.

[32] This is the requirement if the end date of the plan is extended to 2035, retaining the same start date. See last column of the table for the annual figure used in these calculations.

7.24 In July 2015, the Home Builders Federation published a report on the economic footprint of house building in the North West region. This suggested that: "In the North West in 2014, **only 14,130 new homes were started, compared to a projected annual need of 18,465** meaning that only three quarters of the amount of homes the area needed were being built" [33].

7.25 The report identifies the number of dwelling starts, rather than completions, in 2014 (using DCLG live table 253a), and calculates what it considers to be the gap between that output and what is actually required. This is done for each sub-region, and selected districts within them. Although the report does not explicitly indicate requirements for each area, these can be calculated from the figures for starts and the output gap. The relevant figures stated in the report, and calculated from it, are summarised in the table below[34]. Gaps are left in the table where the report does not specify an output gap for that district.

Area	2014 starts (A)[35]	Gap suggested in the HBF report (B)[36]	Implicit requirement (B minus A)
Bolton	210	673	883
Bury	260		
Manchester	990	993	1,983
Oldham	310	327	637
Rochdale	290		
Salford	680	480	1,160
Stockport	570	233	803
Tameside	460		
Trafford	340		
Wigan	420	547	967
Greater Manchester	4,470	4,435	8,905
North West	14,130	4,335	18,465

7.26 The figures in the report therefore suggest that there is a need for an average of 8,905 dwellings per annum in Greater Manchester, over an unspecified period. This is towards the bottom end of the range of scenarios discussed above, with only the 2014 GMFM and scenario 2a being lower.

7.27 The day after the HBF report was published, the 'Housing the Powerhouse' campaign was launched. The campaign is led by the Home Builders

[33] Home Builders Federation (July 2015) *Regional Report: North West – Economic Footprint of House Building*, section 6 (original emphasis)
[34] Ibid, taken from section 10 and the appendix; figures do not add up
[35] The HBF report uses a figure of 4,470, although the Greater Manchester total calculated from DCLG live table 253a is 4,480. The district figures do not add up to this total due to rounding in the live table.
[36] Section 1 of the HBF report refers to a shortfall of 4,345 homes every year. Section 6 of the HBF report refers to a projected annual need of 18,465, which would be a shortfall of 4,335, and so the latter figure is used here since a total requirement is specified in the report.

Federation, and the other member organisations are Ainscough Strategic Land, Barratt Homes, Bloor Homes, David Wilson Homes, the Emerson Group/Orbit Developments, Gladman Developments, HIMOR Group, Jones Homes, The Peel Group and Taylor Wimpey UK Ltd. It is also backed by the Greater Manchester Chamber of Commerce[37].

7.28 The Housing the Powerhouse campaign refers to a report produced by Barton Willmore, which states that:

"The stage 1 consultation draft Greater Manchester Spatial Framework identified a need for approximately 11,000 new homes per annum across Greater Manchester. However, organisations across the development industry consider the need to be much higher – potentially around 16,000 new homes per annum. This figure being necessary to support Greater Manchester's economic growth aspirations whilst also meeting demographic change and addressing affordability and market signals issues (at least in part)."[38]

7.29 The suggested requirement of 16,000 new homes per annum for Greater Manchester lies at the top end of the various scenarios discussed above. It is the key message in the Housing the Powerhouse campaign, but neither the campaign website nor the Barton Willmore report explains how this figure has been derived. The Housing the Powerhouse campaign also refers to the HBF report on house building in the North West, discussed above[39], although this would appear inconsistent with the 16,000 figure. The figure of 16,000 per annum that the campaign suggests for Greater Manchester would be 87% of the total need for housing in the North West identified in the HBF report, and 80% higher than the housing need for Greater Manchester that is implicit in the HBF report's figures on dwelling starts and the gap with what is required. Consequently, unless there was a very significant increase in the need for housing across the North West compared to that identified in the HBF report, then the vast majority of new housing in the region would be located in Greater Manchester under the Housing the Powerhouse campaign's approach, based on the figures that it refers to, with potential implications for other parts of the North West.

[37] http://www.housingthepowerhouse.com/housing_the_powerhouse_faq.html
[38] Barton Willmore (June 2015) *Greater Manchester Spatial Framework: Economic and Social Consequences of Under Providing for Future Housing Growth*, p.1
[39] http://www.housingthepowerhouse.com/the_evidence.html

8. Market signals

8.1 The Planning Practice Guidance states that: “The housing need number suggested by household projections (the starting point) should be adjusted to reflect appropriate market signals, as well as other market indicators of the balance between the demand for and supply of dwellings. Prices or rents rising faster than the national/local average may well indicate particular market undersupply relative to demand” (paragraph 2a-019-20140306). It says that relevant market signals may include land prices, house prices, rents, affordability, rate of development, and overcrowding, and these are discussed below. The PPG suggests that: “A worsening trend in any of these indicators will require upward adjustment to planned housing numbers compared to ones based solely on household projections” (paragraph 2a-020-20140306).

8.2 There are essentially two ways in which a higher demand for housing could be inferred from such market indicators. On the one hand, it could be suggested from the evidence that household formation is being dampened, and therefore the total number of households is lower than might otherwise be expected from a given size of population, for example because of rising house prices or rents excluding people from the market. This is effectively about the total level of demand. On the other hand, the data could be considered to provide a signal that some households are not living in their preferred location, possibly due to costs or supply availability, and this could for example manifest in lower migration to some places and higher to others, both within and outside Greater Manchester. This is essentially about the location of demand rather than its overall size.

8.3 It is very difficult to differentiate between these two reasons from the evidence that is available. However, they may point towards different policy responses. The first suggests that there may be a need for more housing overall, and the issue of household formation was discussed earlier in this report. The second suggests that the issue is more about the location of housing rather than the overall amount that is being provided, although this could impact on the amount required in individual areas such as Greater Manchester or some of its districts. Consequently, in terms of this second reason, an increase in new housing provision in one location may need to be accompanied by a reduction somewhere else in order to avoid an oversupply overall, whether that is in Greater Manchester or the country as a whole. Hence, great care is required when assessing possible market signals, and it is important to avoid reading too much into a single indicator in isolation.

Land prices

8.4 The following table sets out the residential land price index in July 2010 on a regional basis, together with a national average, based on data from the discontinued DCLG live table 653. It uses three different base dates for the index, as this has some impact on the relative figures at the end of the period. All regions have seen significant growth since 1994, but a decline since 2004.

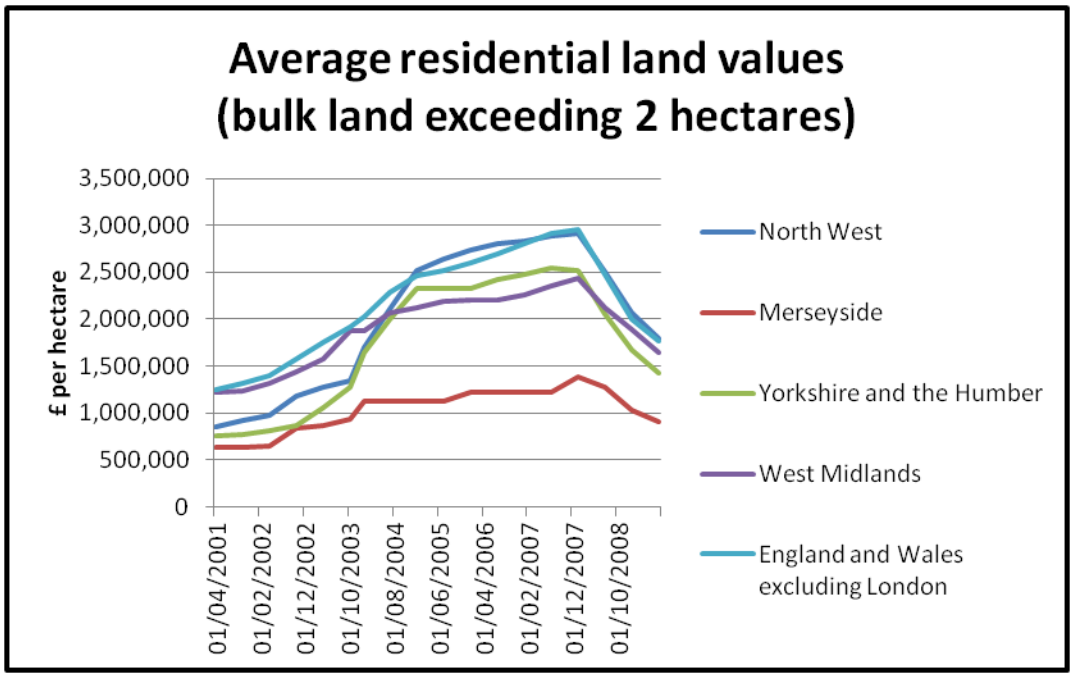
The North West better maintained land values between 2004 and 2010, which is likely to be due to there having been less of a speculative bubble than elsewhere rather than any underlying strength in the market, and actual land prices in January 2010 were reasonably similar to other locations outside London and the South East.

	Average valuation of residential building land with outline planning permission			
	Residential land price index in July 2010			Weighted average price per hectare in July 2010 (£)
	Index of 100 in Spring 1994	Index of 100 in Spring 2001	Index of 100 in January 2004	
North West	311	178	95	1,327,120
North East	257	207	88	1,123,003
Yorkshire and the Humber	292	181	76	1,250,173
East Midlands	275	132	68	1,067,924
West Midlands	274	136	87	1,571,870
East	380	140	84	2,298,157
South East	315	107	82	2,330,618
London	338	118	81	6,457,285
South West	281	111	74	1,501,729
England	324	127	82	2,371,549

8.5 It is not possible to determine Greater Manchester's relative position within the North West from this data. The VOA published property reports up until 2011, and the last of these reports indicated that a 0.5 hectare suburban housing site in Manchester would typically have a value of £1.35 million per hectare, which is very similar to the figure for the North West in the above table.

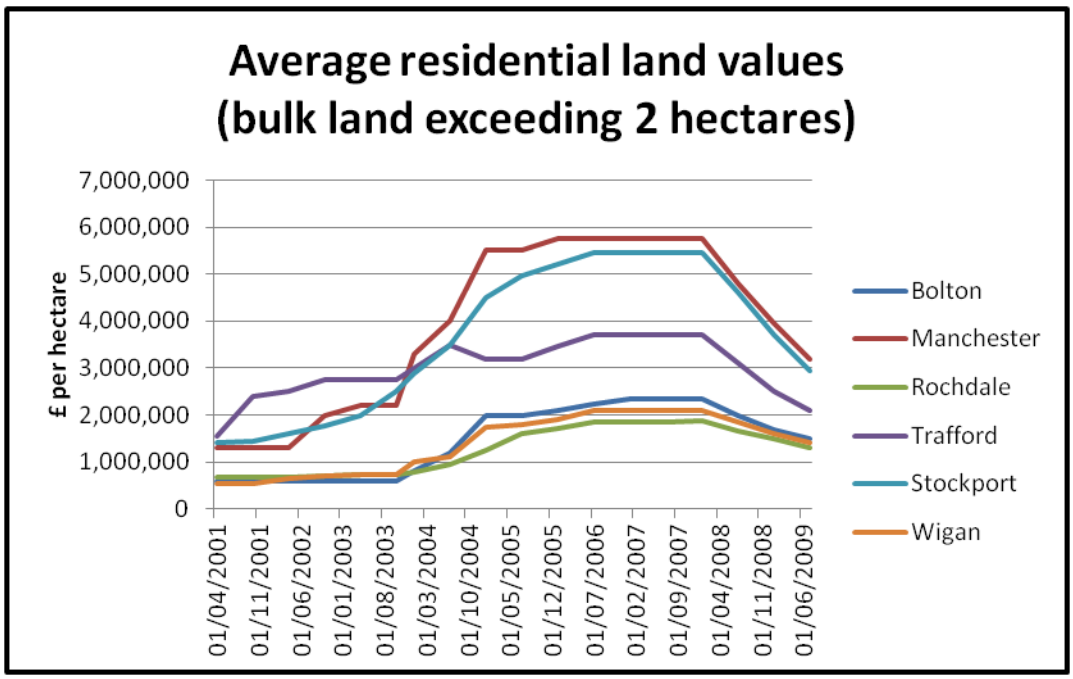
8.6 The VOA reports provide reasonably consistent data for residential land values on bulk sites exceeding 2 hectares for the period 1 April 2001 to 1 July 2009. The graph below plots this data for the selected regions[40], together with England and Wales excluding London. Merseyside is given as a separate figure to the rest of the North West.

[40] It should be noted that the time period between each data point is not exactly the same, but is sufficiently even to give a reasonable indication of change over time.



8.7 All areas saw an increase in land values, peaking in 2007, before a fall to 2009. The line for the North West follows a similar trajectory to that for England and Wales excluding London, starting from a lower base but almost identical from 2004. Other than Merseyside, the other four areas all fell back to a similar price per hectare by 1 July 2009.

8.8 The next graph displays similar data for those areas within Greater Manchester for which the VOA published price information. The general pattern is similar to the previous graph, with Manchester and Stockport seeing the highest peaks.



8.9 The two graphs below are taken from a HCA housing market area report for the North West[41], comparing average land values across Great Britain with those for the Northern area (defined as the North West, North East, and Yorkshire and the Humber) using the Savills residential land value indices. The report observes that: "Following a halving of value from 2007 to 2009, greenfield land values in Great Britain have returned to three quarters of their 2007 value. Indexed values in the Northern region are calculated to have risen to nearly half of their 2007 level. … Urban land values fell proportionally further post-2007, and the British average value is now just over half of its peak level. Prices in the Northern area have moved little since 2009 and remain around one third of their 2007 level."[42]

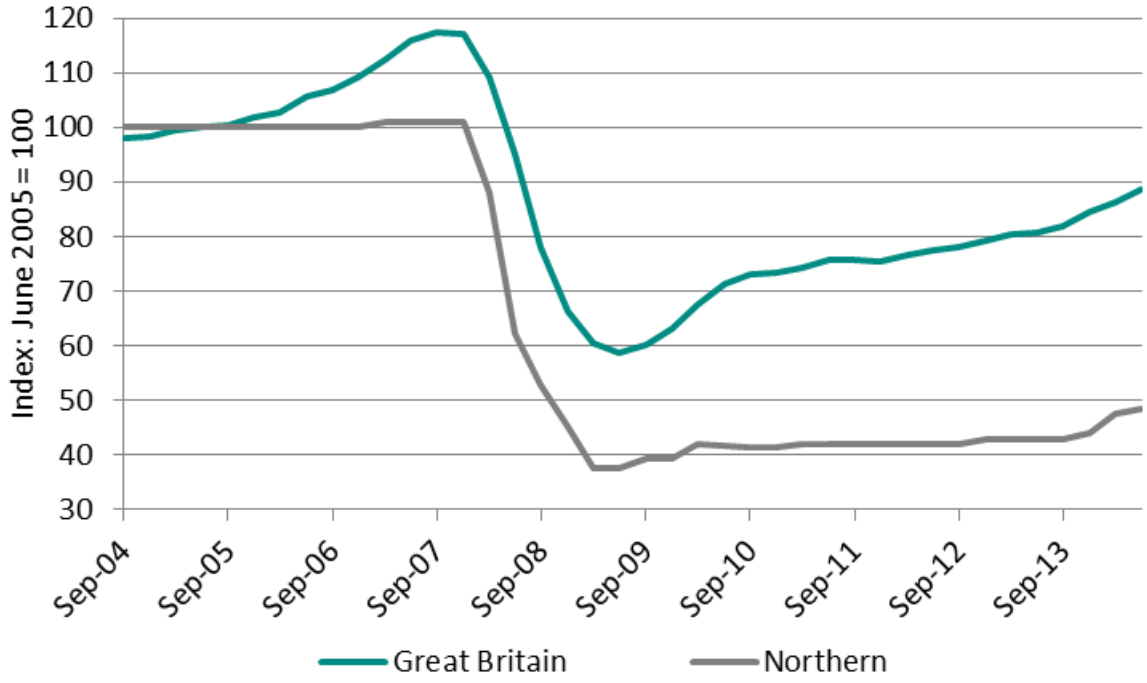


Figure 11: Greenfield residential land value growth index, quarterly (June 2005 = 100)

[41] Homes and Communities Agency (August 2014), *North West Operating Area Housing Market Report*
[42] Ibid, p.12

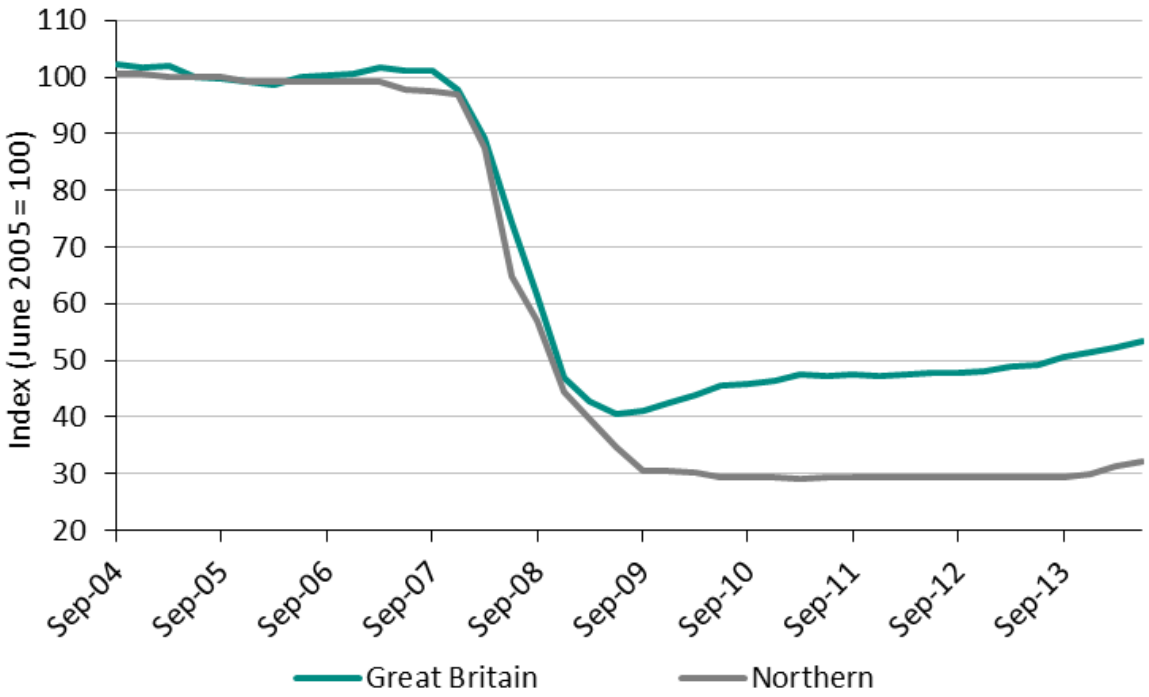


Figure 12: Urban residential land value growth index, quarterly (June 2005 = 100)
Source: Savills Research, Development Land Statistical Supplement, June 2014.

8.10 Values in the Northern area can be seen to be flat since 2009, despite some limited uplift in values across Great Britain as a whole, with a small uplift in the last few months. Consequently, there is no evidence from land values that there is any supply shortage impacting on prices, and the recovery in land values in the North is lagging behind the rest of the country. It was recently reported that Knight Frank's UK greenfield development index shows that land values have fallen by 2.4% in the last 12 months[43].

8.11 The two graphs above highlight the difficulties in interpreting market signals. If there was a simple relationship between land prices and housing demand, then the graphs would suggest that there has been a major decline in demand over recent years and/or an oversupply of land for housing, resulting in a huge fall in average land prices, with the minimal increase in land prices more recently indicating that the land oversupply continues. In practice, the higher prices at the start of the period may partly be the result of a speculative bubble both in land and property rather than a housing land supply shortage, and the large fall may be partly due to the recession and the resulting retrenchment of the housing industry.

House prices

Recent prices

[43] http://www.manchestereveningnews.co.uk/business/new-homes-plan-puts-focus-9847270

8.12 The table below shows the lower quartile, mean and median house prices in 2012 for various areas, using data from DCLG live tables 587, 585 and 586 respectively. Details are given for the districts within Greater Manchester, the districts adjoining the sub-region, the other metropolitan counties, London and the national average.

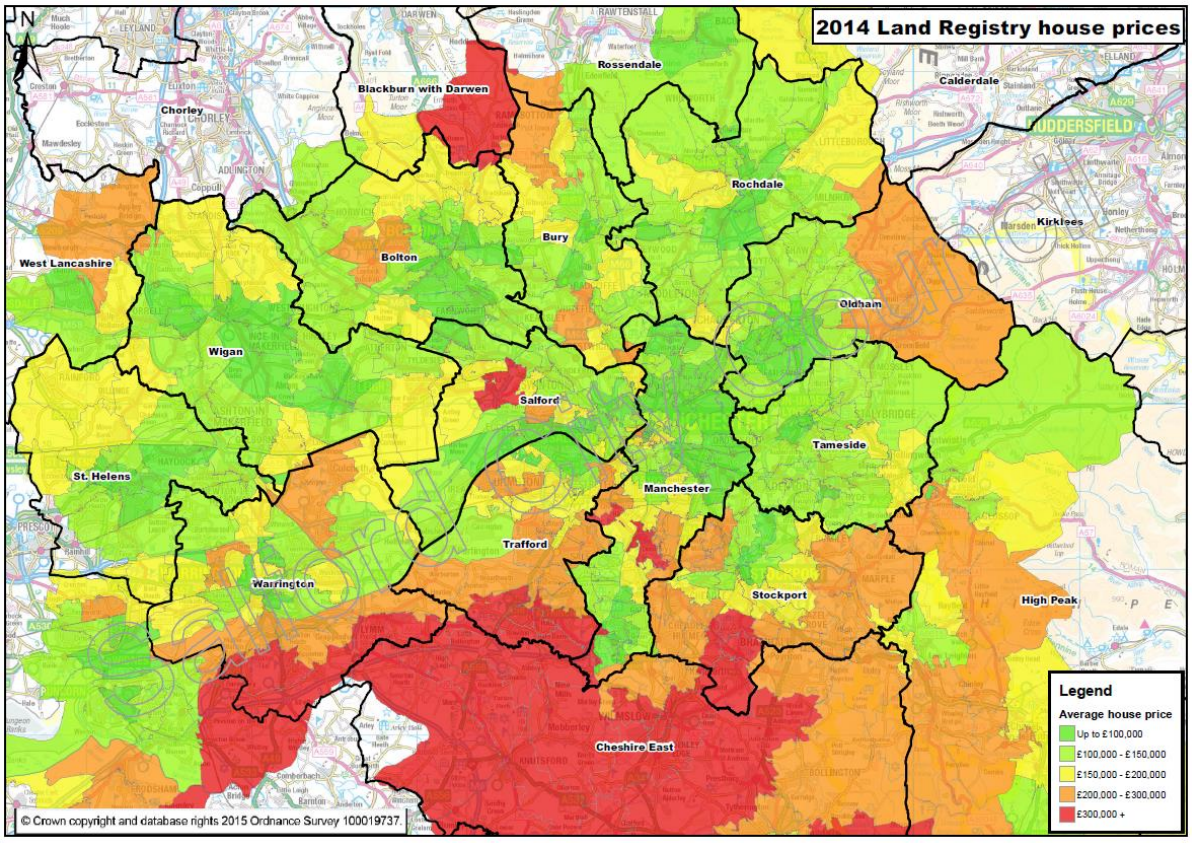
	Average house prices in 2012 (£)		
District	Lower quartile	Mean	Median
Bolton	72,500	125,125	106,000
Bury	90,000	141,344	123,000
Manchester	90,000	147,801	125,000
Oldham	75,000	120,751	107,500
Rochdale	77,000	127,735	114,500
Salford	80,000	134,834	115,000
Stockport	115,000	188,637	162,000
Tameside	80,000	120,039	107,750
Trafford	139,000	239,585	185,000
Wigan	78,000	121,908	110,000
Greater Manchester	87,500	151,475	125,000
Blackburn with Darwen	70,000	115,172	96,000
Calderdale	80,000	139,383	118,000
Cheshire East	120,000	214,341	170,000
Cheshire West and Chester	118,000	192,797	160,000
Chorley	105,000	171,490	150,000
High Peak	110,000	171,498	148,000
Kirklees	90,000	146,365	124,000
Rossendale	73,000	125,208	105,000
St Helens	73,000	120,767	110,000
Warrington UA	107,000	178,559	147,000
West Lancashire	120,000	180,985	159,995
Tyne and Wear	86,000	142,799	123,000
Merseyside	85,000	141,555	124,950
South Yorkshire	84,000	138,213	117,500
West Yorkshire	90,000	151,066	125,000
West Midlands	97,000	153,589	128,000
Inner London	250,000	573,307	370,000
Outer London	205,000	339,826	265,000
England	125,000	242,494	183,500

8.13 House prices in Greater Manchester are similar to those in the other metropolitan counties in the North and Midlands, but well below the national average and the very high prices seen in London. There is quite a broad mix of values in the districts surrounding Greater Manchester, with Blackburn with Darwen, Rossendale and St Helens looking quite cheap in comparison,

whereas the two Cheshire districts, Chorley, High Peak, Warrington and West Lancashire are more expensive than Greater Manchester though still below the England average.

8.14 Within Greater Manchester, house prices are highest in Trafford, where they are similar to the national average. Prices in Stockport are also well above the Greater Manchester average, and are more akin to those seen in the more expensive districts surrounding the sub-region. Bolton, Oldham, Rochdale, Salford, Tameside and Wigan all have typical house prices noticeably below the sub-regional average. It would seem reasonable to expect that there would be a wide variety of house prices within a major conurbation, including some relatively expensive locations.

8.15 The map below shows average house prices by four-digit postcode area in 2014, using Land Registry data. Care needs to be taken in interpreting the data, as the average prices in some areas may be skewed by a small number of transactions or by a single new development accounting for most sales, which may not necessarily be representative of prices overall within the area.



8.16 The higher house prices in the south of Greater Manchester, stretching into Cheshire East, south Warrington and High Peak, clearly stand out. The other areas of high house prices in Greater Manchester are much smaller, generally just one or two adjoining postcode areas, and are distributed in various parts of the sub-region, including within the city centre, around Worsley in Salford, Lostock in Bolton, north and south Bury, and Saddleworth in Oldham.

8.17 The area surrounding the city centre, and locations within and around the main town centres, are typically characterised by low house prices. However, this is not the case in Trafford, which generally has high house prices, and is much less pronounced around Stockport town centre. There is a much greater diversity of house prices in the south of Greater Manchester, whereas districts in the north are typically dominated by prices under £200,000 (and this pattern extends into St Helens). Tameside in particular appears to have a very limited range of average house prices when looking at the postcode level, although clearly this could mask diversity within individual postcode areas.

Change in house prices

8.18 The table below shows house price changes over the last 20 years and the last 10 years. The middle column shows the Land Registry house price index, which has a base date of January 1995. The last column uses Land Registry house price data, seasonally adjusted and smoothed using a rolling four-month average, to calculate an alternative index which has February 2005 as its base date. Data is not available for county districts, and so figures are not included for Chorley, High Peak, Rossendale or West Lancashire.

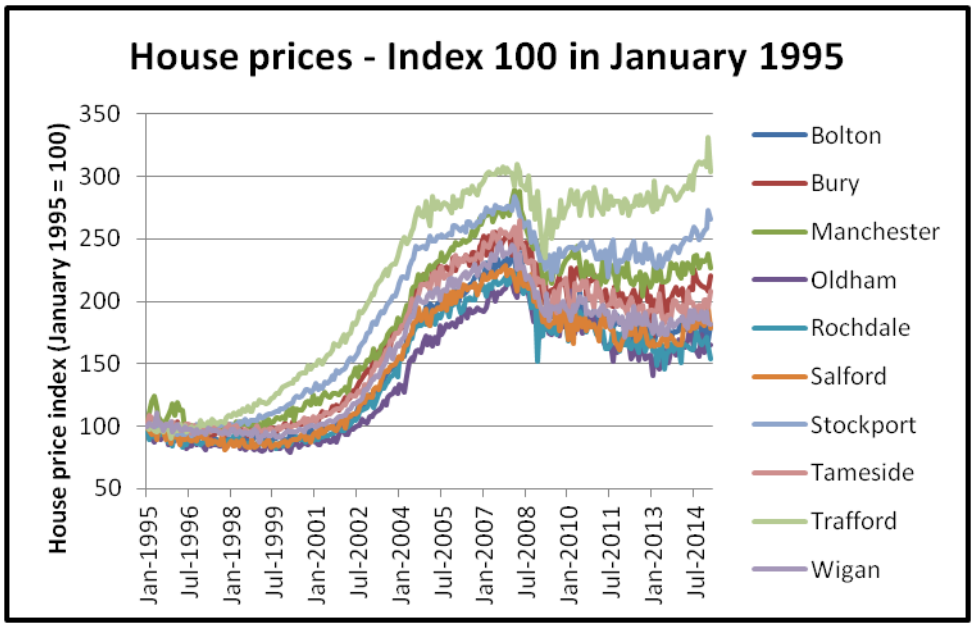
	House price index in February 2015	
District	January 1995 = 100	February 2005 = 100
Bolton	177.2	92.4
Bury	211.3	97.2
Manchester	233.7	104.8
Oldham	162.5	96.0
Rochdale	167.4	91.2
Salford	186.2	99.3
Stockport	261.9	106.6
Tameside	200.8	94.5
Trafford	314.1	116.1
Wigan	186.2	92.2
Greater Manchester	211.1	100.8
Blackburn with Darwen	141.8	95.2
Calderdale	192.6	101.3
Cheshire East	244.1	103.6
Cheshire West and Chester	262.1	99.8
Kirklees	198.2	98.1
St Helens	172.4	82.6
Warrington	229.0	94.4
Merseyside	193.8	88.5
South Yorkshire	204.6	97.7
Tyne and Wear	204.5	91.6
West Midlands	221.9	97.5
West Yorkshire	200.2	97.4

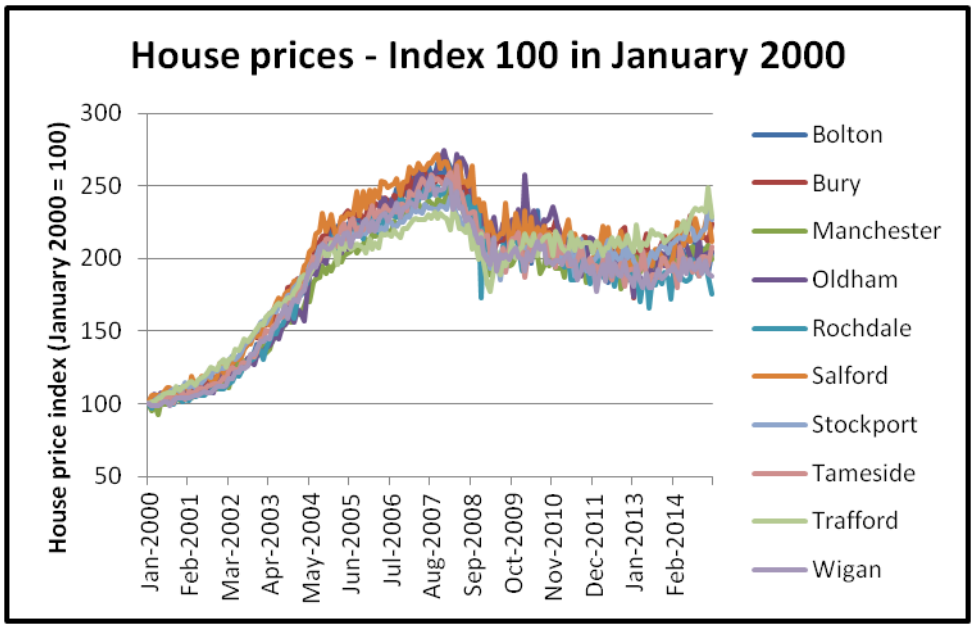
District	House price index in February 2015	
	January 1995 = 100	February 2005 = 100
London	504.6	168.3
England and Wales	290.1	115.7

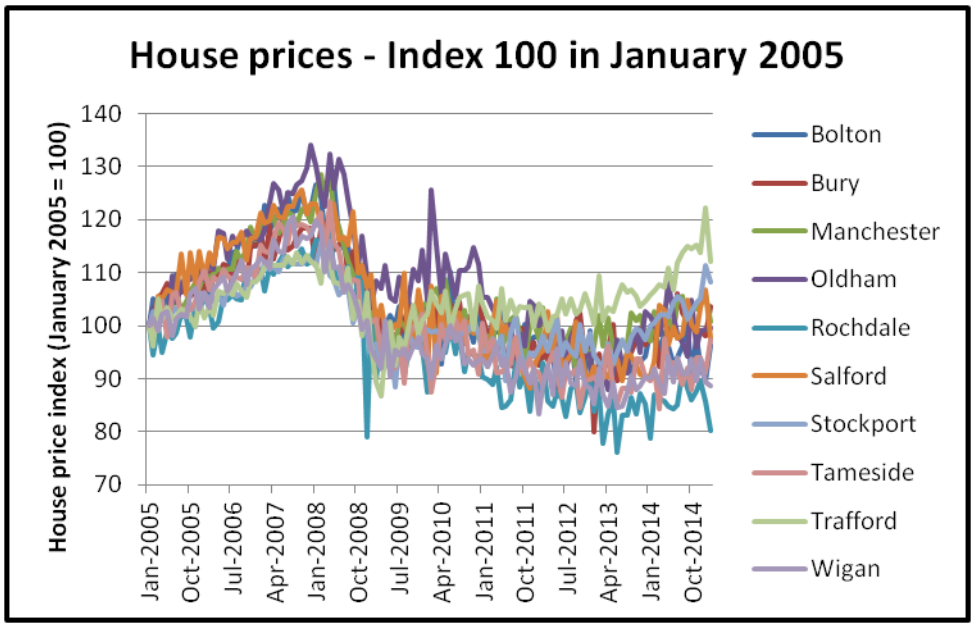
8.19 All areas have seen a significant rise in house prices over the last 20 years, with an almost trebling in the England and Wales average. However, over the last 10 years there has been relatively limited change overall, with some areas seeing a small decline in average house prices, although this generally masks further increases up to late 2007 followed by a very significant reduction and then a recovery, similar to the wider economy. There was a very slight overall increase in house prices in Greater Manchester over the last 10 years, whereas the other metropolitan counties all saw declines, and Greater Manchester was second only to West Midlands over the longer 20 year period. However, house price change in Greater Manchester was substantially behind that seen in the country as a whole, and far lower than that of London. The two Cheshire districts and Warrington saw higher house price growth than Greater Manchester over the last 20 years, whereas Blackburn with Darwen and St Helens were well behind the average Greater Manchester increase on both measures.

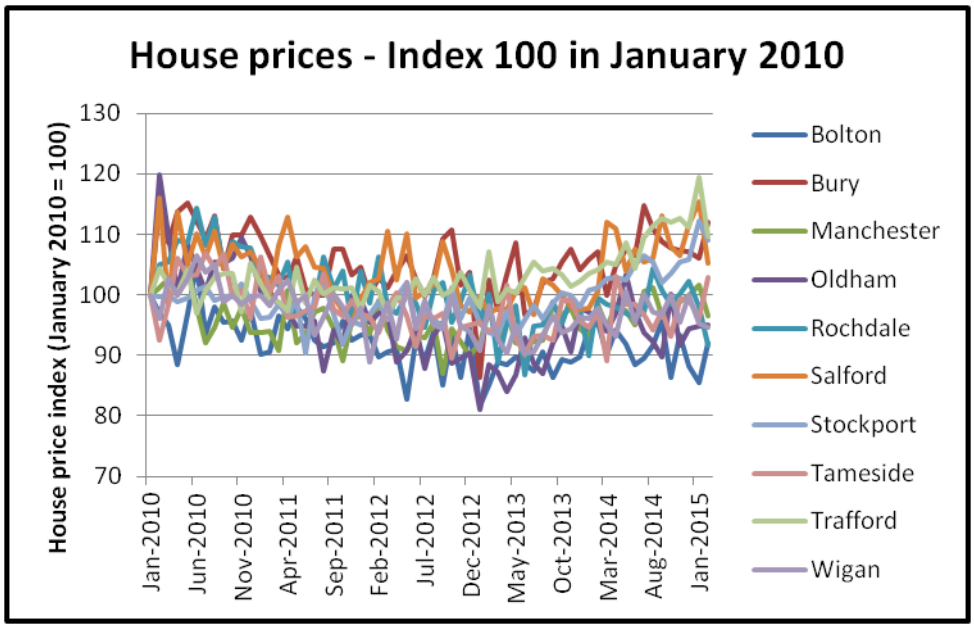
8.20 Within Greater Manchester, Trafford, Stockport and Manchester are the only districts to have seen house price growth over the last 10 years, and these were also the districts with the largest increases since 1995, with Trafford just above the national average for both time periods. Oldham and Rochdale have seen very low house price growth, with Bolton, Salford and Wigan also considerably below the sub-regional average.

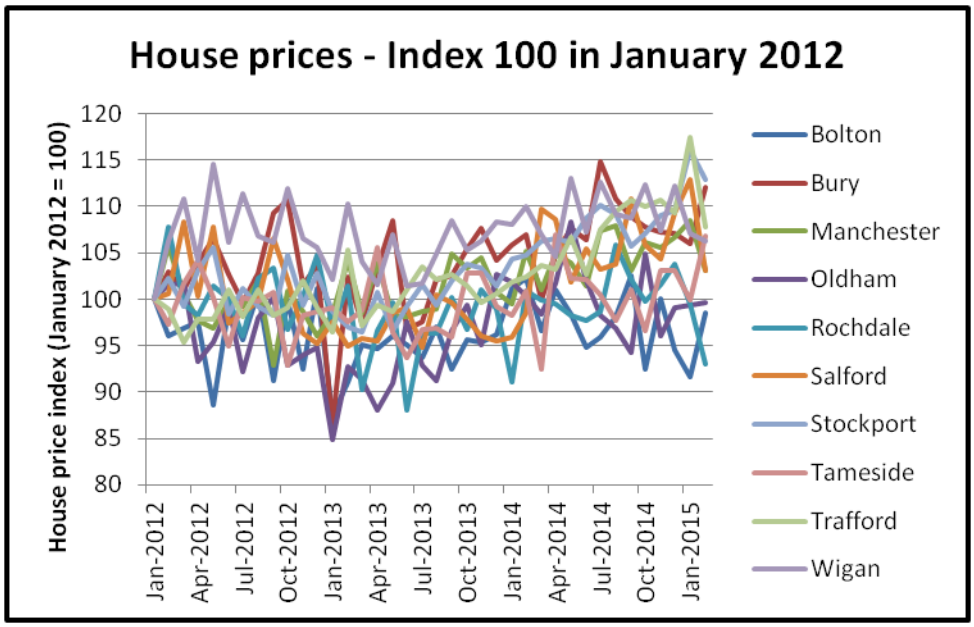
8.21 The following series of graphs shows the change in average house prices in the ten districts of Greater Manchester using five different indices based on Land Registry data (seasonally adjusted and smoothed), with base dates of January 1995, January 2000, January 2005, January 2010 and January 2012.


House prices - Index 100 in January 1995
House price index (January 1995 = 100)
350
300
250
200
150
100
50
Jan-1995
Jul-1996
Jan-1998
Jul-1999
Jan-2001
Jul-2002
Jan-2004
Jul-2005
Jan-2007
Jul-2008
Jan-2010
Jul-2011
Jan-2013
Jul-2014
Bolton
Bury
Manchester
Oldham
Rochdale
Salford
Stockport
Tameside
Trafford
Wigan


House prices - Index 100 in January 2000
House price index (January 2000 = 100)
300
250
200
150
100
50
Jan-2000
Feb-2001
Mar-2002
Apr-2003
May-2004
Jun-2005
Jul-2006
Aug-2007
Sep-2008
Oct-2009
Nov-2010
Dec-2011
Jan-2013
Feb-2014
Bolton
Bury
Manchester
Oldham
Rochdale
Salford
Stockport
Tameside
Trafford
Wigan


House prices - Index 100 in January 2005
House price index (January 2005 = 100)
140
130
120
110
100
90
80
70
Jan-2005
Oct-2005
Jul-2006
Apr-2007
Jan-2008
Oct-2008
Jul-2009
Apr-2010
Jan-2011
Oct-2011
Jul-2012
Apr-2013
Jan-2014
Oct-2014
Bolton
Bury
Manchester
Oldham
Rochdale
Salford
Stockport
Tameside
Trafford
Wigan


House prices - Index 100 in January 2010
House price index (January 2010 = 100)
130
120
110
100
90
80
70
Jan-2010
Jun-2010
Nov-2010
Apr-2011
Sep-2011
Feb-2012
Jul-2012
Dec-2012
May-2013
Oct-2013
Mar-2014
Aug-2014
Jan-2015
Bolton
Bury
Manchester
Oldham
Rochdale
Salford
Stockport
Tameside
Trafford
Wigan



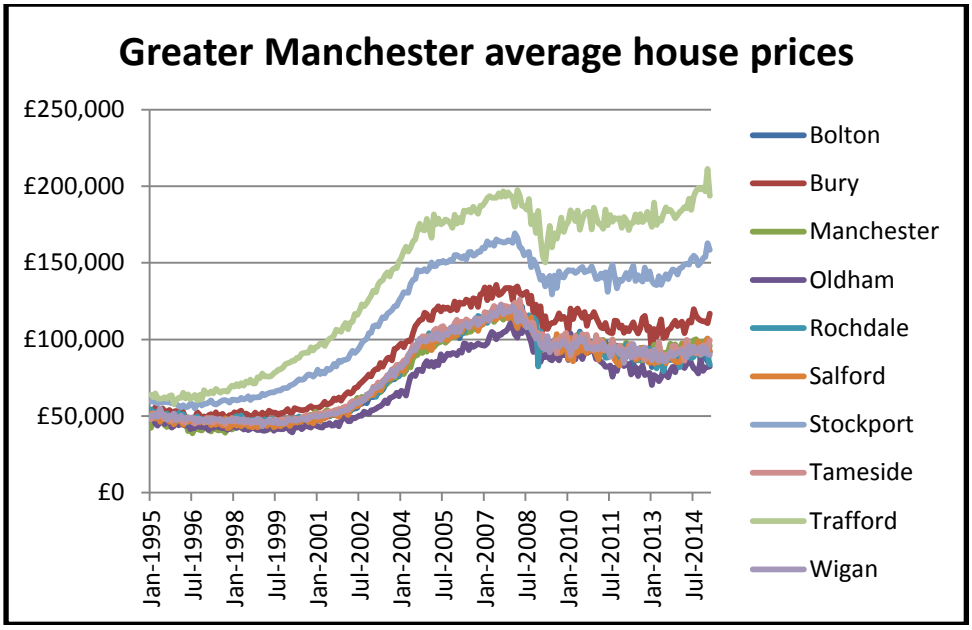
8.22 Over the longest period, since January 1995, growth in average house prices has been consistently strongest in Trafford, followed by Stockport and Manchester, with Bury appearing to strengthen more recently. Rochdale and Oldham have seen the lowest proportionate increase in average house prices, but not significantly below several other districts.

8.23 When a base date of January 2000 is used, the districts are quite clustered and it is difficult to discern any clear pattern. Looking at the actual figures behind the graph, Trafford (228), Stockport (227) and Bury (224) have the highest index in February 2015 using this measure, with Rochdale (175) the lowest.

8.24 With the base date of January 2005, Oldham's average house price growth appears strongest in the early part of the period, but then Trafford's growth is higher towards the end and overall. As might be expected over shorter time periods, the change in indices is smaller when using the base dates of January 2010 and January 2012, but on both measures Bolton, Oldham and Rochdale have the lowest proportionate price growth whereas Bury and Stockport are amongst the highest.

8.25 What is also clear from the later graphs is the extent to which the data varies between individual months, and so the choice of base date for the index could potentially have a considerable impact particularly for shorter periods. However, the data generally appears to indicate that house price growth has been strongest in Trafford, Stockport and Bury, and weakest in Rochdale and to a lesser extent Oldham.

8.26 The next graph shows the change in absolute average house prices, using the same Land Registry data.



8.27 This clearly shows that the highest proportionate growth in house prices has been seen in the districts with the highest average house prices (Trafford, Stockport and Bury), whereas the lowest proportionate growth has been in those districts with the lowest average house prices (Oldham and Rochdale). Consequently, the difference in the rates of growth may be the result of wider market factors, such as there being a stronger investment element in house price growth in more prosperous areas, and a lack of funding for house purchases in lower cost areas, rather than necessarily being an indicator of varying levels of underlying housing need and demand. It could also indicate that wealthier areas are more successful at resisting new housing development, leading to greater house price growth, but the evidence on completions discussed later provides little support for this hypothesis.

8.28 The table below compares the annual growth rate in house prices in Greater Manchester and its ten constituent districts over the period February 1995 to February 2015, both overall (right-hand column) and in four five-year time periods, with the regional and national averages as well as with surrounding districts for which data is available.

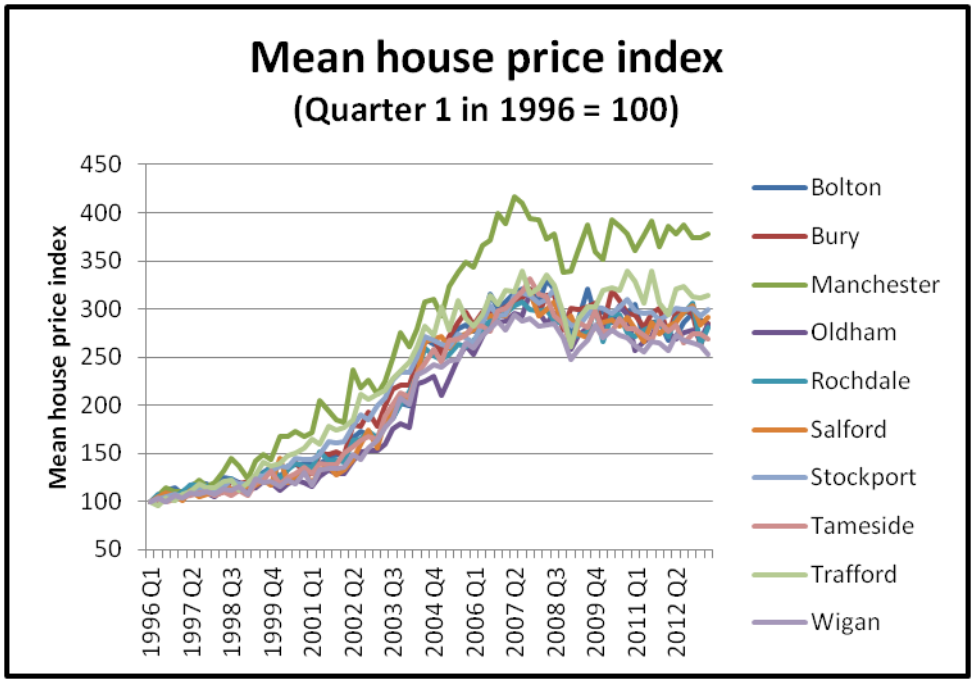
	Average per annum growth in average house prices (%)				
Area	Feb 1995 to Feb 2000	Feb 2000 to Feb 2005	Feb 2005 to Feb 2010	Feb 2010 to Feb 2015	Feb 1995 to Feb 2015
Bolton	-1.57	16.22	-0.66	-1.04	2.98
Bury	-0.37	16.61	1.30	-0.55	4.01
Manchester	-0.42	16.17	0.70	-0.95	3.64
Oldham	-4.30	16.77	3.99	-4.54	2.63
Rochdale	-0.91	16.25	-0.55	-2.67	2.76
Salford	-1.67	15.27	1.68	-1.91	3.11
Stockport	3.50	16.41	-0.75	1.82	5.04
Tameside	-1.92	16.21	-2.14	2.15	3.31
Trafford	6.70	14.08	2.09	1.00	5.84
Wigan	-1.37	16.77	-2.32	-0.31	2.91

Area	Average per annum growth in average house prices (%)				
	Feb 1995 to Feb 2000	Feb 2000 to Feb 2005	Feb 2005 to Feb 2010	Feb 2010 to Feb 2015	Feb 1995 to Feb 2015
Greater Manchester	-0.30	15.95	0.14	0.01	3.73
Blackburn With Darwen	-4.76	14.21	2.61	-3.50	1.87
Calderdale	-1.81	16.44	1.27	-0.99	3.47
Cheshire East	3.19	15.11	0.09	0.62	4.58
Cheshire West And Chester	2.23	15.61	-0.06	0.02	4.26
Kirklees	-1.33	16.33	0.26	-0.64	3.41
St Helens	0.13	17.50	-1.47	-2.32	3.15
Warrington	1.25	16.19	-1.30	0.16	3.85
North West	-0.71	15.92	0.39	-1.05	3.41
England and Wales	4.87	14.26	0.79	2.15	5.39
UK inflation rate (retail price index excluding mortgage interest payments)	*2.58*	*2.31*	*3.27*	*3.24*	*2.85*

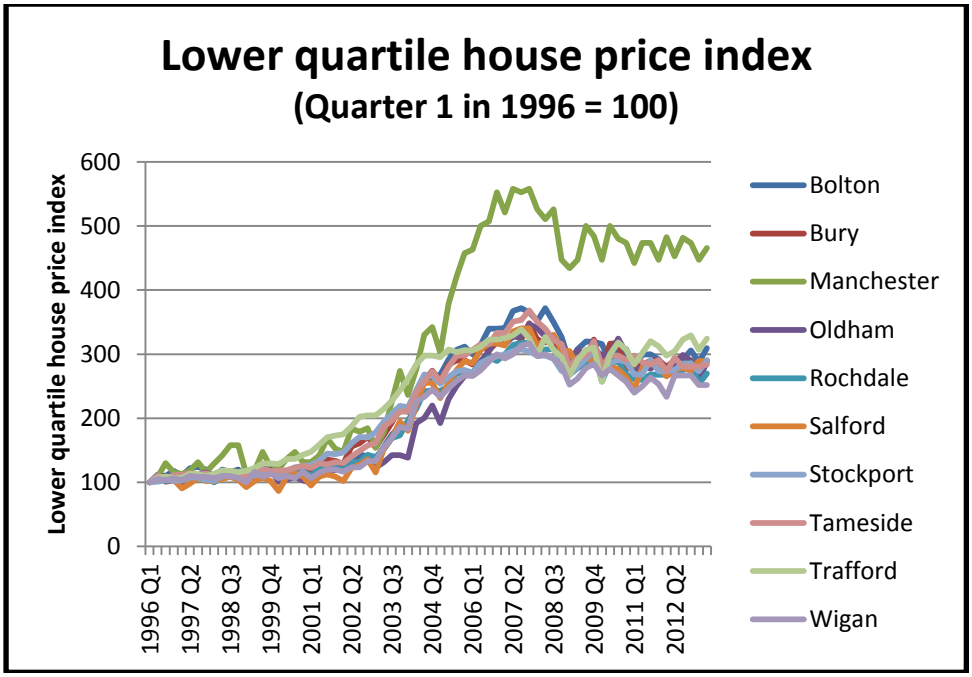
8.29 The overall rate of house price growth for Greater Manchester over the period February 1995 to February 2015 averaged 3.73% per annum, which is slightly above the figure for the North West as a whole but significantly below that for England and Wales. It is also above the overall inflation rate for the UK economy (RPI excluding mortgage interest payments) of 2.85% per annum for the same period. There was enormous variability in the rate of average house price change for Greater Manchester between the four five-year periods, with very little change in three of them but an almost 16% increase per annum for February 2000 to February 2005. Again this is similar to the picture for the North West as a whole, with England and Wales seeing a slightly lower peak but more average house price inflation in the other three periods. Consequently, it would appear that there was something happening in the overall housing market across the country as a whole in 2000-2005 that was leading to very high house price inflation rather than anything specific in terms of the demand/supply balance in Greater Manchester.

8.30 This pattern for Greater Manchester as a whole was broadly replicated for each individual district, with them all seeing very similar high levels of house price inflation over the period February 2000 to February 2005. Trafford was slightly lower than the other districts during that period, despite having the highest overall growth rate during the last 20 years and being the only district in Greater Manchester to see positive house price inflation in each of the four five-year periods. Stockport was the only other district to see positive growth during the first period, and had the second highest growth rate for the full period, as would be expected from the previous discussion. Oldham had the highest rate of growth during the third five-year period, but the fastest reduction in average house prices over the last five years, and the lowest rate of growth for the full 20 years. Excluding Bury, the four northern districts of Bolton, Oldham, Rochdale and Wigan had the lowest house price inflation overall, and the lowest figure for the districts adjoining Greater Manchester was for Blackburn with Darwen to the north. It was the two southernmost districts of Trafford and Stockport that had the highest rate of house price growth, and the highest figure for districts adjoining Greater Manchester was for Cheshire East to the south. There has therefore been a clear geographical element to house price inflation, but as observed above this may partly be a function of the type and value of housing rather than the level of underlying demand.

8.31 The following graph presents indexed average house price data again, but is based on DCLG live table 581 rather than the seasonally adjusted and smoothed data from the Land Registry. Although it also uses data from the Land Registry, it presents a slightly different picture, with Manchester having by far the highest mean house price growth, followed by Trafford.

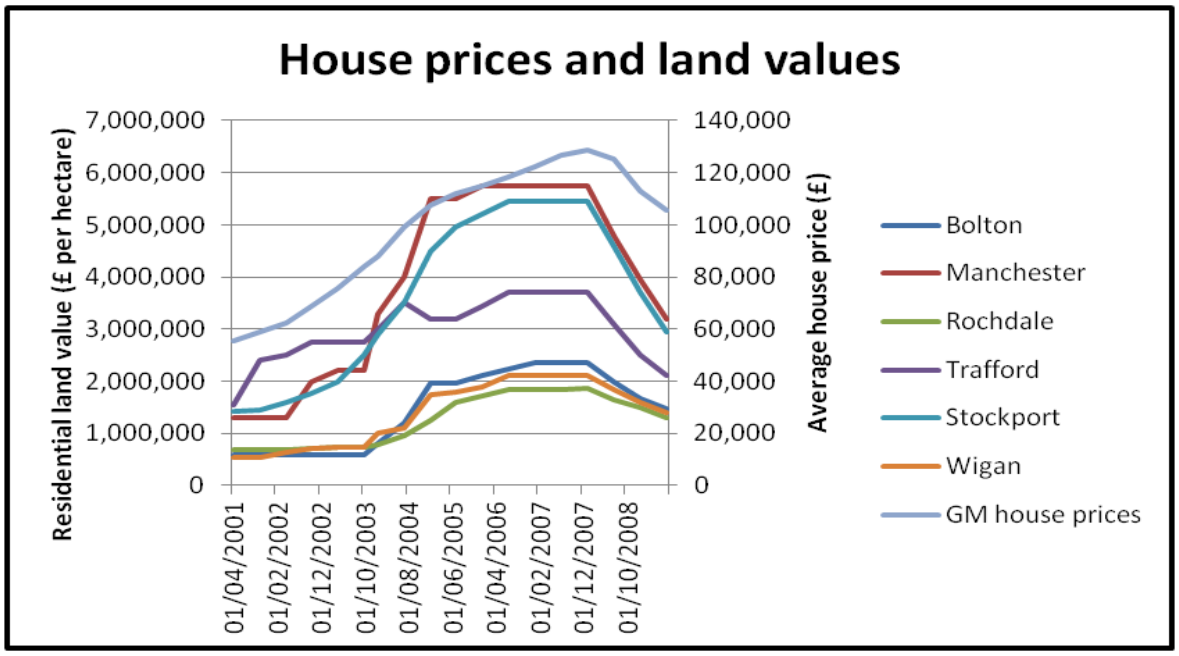


8.32 The next graph uses DCLG live table 853 to present data on lower quartile house prices in the same way.



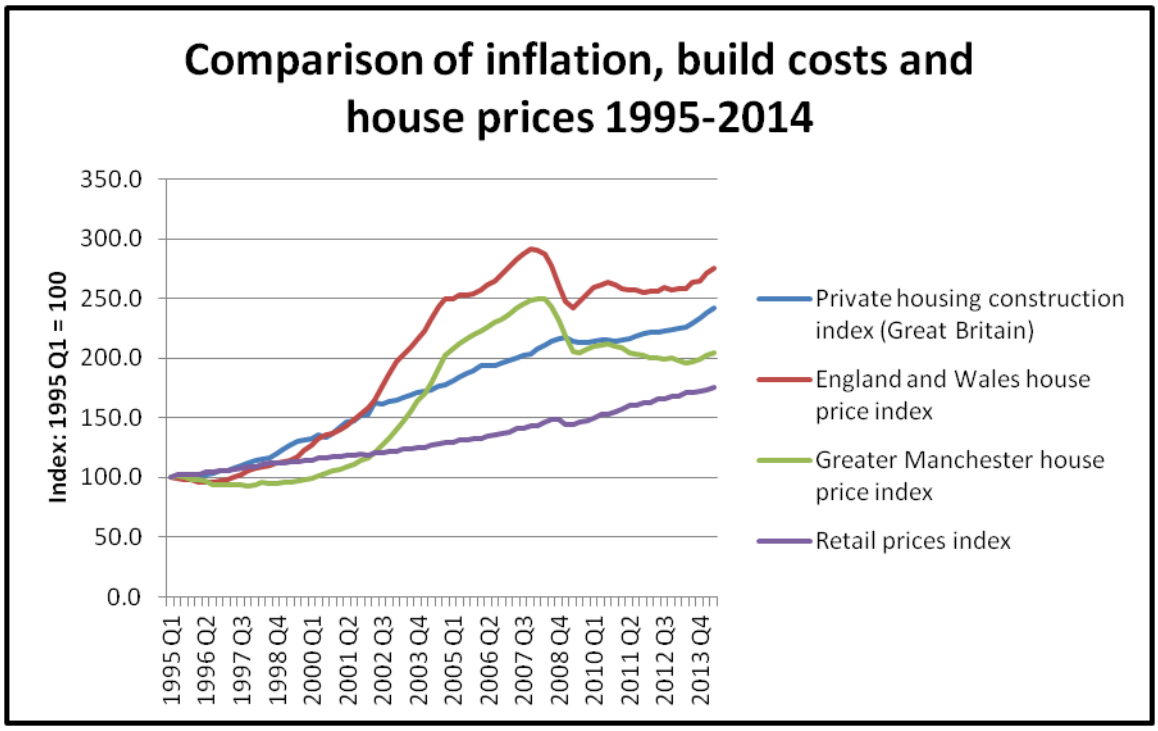
8.33 Although the vertical axis extends to 600, nine of the districts are clustered around 300 at the end of the period, which is similar to the level of growth for mean house prices in the previous graph. It is Manchester that is responsible for the extended axis, seeing very rapid growth in lower quartile house prices over the period 2005-2007. One reason for this may be changes in the type of property sold during that period, with a very large number of new apartments coming onto the market. It may also partly be the result of limited supply in the most popular areas of south Manchester leading people to move into surrounding lower price neighbourhoods, with resulting impacts on values.

8.34 The temporal patterns in house prices are similar to those described earlier in relation to land values, and this can be seen in the graph below which compares the average land values per hectare for bulk residential sites exceeding 2 hectares (for the VOA areas of Bolton, Manchester, Rochdale, Trafford, Stockport and Wigan) with the mean house price for Greater Manchester (using the Land Registry seasonally adjusted and smoothed data).

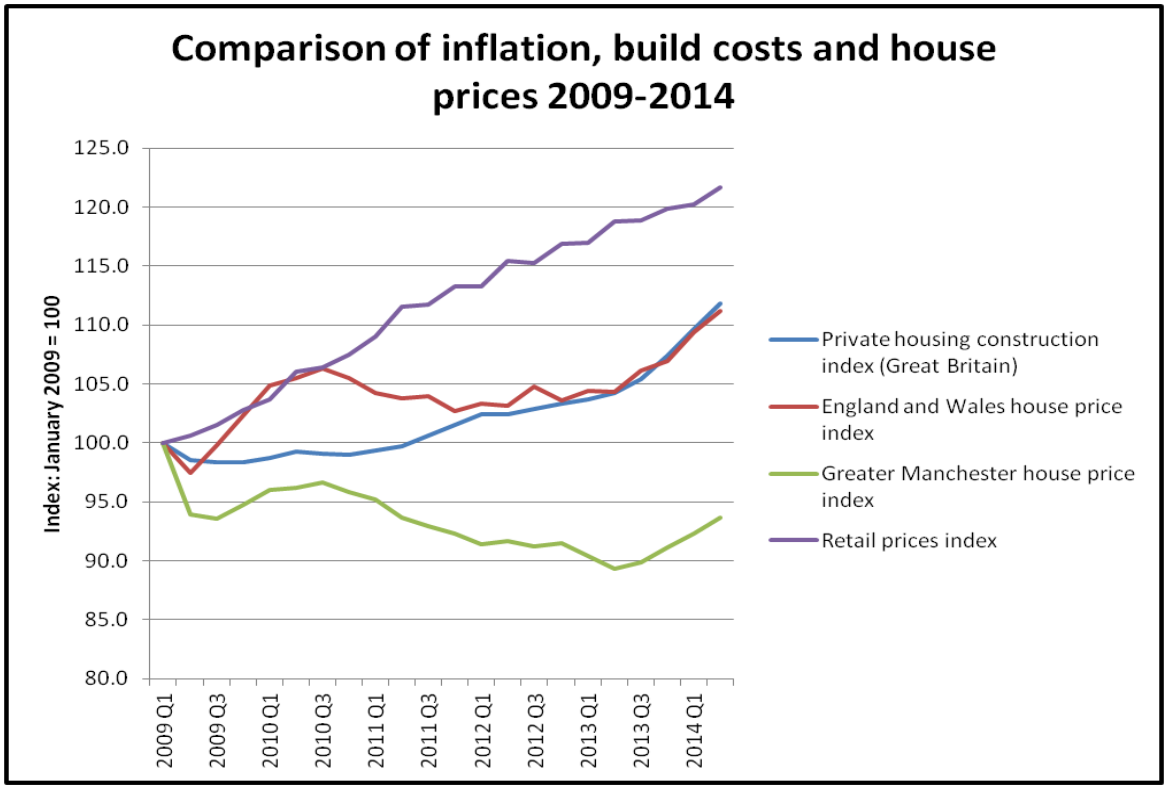


Build costs and inflation

8.35 Inflation is an inherent part of the economy, and consequently it is unsurprising that there has been a long-term increase in house prices across the country. In particular, increases in build costs over time would be expected to filter through into the price of housing. The graph below compares some of these variables, using private housing build cost information for Great Britain published by the Department for Business and Skills, the retail prices index as a consistent measure of inflation, and the Land Registry house price indices for England and Wales (as the nearest comparator to Great Britain) and Greater Manchester. All of this data has been expressed as an index rebased to January 1995.



8.36 For the country as a whole, house prices have risen at a faster rate than private housing build costs over the period 1995-2014, which in turn have increased more quickly than the retail prices index. However, as the graph below shows, with all of the above data rebased to January 2009, in more recent years the private housing build costs and the house price index at the national level have followed a very similar trajectory, and have actually increased at a slower rate than the retail prices index.



8.37 Over both time periods, Greater Manchester's house prices have risen at a slower rate than the national private housing construction index. Private housing build costs will be affected by a variety of factors, including the cost of labour, and so it is likely that some parts of the country will have seen higher build cost inflation than the Great Britain average and other areas lower levels. Consequently, it is not possible to say that house prices in Greater Manchester have risen more slowly than build costs in Greater Manchester. However, the data does suggest that the levels of house price increases in the sub-region since 1995 are the least that would be expected given the available information on build costs. Thus, there is little basis on which to conclude that a supply shortage has led to the increase in house prices across Greater Manchester as a whole, nor that an increase in supply would moderate future house price gains, as they would need to continue to rise in order to keep pace with build cost inflation.

Private rents

8.38 ONS produces an experimental index of private housing rents at the regional level. This is indexed to January 2011, but the data is available from January 2005. The table below shows the figures if they are re-indexed to January 2005, so that this longer-term change in private rents is easier to appreciate. Figures are given for January in alternate years, except in the final column where it is December 2014 as this was the latest data available at the time of writing.

	Private rent index (January 2005 = 100)						Average % pa increase
	Jan 2005	Jan 2007	Jan 2009	Jan 2011	Jan 2013	Dec 2014	
North East	100.0	106.3	111.7	113.4	115.4	116.1	1.51
North West	100.0	103.7	108.3	109.9	111.8	112.8	1.21
Yorkshire & the Humber	100.0	106.9	112.4	114.2	116.5	117.7	1.64
East Midlands	100.0	105.2	108.9	107.9	111.1	113.4	1.27
West Midlands	100.0	105.1	109.5	108.8	111.7	114.0	1.32
East	100.0	105.8	111.5	110.4	114.1	116.9	1.57
London	100.0	103.9	113.2	114.3	125.4	131.8	2.80
South East	100.0	104.5	111.0	111.0	116.1	120.2	1.86
South West	100.0	106.0	113.3	113.0	117.2	120.3	1.87
England	100.0	104.8	111.7	112.2	118.3	122.3	2.03
England excluding London	100.0	105.3	111.0	111.1	114.7	117.3	1.61

8.39 The North West region has seen the lowest inflation in private rents since January 2005, although this could clearly mask significant differences within the region. Rental increases have been the highest in the south of the country, with little difference between the Midlands and the North. However, overall, rental increases have been relatively modest, with the national average almost exactly at the Bank of England target inflation rate, and the North West well below it.

8.40 The next series of tables shows more detailed data from the VOA on average monthly rents for the period 1 April 2013 to 31 March 2014, by different types of property. Data for smaller geographical areas needs to be treated with caution, as it is often based on a relatively small number of properties, which may not necessarily be representative of the market as a whole.

	Room with shared facilities				
		Monthly rent (£)			
District	Count of rents	Average	Lower quartile	Median	Upper quartile
Bolton	134	265	217	238	299
Bury	31	271	230	250	350
Manchester	948	330	299	325	351
Oldham	29	295	280	303	325
Rochdale	13	305	282	303	320
Salford	15	318	250	325	350
Stockport	43	327	295	325	360
Tameside	22	313	300	300	325
Trafford	38	361	329	350	400
Wigan	61	298	275	300	325
Greater Manchester	1,334	320	282	325	347
North West	6,770	309	282	308	336
England	36,769	355	300	338	390
Merseyside	2,163	306	282	303	329
South Yorkshire	871	304	282	303	338
West Yorkshire	1,014	316	282	303	347
Tyne and Wear	760	271	238	273	303
West Midlands	894	317	282	303	333
London	2,782	542	440	520	602

	Studio				
		Monthly rent (£)			
District	Count of rents	Average	Lower quartile	Median	Upper quartile
Bolton	14	279	280	290	299
Bury	-	-	-	-	-
Manchester	24	464	383	425	500
Oldham	-	-	-	-	-
Rochdale	-	-	-	-	-
Salford	-	-	-	-	-
Stockport	-	-	-	-	-
Tameside	24	328	295	345	350
Trafford	22	394	375	400	425
Wigan	-	-	-	-	-

District	Studio				
	Count of rents	Monthly rent (£)			
		Average	Lower quartile	Median	Upper quartile
Greater Manchester	124	370	295	350	400
North West	556	352	295	347	390
England	10,756	555	375	475	650
Merseyside	98	331	295	325	358
South Yorkshire	159	416	320	395	450
West Yorkshire	311	355	295	350	375
Tyne and Wear	49	352	295	325	412
West Midlands	330	370	325	353	385
London	2,887	893	700	823	1,040

District	One bedroom				
	Count of rents	Monthly rent (£)			
		Average	Lower quartile	Median	Upper quartile
Bolton	348	385	350	385	425
Bury	143	418	385	400	450
Manchester	416	572	450	575	650
Oldham	103	416	360	425	450
Rochdale	135	385	350	395	400
Salford	149	471	347	425	575
Stockport	224	477	433	475	500
Tameside	264	396	350	395	425
Trafford	211	518	475	525	550
Wigan	219	372	350	375	399
Greater Manchester	2,212	452	375	425	500
North West	7,479	429	375	412	475
England	81,333	606	415	500	675
Merseyside	1,194	421	375	407	450
South Yorkshire	1,436	445	375	448	500
West Yorkshire	3,046	413	350	395	451
Tyne and Wear	637	427	385	425	450
West Midlands	2,407	444	395	435	475
London	12,771	1,173	875	1,125	1,387

District	Two bedrooms	
	Count of	Monthly rent (£)

	rents	Average	Lower quartile	Median	Upper quartile
Bolton	1,659	453	400	450	495
Bury	712	491	450	475	525
Manchester	1,058	669	550	650	780
Oldham	969	472	425	465	500
Rochdale	906	451	425	450	475
Salford	499	578	475	550	625
Stockport	694	597	535	575	650
Tameside	1,478	477	450	475	500
Trafford	732	694	600	675	750
Wigan	1,396	444	400	440	475
Greater Manchester	10,103	516	425	475	550
North West	28,761	510	425	495	550
England	189,991	677	475	575	735
Merseyside	3,469	514	450	498	575
South Yorkshire	3,717	487	425	475	525
West Yorkshire	8,065	493	425	475	550
Tyne and Wear	3,549	492	429	475	550
West Midlands	5,465	548	475	525	595
London	17,547	1,480	1,100	1,375	1,699

	Three bedrooms				
		Monthly rent (£)			
District	Count of rents	Average	Lower quartile	Median	Upper quartile
Bolton	697	549	477	550	595
Bury	303	590	525	595	650
Manchester	391	756	595	695	895
Oldham	411	573	500	575	625
Rochdale	419	538	475	525	580
Salford	132	654	550	650	725
Stockport	302	752	650	725	845
Tameside	662	584	525	575	640
Trafford	357	905	725	825	925
Wigan	733	528	475	525	575
Greater Manchester	4,407	619	500	575	675
North West	16,048	611	520	595	675
England	116,354	771	550	650	850
Merseyside	2,511	595	525	575	650
South Yorkshire	2,938	538	475	525	595
West Yorkshire	3,952	587	495	550	650

District	Three bedrooms				
	Count of rents	Monthly rent (£)			
		Average	Lower quartile	Median	Upper quartile
Tyne and Wear	1,666	578	495	550	650
West Midlands	4,060	629	550	595	675
London	6,561	1,881	1,300	1,647	2,167

District	Four or more bedrooms				
	Count of rents	Monthly rent (£)			
		Average	Lower quartile	Median	Upper quartile
Bolton	126	782	600	725	850
Bury	42	800	695	795	895
Manchester	112	1,166	850	1,100	1,300
Oldham	63	788	695	780	875
Rochdale	83	785	650	725	850
Salford	28	954	794	873	998
Stockport	98	1,108	875	1,025	1,250
Tameside	116	755	650	738	850
Trafford	153	1,636	1,075	1,400	1,800
Wigan	157	757	660	750	850
Greater Manchester	978	991	700	850	1,100
North West	4,282	933	695	800	1,000
England	42,453	1,348	800	1,100	1,595
Merseyside	600	854	650	750	950
South Yorkshire	599	848	650	750	950
West Yorkshire	1,894	1,120	695	895	1,517
Tyne and Wear	303	776	625	750	850
West Midlands	976	1,030	720	900	1,213
London	3,388	2,875	1,806	2,450	3,250

District	All categories				
	Count of rents	Monthly rent (£)			
		Average	Lower quartile	Median	Upper quartile
Bolton	2,978	472	400	450	525
Bury	1,232	512	450	495	550
Manchester	2,949	575	350	550	700
Oldham	1,584	503	430	495	550
Rochdale	1,563	485	425	450	525
Salford	832	577	450	550	650

District	All categories				
	Count of rents	Monthly rent (£)			
		Average	Lower quartile	Median	Upper quartile
Stockport	1,368	639	525	595	695
Tameside	2,566	506	450	495	550
Trafford	1,513	802	595	695	840
Wigan	2,573	477	400	450	525
Greater Manchester	19,158	542	425	495	595
North West	63,896	532	410	495	600
England	477,656	720	465	595	795
Merseyside	10,035	497	375	475	595
South Yorkshire	9,720	501	400	475	550
West Yorkshire	18,282	553	400	485	595
Tyne and Wear	6,964	494	410	475	550
West Midlands	14,132	568	450	542	625
London	45,936	1,461	953	1,300	1,690

8.41 The ‘all categories’ table is indicative of the individual types of rental property, with Greater Manchester’s average monthly rents generally being slightly above the regional average, well below the national average, and broadly typical or towards the top end of the metropolitan counties.

8.42 Within Greater Manchester, Trafford has the highest monthly rents for most of the categories. It is above the national average in all categories for which its data is available except for one bedroom properties, and well above it in the case of dwellings with four bedrooms or more. Manchester and Stockport generally have relatively high rents within the sub-region, with Manchester’s figure for one bedroom properties being the highest in Greater Manchester, though still below the national average. Bolton, Rochdale and Wigan typically have low monthly rents, though rents in Oldham, Tameside and Bury are relatively low overall and also for some of the individual categories. This pattern is similar to that for house prices.

8.43 The next table uses the ‘all categories’ measure, and compares the monthly rents in the year to 30 June 2011 with those in the year to 31 March 2014 to provide an indication of rental change in recent years. It needs to be recognised that there is a risk that figures in one period could be skewed by a disproportionate number of rents being included from a particular category of property.

District	Average monthly rent (all categories)		% increase between the two periods
	12 months to 30 June 2011	12 months to 31 March 2014	
Bolton	460	472	2.55
Bury	525	512	-2.52

District	Average monthly rent (all categories)		% increase between the two periods
	12 months to 30 June 2011	12 months to 31 March 2014	
Manchester	501	575	14.70
Oldham	494	503	1.74
Rochdale	491	485	-1.30
Salford	549	577	5.10
Stockport	601	639	6.31
Tameside	499	506	1.43
Trafford	711	802	12.75
Wigan	475	477	0.37
Greater Manchester	526	542	3.10
North West	520	532	2.40
England	694	720	3.78
Merseyside	520	497	-4.47
South Yorkshire	468	501	7.11
West Yorkshire	512	553	8.06
Tyne and Wear	492	494	0.33
West Midlands	527	568	7.87
London	1,265	1,461	15.46

8.44 Rental growth in Greater Manchester over this period was below the national average, but above the regional figure. Average rents increased by a significantly higher percentage in South Yorkshire, West Yorkshire and the West Midlands, and by at an even greater rate in London. Within Greater Manchester, rental growth was particularly significant in Manchester and Trafford, where it was edging towards the proportionate increases seen in London, exceeding any of the other sub-regional figures in the table. Stockport and Salford also saw growth well above the sub-regional and national averages, whereas Bury and Rochdale actually saw reductions in their average monthly rents. Overall, therefore, rents have been growing faster in the centre and south of Greater Manchester, with very modest increases or reductions in the arc of districts stretching from Wigan through the north of the sub-region across to Tameside.

Affordability

8.45 The table below shows two housing affordability measures published by DCLG (live tables 576 and 577). The first uses a ratio of the lower quartile house price with the lower quartile earnings, and the second uses a ratio of the median house price to the median earnings. The 2013 figures are provisional. Details are given for the districts within Greater Manchester, the districts surrounding the sub-region, the other metropolitan counties, London and the national average.

District	Housing affordability					
	Lower quartile house prices to lower quartile earnings			Median house prices to median earnings		
	1997	2005	2013	1997	2005	2013
Bolton	2.72	4.76	4.17	2.79	5.03	4.54
Bury	3.16	6.12	4.77	2.98	6.00	5.02
Manchester	1.85	3.88	4.49	2.27	4.74	4.56
Oldham	2.57	4.00	4.46	2.73	4.45	5.00
Rochdale	2.61	4.87	4.33	2.59	4.54	4.74
Salford	2.27	4.75	4.44	2.50	4.94	4.27
Stockport	3.61	6.51	6.01	3.51	6.17	5.98
Tameside	2.93	5.18	4.83	2.84	5.34	5.07
Trafford	4.09	8.32	7.56	3.75	7.18	7.65
Wigan	2.95	4.95	4.34	2.83	4.84	4.65
Greater Manchester	2.82	4.88	4.68	2.87	5.14	4.94
Blackburn with Darwen	1.95	3.80	4.00	2.25	3.90	3.96
Calderdale	2.78	4.77	4.73	2.76	4.83	4.66
Cheshire East	..	..	6.61	..	..	6.85
Cheshire West and Chester	..	..	6.57	..	..	6.40
Chorley	3.51	6.72	6.12	3.53	6.80	5.92
High Peak	3.73	7.22	6.08	3.64	6.47	6.11
Kirklees	2.95	5.50	5.36	2.95	5.33	5.30
Rossendale	2.59	4.75	4.75	2.82	5.59	5.33
St Helens	2.80	5.04	4.57	2.85	5.30	4.84
Warrington	3.25	6.35	5.85	3.31	6.19	5.77
West Lancashire	4.00	6.99	6.86	3.40	6.25	6.96
Tyne and Wear	2.88	5.11	4.72	2.97	5.28	4.96
Merseyside	2.74	4.72	4.57	2.87	5.32	4.84
South Yorkshire	2.75	5.23	4.59	2.75	5.22	4.63
West Yorkshire	3.06	5.22	4.92	3.07	5.46	4.95
West Midlands	3.14	6.04	5.37	3.00	5.54	5.06
Inner London	.	8.31	10.00	.	7.95	10.41
Outer London	.	9.19	9.79	.	8.41	9.10
England	3.57	6.82	6.45	3.54	6.81	6.72

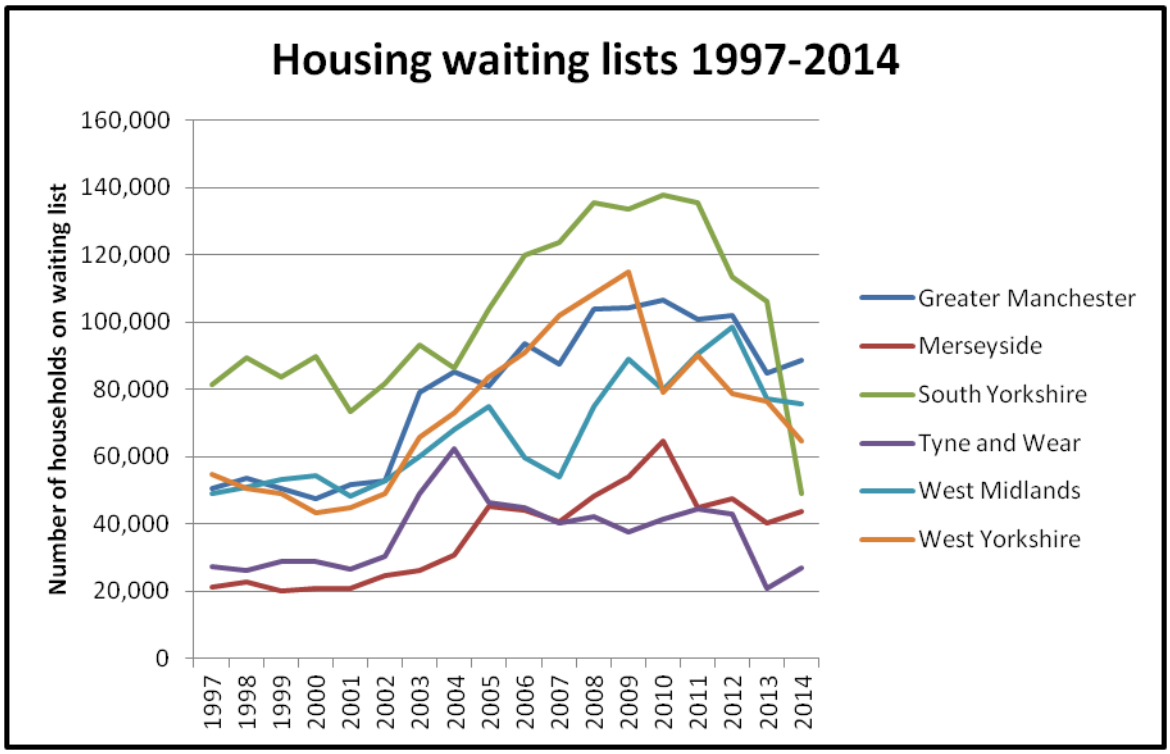
8.46 Affordability can be seen to have worsened quite considerably everywhere between 1997 and 2013, although many areas have seen an improvement since 2005. Greater Manchester's affordability is typical of the metropolitan counties, with it being slightly more affordable than West Yorkshire and Tyne and Wear, and slightly less affordable than South Yorkshire and Merseyside. West Midlands is clearly the least affordable of such areas. Greater Manchester is significantly more affordable than the England average (4.68 compared to 6.45 on the lower quartile measure in 2013, and 4.94 compared

to 6.72 on the median measure), and many of the adjoining districts, and far more affordable than London.

8.47 Within Greater Manchester, most of the districts have affordability ratios of around 4-5. Trafford has by far the highest affordability ratio, exceeding 7.5 on both measures, which places it well above the national average and means it exceeds the ratios of all of the districts that adjoin Greater Manchester. Stockport's affordability ratios are also relatively high at around 6, although this is lower than some of the districts around Greater Manchester, such as both of the Cheshire districts and West Lancashire, and similar to Chorley and High Peak. Overall, there is a clear pattern of less affordable housing around the south of Greater Manchester, both within and adjoining the sub-region.

Housing waiting lists

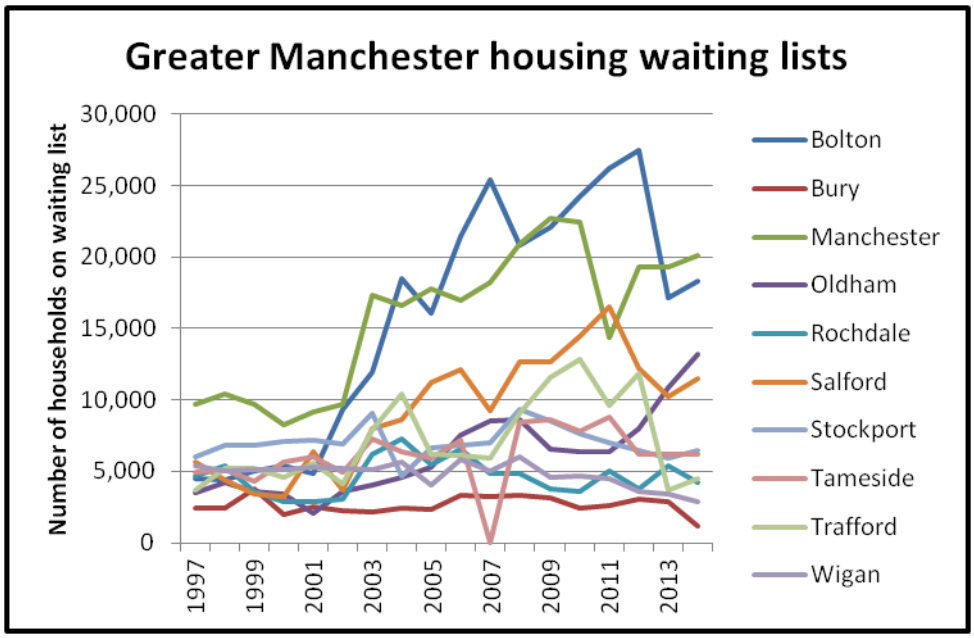
8.48 Data on the number of households on local authorities' housing waiting lists is published in DCLG live table 600, having been submitted by the local authorities through statistical returns. The graph below displays information for the metropolitan counties over the period 1997-2014.



8.49 Greater Manchester, Merseyside, South Yorkshire and West Yorkshire all follow a broadly similar trajectory, with a large increase in numbers on the housing waiting list up to around 2010 followed by a significant decrease, with this being particularly extreme in the case of South Yorkshire. The West Midlands may be following a similar trajectory but with a later peak, whereas Tyne and Wear had a much earlier peak followed by reasonably consistent reductions in numbers on the waiting list.

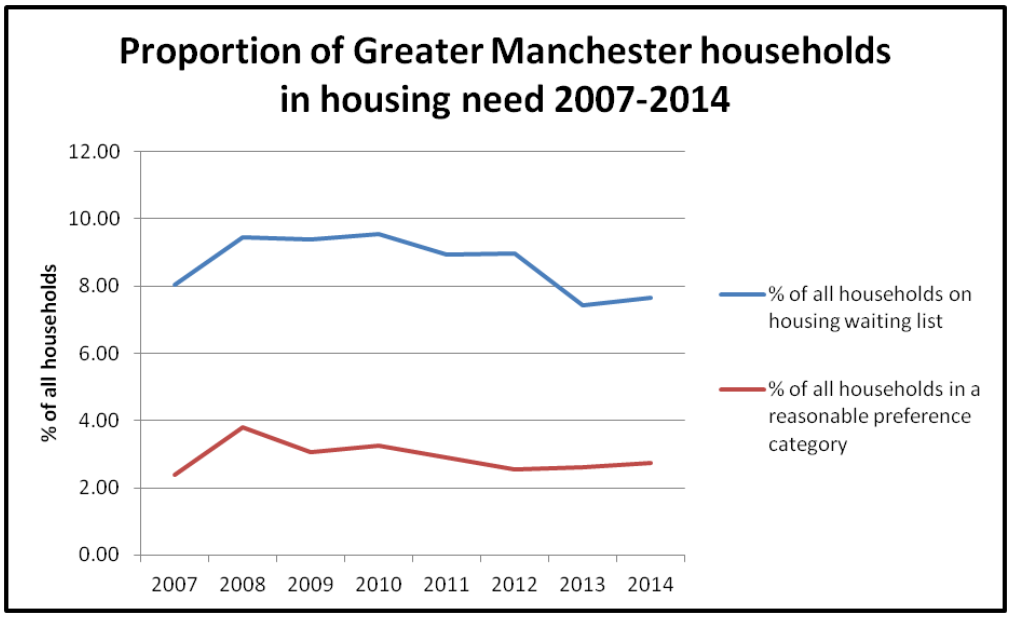
8.50 Some of these changes, both in terms of increases and decreases, may relate to issues such as eligibility criteria and data cleansing, rather than being a clear indicator of demand for social housing, and consequently the data needs to be used with care.

8.51 The next graph shows similar data for each district in Greater Manchester.



8.52 Some of the differences may be due to the way in which local authorities manage their waiting lists, and how this changes over time, but the highest numbers are focused in the centre and north of Greater Manchester (Manchester, Bolton, Oldham and Salford). Despite having the highest affordability ratios, Trafford and Stockport have relatively low numbers of households on their waiting lists.

8.53 The next graph shows the number of households on the housing waiting list, and the number of households on the waiting list who are in a reasonable preference category, as a proportion of all households in Greater Manchester. This assumes that all of the households that are on the waiting list currently reside in Greater Manchester, and that no households appear on the waiting lists of more than one local authority in Greater Manchester. A modest downward trend can be seen in both measures over the last few years.

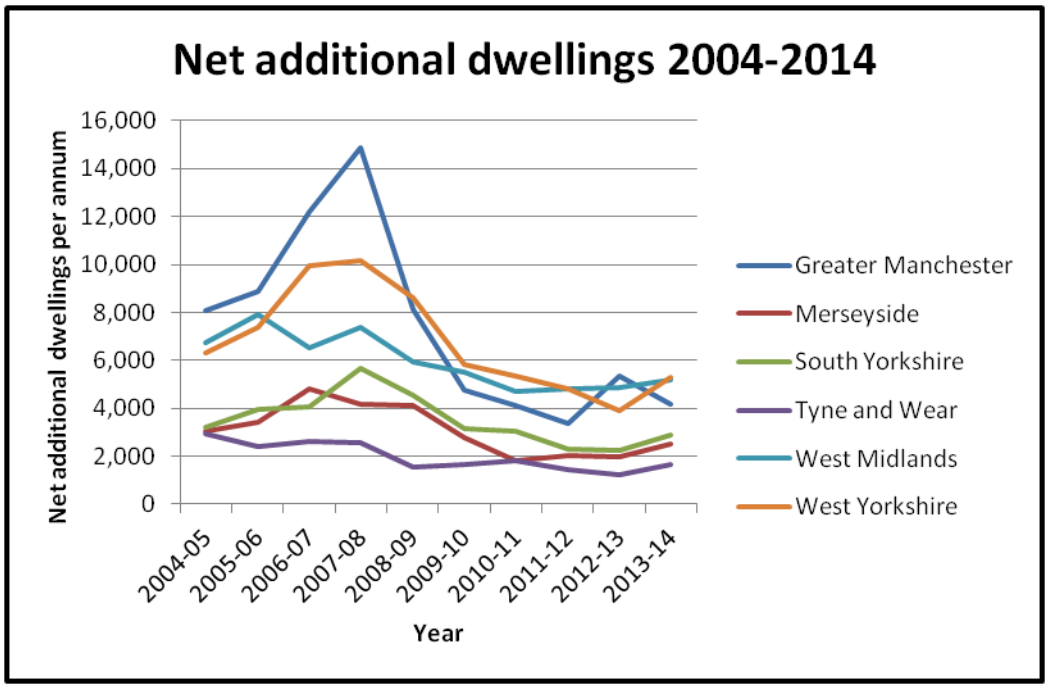


Development rates

8.54 DCLG live table 122 provides data on the number of net additional dwellings provided each year since 2004. Although this data is based on the Housing Flows Reconciliation forms completed by local authorities, there are some differences between the figures in the live table and those reported by districts through their development monitoring. This is likely to be partly a result of the fact that the DCLG information was rebased in light of the 2011 Census. The table below sets out the live table data for Greater Manchester, and identifies the proportion of the net additional dwellings in the sub-region over the period 2004-2014 that were provided in each district. Figures for the other metropolitan counties are included as a comparison, and these are also displayed in the graph after the table.

	Net increase in number of dwellings (2004-2014)											
	Annual change										Total	% of GM
	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2004-2014	total 2004-14
Bolton	560	890	1,060	1,300	660	500	460	530	340	330	6,630	8.97
Bury	750	940	380	410	300	230	280	220	270	270	4,050	5.48
Manchester	3,300	3,010	4,900	5,470	2,220	1,820	880	870	2,230	610	25,310	34.23
Oldham	30	150	210	330	320	-160	-10	10	250	330	1,460	1.97
Rochdale	130	480	220	510	470	130	280	450	450	270	3,390	4.58
Salford	600	520	1,840	2,720	1,670	600	570	150	550	840	10,060	13.60
Stockport	260	340	650	480	180	60	40	200	380	370	2,960	4.00
Tameside	460	760	640	870	730	330	460	410	550	400	5,610	7.59
Trafford	620	560	590	810	350	280	260	200	110	150	3,930	5.31
Wigan	1,360	1,220	1,740	1,930	1,240	960	910	360	220	600	10,540	14.25
Greater Manchester	8,080	8,880	12,220	14,850	8,140	4,750	4,130	3,390	5,350	4,160	73,950	100.00
Merseyside	3,070	3,410	4,800	4,160	4,130	2,760	1,790	2,020	1,980	2,530	30,650	
South Yorkshire	3,210	3,950	4,080	5,650	4,520	3,140	3,060	2,320	2,240	2,870	35,040	
Tyne and	2,930	2,420	2,620	2,540	1,570	1,650	1,830	1,420	1,220	1,660	19,860	

	Net increase in number of dwellings (2004-2014)											
	Annual change										Total 2004-2014	% of GM total 2004-14
	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014		
Wear												
West Midlands	6,730	7,910	6,510	7,400	5,950	5,520	4,690	4,820	4,880	5,180	59,590	
West Yorkshire	6,290	7,360	9,940	10,140	8,620	5,830	5,370	4,830	3,890	5,270	67,540	



8.55 Overall, completions within all areas have followed a similar pattern, with an increase from average levels in 2004/5 to a peak around 2007/8, after which there was a significant decline to 2011-2013 and then a slight recovery. This broadly matches the performance of the wider national economy over the same period. The peak and subsequent decline was much more pronounced in Greater Manchester than in the other metropolitan counties. The timing of the fall and then the modest change since is very similar to the pattern seen for land values described earlier.

8.56 Manchester accounted for more than one-third of all net completions in Greater Manchester over the period 2004-2014. Wigan and Salford have also made a significant contribution to the supply of additional housing in the sub-region, achieving an average of more than 1,000 per annum over the ten years. The increase in dwellings within Greater Manchester has therefore been dominated by the axis stretching westwards from the centre of the conurbation.

8.57 Net additions have been particularly low in Oldham, with an average of under 150 per annum accounting for less than 2% of the Greater Manchester total. The number of net additional dwellings has also been quite low in Stockport, Rochdale, Trafford and Bury.

8.58 The next table compares the net change in dwellings over the period 2004-2014 with the size of the areas in question, to calculate a percentage per annum increase over those ten years. This has been done by using the 2011 Census figures for the number of dwellings in each area, and then working backwards to 2004 and forwards to 2014 from the data in live table 122.

Area	Change in the number of dwellings (2004-2014)			
	Number of dwellings		Increase in dwellings 2004-2014	% increase per annum 2004-2014
	2004	2014		
Bolton	115,372	122,002	6,630	0.56
Bury	78,133	82,183	4,050	0.51
Manchester	191,929	217,239	25,310	1.25
Oldham	92,128	93,588	1,460	0.16
Rochdale	87,746	91,136	3,390	0.38
Salford	100,087	110,147	10,060	0.96
Stockport	123,800	126,760	2,960	0.24
Tameside	94,896	100,506	5,610	0.58
Trafford	93,659	97,589	3,930	0.41
Wigan	132,159	142,699	10,540	0.77
Greater Manchester	1,109,879	1,183,829	73,950	0.65
Merseyside	601,929	632,579	30,650	0.50
South Yorkshire	557,013	592,053	35,040	0.61
Tyne and Wear	486,378	506,238	19,860	0.40
West Midlands	1,077,791	1,137,381	59,590	0.54
West Yorkshire	905,179	972,719	67,540	0.72
London	3,157,513	3,427,653	270,140	0.82
England	21,684,366	23,372,296	1,687,930	0.75

8.59 All of the metropolitan counties saw lower growth rates than the national average of 0.75% per annum. West Yorkshire had the highest growth rate of those areas, followed by Greater Manchester. In contrast, London saw its number of dwellings increase faster than the rate across England as a whole.

8.60 Within Greater Manchester, Manchester had by far the highest proportionate growth rate, well above both the national average and the levels seen in London. Salford also saw higher growth than those areas, and Wigan was the only other Greater Manchester district with proportionate growth above the national average. Both Oldham and Stockport saw very low rates of increase in their number of dwellings, and the rates for Rochdale and Trafford were also considerably below the national average. Growth rates were a bit higher in Bury, Bolton and Tameside, though still significantly below levels seen across the country as a whole. The spatial pattern of growth is similar to that described above in relation to the absolute change in the number of dwellings,

with the western axis stretching from the core having by far the highest levels of growth. More generally, the five districts to the west of Manchester (Bolton, Bury, Salford, Trafford and Wigan) had exactly twice the growth rate of the four districts to the east of Manchester (Oldham, Rochdale, Stockport and Tameside) (0.66% per annum compared to 0.33%). As discussed above, house price inflation has been relatively low in Oldham and Rochdale, and high in Trafford, Stockport and Bury, and so there is no clear correlation between house price inflation and dwelling completions.

8.61 DCLG live table 253 also provides data on dwelling completions, but is based on building control returns (P2 returns from local authorities, NHBC data, and approved inspector returns). This information relates to gross completions, and so it is not directly comparable with the net additions data above. It is also quite patchy in terms of availability, particularly from 2000 onwards, and so figures are only discussed here for the period 1980-1999. However, despite these problems, it is useful to compare the gross completions from 1980-1999 with the net additions data discussed above, to gain an overall indication of whether development activity has increased or decreased across Greater Manchester and within individual districts. By definition, gross completions would be expected to be at least as high as net additions, and so any increase in the per annum figures between the two periods would definitely reflect an increase in net additions whereas a reduction would be less clear as the impact of gross losses would be uncertain.

	Housing construction activity			
	Gross completions (1980-1999)		Net additions (2004-2014)	
	Average per annum	% of Greater Manchester	Average per annum	% of Greater Manchester
Bolton	899	13.48	663	8.97
Bury	465	6.97	405	5.48
Manchester	1,115	16.73	2,531	34.23
Oldham	551	8.27	146	1.97
Rochdale	622	9.33	339	4.58
Salford	676	10.14	1,006	13.60
Stockport	592	8.87	296	4.00
Tameside	460	6.90	561	7.59
Trafford	417	6.26	393	5.31
Wigan	874	13.11	1,054	14.25
Greater Manchester	6,667		7,395	
England	158,429		168,793	

8.62 Both Greater Manchester and England saw a higher level of development activity over the period 2004-2014 than in 1980-1999. Within Greater Manchester, housing development has been far higher more recently in Manchester, and also considerably greater in Salford. Wigan and Tameside are the only other areas that definitely saw an increase in activity between the

two periods. Although the impacts of gross reductions are unclear, the figures could suggest a significant reduction in development activity in Oldham, Rochdale and Stockport.

8.63 Manchester's share of the Greater Manchester total is more than twice as high when considering net additions over the period 2004-2014 than gross completions for 1980-1999. Salford saw quite a significant increase in its share, with more modest increases for Wigan and Tameside. The roles of Bolton, Oldham, Rochdale and Stockport in the supply of new dwellings in Greater Manchester appear to have reduced considerably.

8.64 The now revoked Regional Spatial Strategy[44] effectively identified an annual average dwelling requirement of 9,623 for Greater Manchester. The RSS dwelling requirements applied from 2003 but, as explained earlier, an estimated change in the number of occupied dwellings in Greater Manchester can only be made from 2005, using DCLG live tables 125 and 615. For the period 2005-2012, immediately preceding the start of the demographic projection used above, there was an average net increase of 9,492 occupied dwellings, slightly below the average RSS dwelling requirement. It is possible that the projections underpinning the RSS overestimated household growth, or that migration and/or household formation was constrained due to the availability of housing, but it cannot be determined which from the completions and/or occupied dwelling data alone. The possibility of suppressed migration is discussed later in this section.

Development rates and house prices

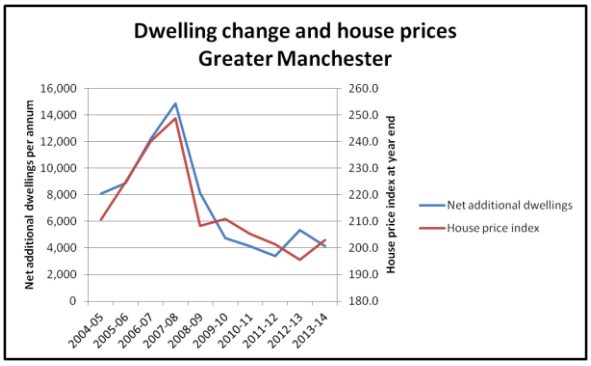
8.65 The national Planning Practice Guidance states that:

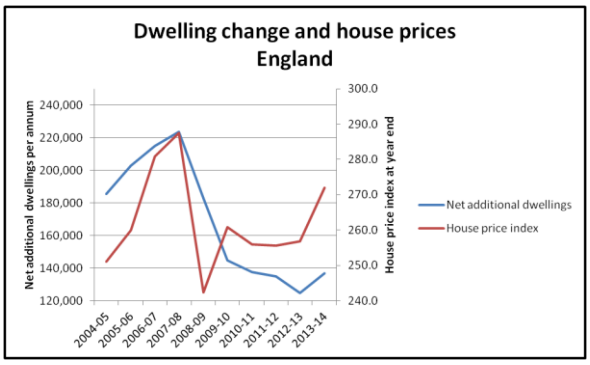
"A worsening trend in any of these indicators will require upward adjustment to planned housing numbers compared to ones based solely on household projections. … In areas where an upward adjustment is required, plan makers should set this adjustment at a level that is reasonable. The more significant the affordability constraints (as reflected in rising prices and rents, and worsening affordability ratio) and the stronger other indicators of high demand (eg the differential between land prices), the larger the improvement in affordability needed and, therefore, the larger the additional supply response should be." (paragraph 2a-020-20140306).

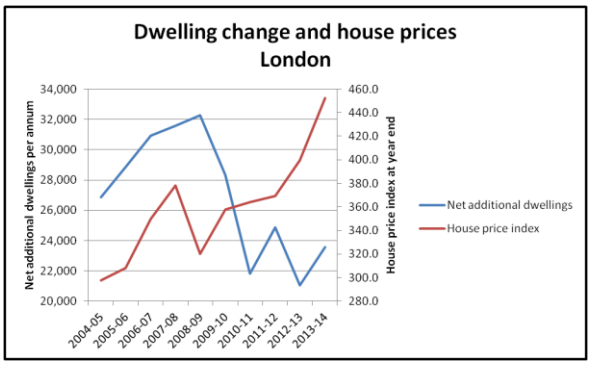
8.66 This assumes that there is a clear and direct relationship between the supply of housing and the cost of housing. This relationship can be explored by comparing the net dwelling change data, discussed immediately above, with the Land Registry house price index, to determine whether there is any evidence that an increased supply lowers house prices and a constrained supply increases house prices. The series of graphs that follow display the relevant information. The house price data relates to March at the end of the

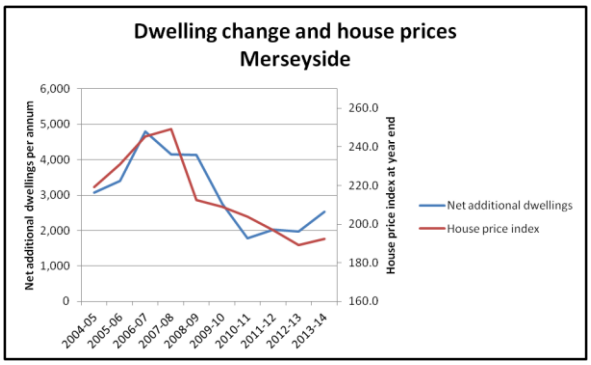
[44] HM Government (September 2008) *The North West of England Plan: Regional Spatial Strategy to 2021*, p.66 (Table 7.1)

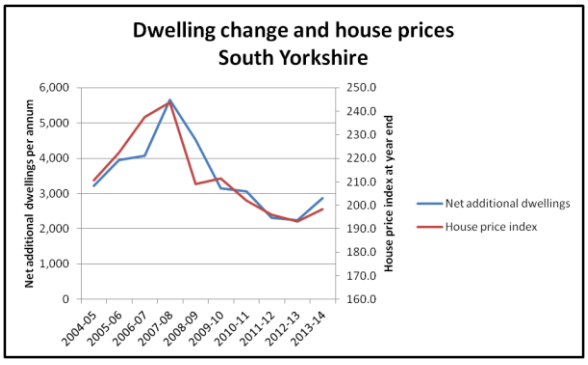
year for which the net dwelling change data is provided. The graph for England uses the house price index for England and Wales, as the Land Registry does not publish a separate index for England. The house price index is not produced for individual county districts, and so graphs are only included for the unitary authorities surrounding Greater Manchester rather than all districts.

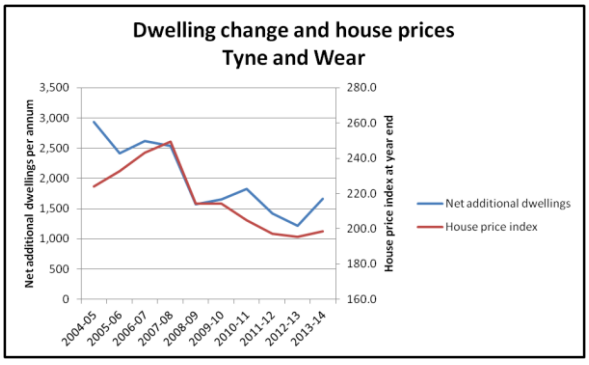


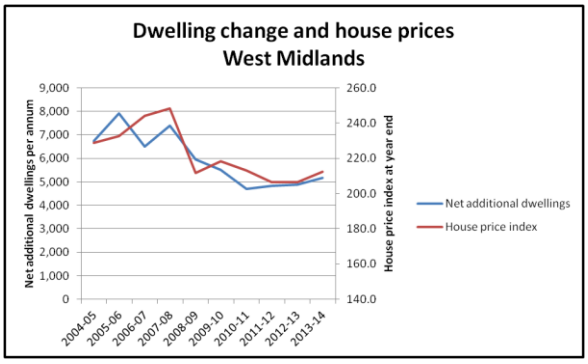


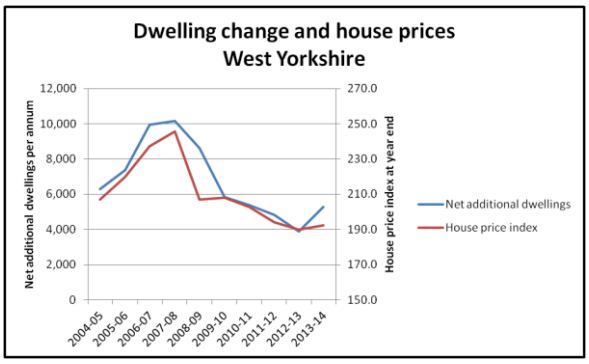


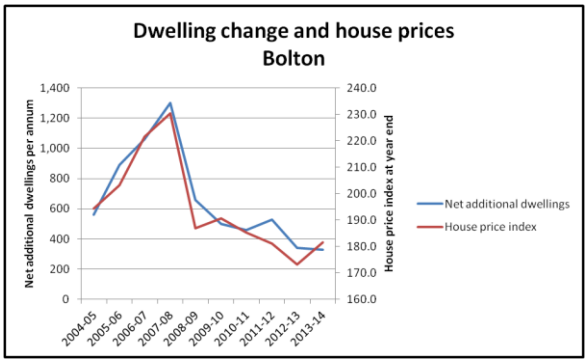


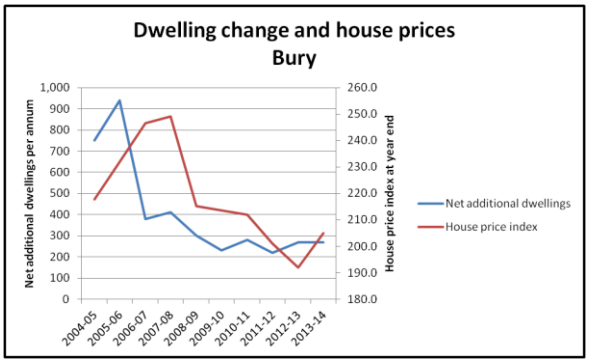


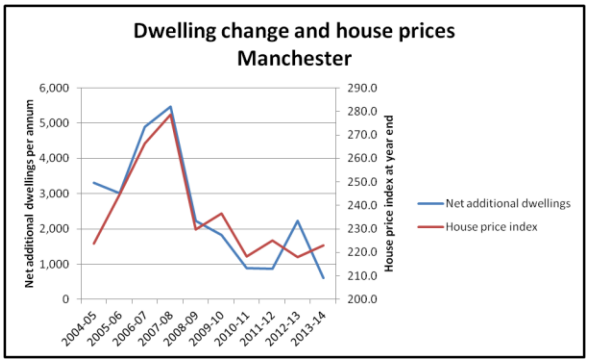


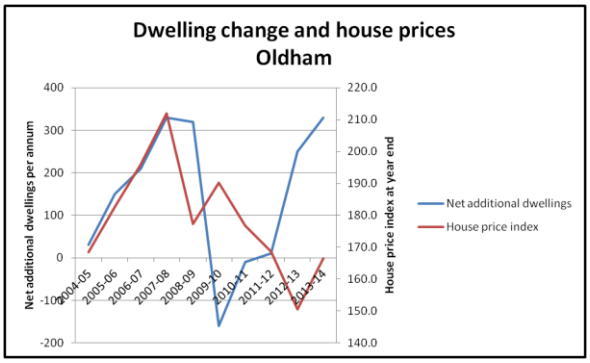


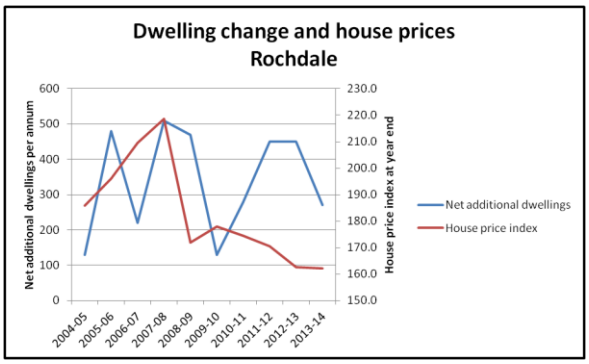


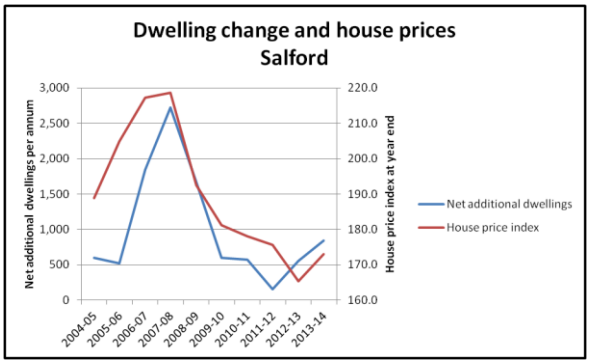

Dwelling change and house prices
Bolton
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

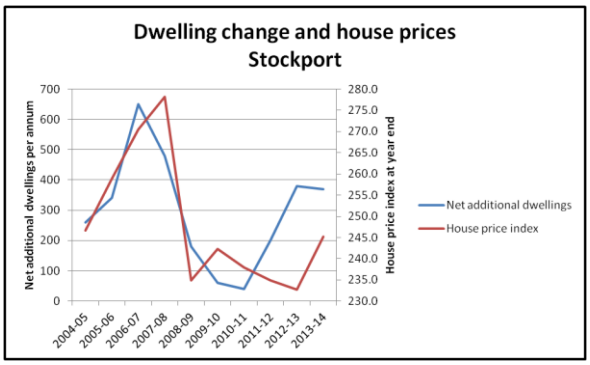

Dwelling change and house prices
Bury
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

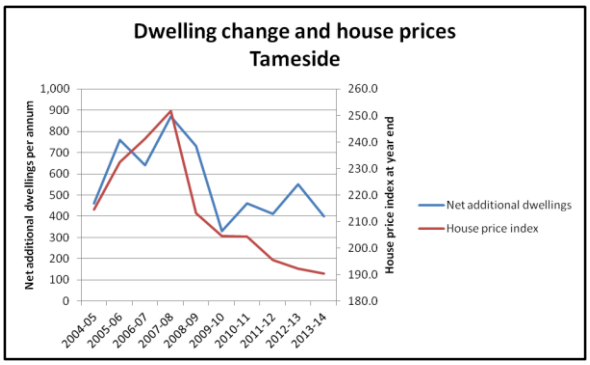

Dwelling change and house prices
Manchester
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

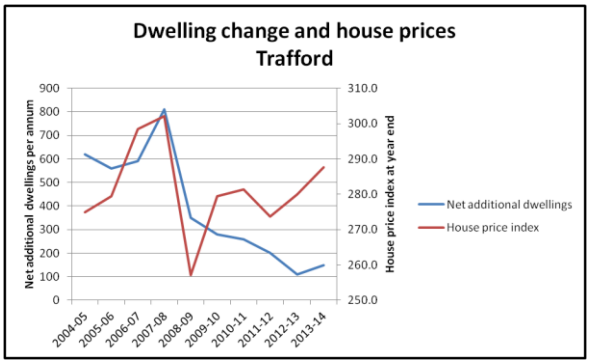

Dwelling change and house prices
Oldham
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

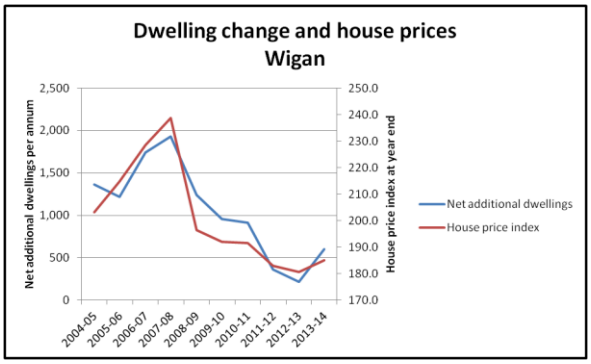

Dwelling change and house prices
Rochdale
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

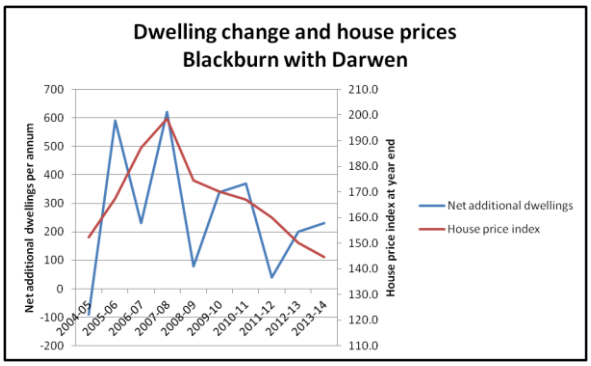

Dwelling change and house prices
Salford
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

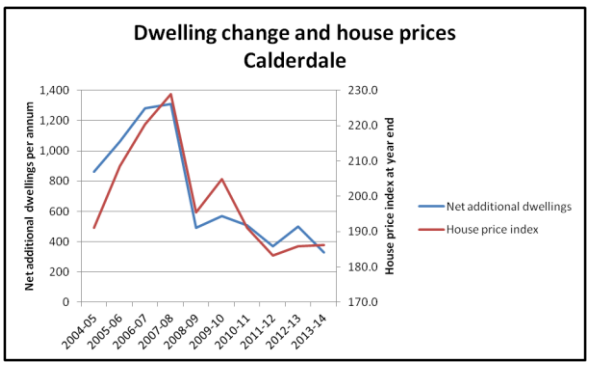

Dwelling change and house prices
Stockport
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

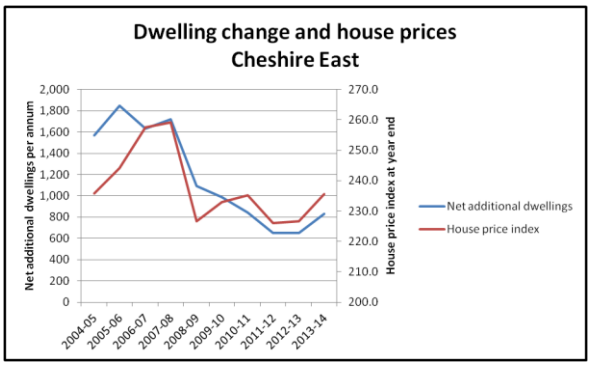

Dwelling change and house prices
Tameside
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14

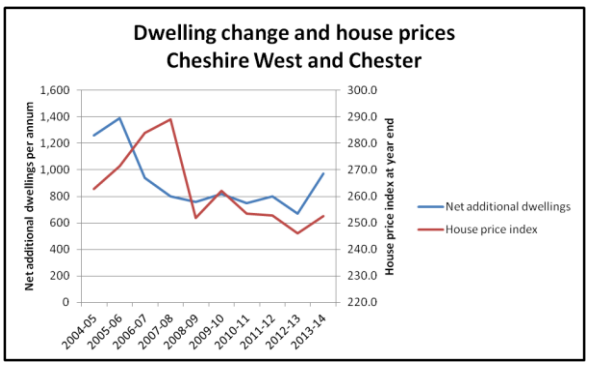

Dwelling change and house prices
Trafford
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index

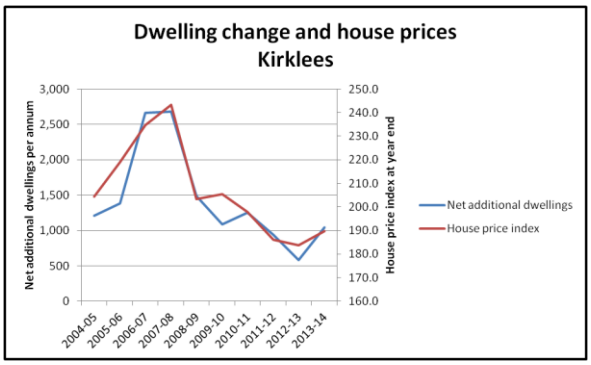

Dwelling change and house prices
Wigan
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index

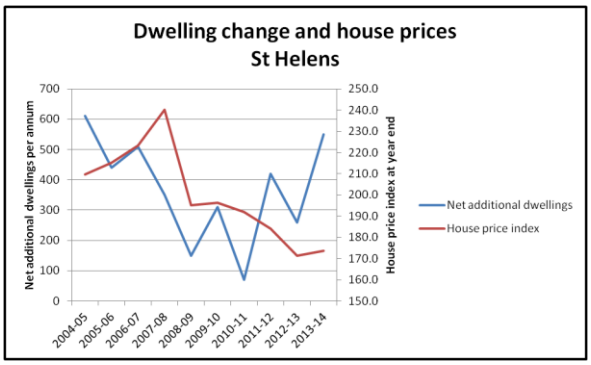

Dwelling change and house prices
Blackburn with Darwen
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index

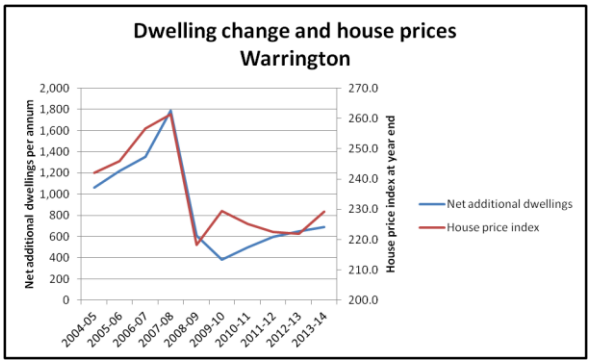

Dwelling change and house prices
Calderdale
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index


Dwelling change and house prices
Cheshire East
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index


Dwelling change and house prices
Cheshire West and Chester
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index


Dwelling change and house prices
Kirklees
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index


Dwelling change and house prices
St Helens
Net additional dwellings per annum
House price index at year end
Net additional dwellings
House price index



8.67 Most of the graphs follow a very similar pattern, with rising prices and increasing numbers of net additional dwellings up to around 2007/8 followed by a prolonged reduction in both measures, sometimes with a slight recovery in one or both of them at the end of the period. The timing and scale of the changes in the two variables are very similar for most areas.

8.68 Greater Manchester, the other metropolitan counties, most individual districts within Greater Manchester, and the unitary authorities surrounding Greater Manchester all follow this general pattern. The impacts of the recession are clearly felt within this period. However, rather than suggesting that lower rates of housing development are driving higher house prices, this data would instead indicate that higher house prices have driven higher levels of development, and a drop in house prices has led to a reduction in development activity. Consequently, seeking to use an increase in housing supply to improve affordability in such areas would be unlikely to achieve its objectives, as stagnant or reducing house prices would be expected to dampen development activity.

8.69 However, some areas do not appear to follow this general pattern. The 2013-2014 period for England as a whole shows a stronger upturn in prices than in net additional dwellings, so it is possible that lower completions has led to some house price inflation, although it would be unwise to read anything into a single year's data. A more distinctive picture emerges for London, where net additions have not recovered from their post 2009 decline, but house prices have increased significantly, which could suggest an imbalance of supply and demand which might be corrected through an increase in net completions.

8.70 Within Greater Manchester, Trafford follows a reasonably similar trajectory, with net additions and house prices broadly mirroring each other to 2009, after which net additions have continued to decline whereas there has been a significant recovery in house prices, though not to the peak levels. It is possible that the lower net additions have contributed to this rise in house prices, though there is insufficient data to conclude that an increased supply would moderate future house price increases. Furthermore, the actual rate of house price growth in Trafford has not been particularly high, and is accentuated by the scales used on the graph, being 2.26% per annum over the period 2008-2014 and just 0.72% per annum over the period 2009-2014. There is no evidence that adjoining areas are experiencing similar issues,

either within or outside Greater Manchester, and other districts which form part of the area of higher house prices around the south of the conurbation, namely Stockport, Cheshire East, Cheshire West and Chester, and Warrington, all see changes in net additions and house prices mirroring each other.

Vacant dwellings

8.71 The two tables below provide data on the proportion of dwellings that are vacant within Greater Manchester, the NUTS3 regions of Greater Manchester North (consisting of Bolton, Bury, Oldham, Rochdale and Wigan) and Greater Manchester South (Manchester, Salford, Stockport, Tameside and Trafford), the adjoining districts, the metropolitan counties, London and England. The first table relates to all vacancies, and the second to long-term vacancies. The figures in each table have been calculated using the vacancy data from DCLG live table 615 and the dwelling stock data from DCLG live table 125. These are approximations as in each year the vacancy data relates to October and the dwelling stock data to 31 March. It is important to look at overall trends rather than specific years, as some of the individual figures appear problematic, for example the very low number of vacancies in Bolton recorded in 2004 which included zero long-term vacancies.

	% of all dwellings that are vacant										
Area	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Bolton	2.1	4.8	4.9	5.1	5.4	5.2	4.8	4.2	4.0	4.0	3.8
Bury	3.0	3.4	3.9	3.6	4.1	3.7	3.6	3.7	3.6	3.5	3.2
Manchester	7.7	6.8	7.0	7.3	7.3	6.9	5.8	5.2	3.4	2.5	2.2
Oldham	4.8	5.2	5.2	5.5	5.7	5.4	5.4	4.9	4.4	4.1	3.7
Rochdale	4.4	4.0	4.1	4.0	4.6	4.3	4.2	3.9	4.0	3.4	3.4
Salford	6.2	6.2	6.2	6.0	5.9	6.1	5.8	4.2	3.3	3.0	3.0
Stockport	2.4	2.5	2.8	2.8	3.1	3.0	2.8	2.7	2.7	2.8	2.6
Tameside	4.2	4.5	4.6	4.5	4.7	4.3	3.8	3.7	3.4	2.9	2.9
Trafford	4.1	3.6	3.0	3.2	3.5	3.2	2.8	3.0	2.7	2.5	2.1
Wigan	2.9	3.2	3.6	3.7	4.0	3.9	3.7	3.8	3.7	3.5	3.2
Greater Manchester	4.4	4.6	4.7	4.8	5.0	4.8	4.4	4.0	3.5	3.2	2.9
GM North	3.3	4.1	4.3	4.4	4.7	4.5	4.3	4.1	3.9	3.7	3.4
GM South	5.2	5.0	5.0	5.1	5.2	5.0	4.5	4.0	3.1	2.7	2.5
Blackburn with Darwen	6.1	6.0	6.0	6.1	6.2	5.9	5.7	5.7	5.8	5.7	5.6
Calderdale	4.6	5.2	5.4	5.9	6.2	5.6	5.0	4.6	4.6	4.4	4.1
Cheshire East	3.5	3.7	3.9	4.1	4.1	3.9	3.8	3.3	3.2	2.7	2.5
Cheshire West	3.0	3.5	3.3	2.7	2.9	3.3	3.3	3.4	3.3	2.9	2.7
Chorley	2.7	2.9	3.2	3.0	3.4	3.3	3.5	3.6	3.7	3.2	3.1
High Peak	2.4	2.8	3.3	3.5	3.5	3.6	3.5	3.6	3.7	3.4	3.6
Kirklees	3.7	3.5	3.9	4.3	4.5	4.5	4.1	4.1	4.1	3.6	3.3
Rossendale	4.5	2.9	4.5	4.6	4.8	4.6	4.7	4.8	5.1	5.1	4.6
St. Helens	3.4	3.0	3.2	3.2	3.3	3.5	3.3	3.2	3.1	3.2	3.0
Warrington	3.0	3.6	3.7	2.8	3.2	2.8	2.6	2.5	2.7	2.2	2.6
West Lancashire	3.0	3.1	3.2	3.1	3.0	3.1	3.2	3.4	3.3	3.5	3.2

Area	% of all dwellings that are vacant										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Merseyside	5.2	4.9	5.1	5.3	5.1	5.0	4.7	4.5	4.5	4.1	3.9
South Yorkshire	3.5	3.6	3.7	3.9	4.1	3.8	3.7	3.6	3.4	3.0	2.8
Tyne and Wear	4.2	4.4	4.2	4.2	4.1	3.9	3.9	3.6	3.5	3.0	2.9
West Midlands	4.4	3.8	3.8	3.7	3.7	3.3	3.2	3.0	3.1	2.6	2.5
West Yorkshire	4.6	4.5	4.7	5.0	5.1	5.0	4.6	4.4	4.2	3.9	3.6
London	2.7	2.7	2.7	2.6	2.6	2.6	2.4	2.2	2.1	1.7	1.7
England	3.3	3.3	3.4	3.4	3.5	3.4	3.2	3.1	3.0	2.7	2.6

Area	% of all dwellings that are long-term vacant										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Bolton	0.0	2.6	2.6	2.6	2.8	2.6	2.5	1.7	1.6	1.3	1.3
Bury	1.4	1.5	1.6	1.8	1.9	1.7	1.6	1.8	1.5	1.2	1.1
Manchester	5.9	5.2	5.6	5.5	5.3	4.8	4.2	3.8	1.8	1.2	0.9
Oldham	2.6	2.3	2.7	2.5	2.6	2.0	2.0	1.9	1.6	1.4	1.3
Rochdale	2.4	2.1	2.2	2.0	2.3	2.1	1.9	1.9	1.7	1.2	1.1
Salford	2.5	2.8	3.2	3.2	3.7	3.6	3.5	2.1	1.4	1.0	0.8
Stockport	0.8	0.8	1.0	1.1	1.2	1.3	1.2	1.1	1.1	1.0	0.9
Tameside	2.4	2.5	2.4	2.3	2.3	2.1	1.9	1.7	1.3	1.2	1.1
Trafford	0.9	1.2	1.2	1.4	1.4	1.4	1.1	1.1	1.0	0.9	0.6
Wigan	1.2	1.2	1.5	1.6	1.8	1.8	1.6	1.6	1.6	1.3	1.2
Greater Manchester	2.3	2.4	2.6	2.7	2.8	2.6	2.3	2.0	1.5	1.2	1.0
GM North	1.4	1.9	2.1	2.1	2.3	2.1	1.9	1.8	1.6	1.3	1.2
GM South	3.0	2.8	3.1	3.1	3.2	3.0	2.7	2.3	1.4	1.1	0.9
Blackburn with Darwen	3.1	3.0	2.8	2.9	2.8	2.6	2.7	2.7	2.7	2.4	2.1
Calderdale	2.4	2.8	2.6	2.9	3.3	2.8	2.6	2.2	1.9	2.0	1.7
Cheshire East	1.9	1.9	1.9	2.0	2.1	1.9	2.0	1.4	1.3	1.2	1.0
Cheshire West	1.4	1.6	1.4	0.9	1.1	1.3	1.4	1.4	1.3	1.3	1.2
Chorley	1.2	1.3	1.3	1.3	1.5	1.5	1.5	1.7	1.6	1.2	1.2
High Peak	1.1	1.2	1.4	1.4	1.3	1.3	1.5	1.3	1.4	1.3	1.3
Kirklees	2.0	1.8	1.8	2.1	2.3	2.2	2.1	2.0	1.8	1.5	1.4
Rossendale	2.7	2.5	2.5	2.0	2.0	1.9	2.0	1.9	2.1	1.8	1.7
St. Helens	1.9	1.2	1.1	1.4	1.4	1.4	1.5	1.4	1.2	1.3	1.2
Warrington	1.6	1.8	1.9	1.1	1.3	1.1	1.0	0.9	0.9	0.5	0.9
West Lancashire	1.6	1.7	1.8	1.6	1.5	1.7	1.6	1.8	1.5	1.4	1.3
Merseyside	3.2	2.7	2.6	2.9	2.6	2.4	2.1	1.8	1.8	1.5	1.3
South Yorkshire	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.4	1.2	1.1
Tyne and Wear	1.9	1.8	1.8	1.8	1.7	1.6	1.7	1.5	1.4	1.2	1.1
West Midlands	2.4	1.9	1.9	1.8	1.7	1.5	1.4	1.2	1.2	1.0	0.9
West Yorkshire	2.0	1.8	1.8	2.2	2.4	2.3	2.0	1.8	1.6	1.4	1.3
London	1.3	1.3	1.2	1.1	1.1	1.1	1.0	0.9	0.7	0.6	0.6
England	1.5	1.4	1.4	1.4	1.5	1.4	1.3	1.2	1.1	0.9	0.9

8.72 England as a whole saw a modest increase in vacancies to 3.5% in 2008, followed by a reasonably significant reduction to 2.6% in 2014. Many other areas saw similar changes over the period 2004-2014, including Greater

Manchester where the increase and subsequent reduction were much greater, with the vacancy rate reducing from 5.0% in 2008 to 2.9% in 2014, a rate which is broadly average for the metropolitan counties though still above the national average. This reduction in vacancies is likely to reflect a continuing increase in the number of households at a time when the supply of new dwellings dropped considerably due to the recession, as discussed above, as well as concerted efforts by local authorities to address long-term vacancies. In contrast, the increase in vacancy rates over the period 2004-2008 could indicate that housing supply was moving ahead of demand, and this is the period of highest net dwelling completions in Greater Manchester, or at least ahead of the ability of people to secure the finances to access new housing. The very low vacancy rates in London pull the national rate down by around 0.2% (i.e. the vacancy rate in England excluding London in 2014 was 2.8%, only marginally lower than in Greater Manchester).

8.73 Within Greater Manchester, there has been a particularly dramatic reduction in the vacancy rate for Manchester, declining from 7.3% in 2008 to just 2.2% in 2014, which is well below the national average. Trafford is the only other part of the sub-region with a vacancy rate below that of England as a whole, just under Manchester's figure, but it has seen a much more modest reduction over time. Salford also saw a very considerable lowering of its vacancy rate in a short space of time, from 6.1% in 2009 to 3.0% in 2014. Stockport has consistently seen a low vacancy rate, typically just below 3%, potentially highlighting strong demand relative to supply. Both Bolton and Oldham consistently have quite high vacancy rates, though they have also seen reductions in recent years.

8.74 There is now a very clear split between the north and south of the conurbation. Although the Greater Manchester South area (consisting of Manchester, Salford, Stockport, Tameside and Trafford) had much higher vacancy rates in the early part of the period, its rate quickly declined from 5.2% in 2008 to 2.5% in 2014, matching the national average, with none of the individual districts now having a vacancy rate higher than 3.0%. Greater Manchester North (consisting of Bolton, Bury, Oldham, Rochdale and Wigan) has seen relatively limited change between the start and end of the period (recognising that the 2004 figure is skewed by the apparently erroneous figure for Bolton), and its rate in 2014 was 3.4%.

8.75 There is a very mixed picture in terms of the districts surrounding Greater Manchester. Warrington, Cheshire East and Cheshire West and Chester, which all lie to the south/south-west of Greater Manchester and generally have higher house prices, all have vacancy rates below 3%. Chorley, High Peak, St Helens and West Lancashire have seen much more consistent vacancy rates compared to other areas, generally lying just above 3%. The areas to the north of Greater Manchester, such as Blackburn with Darwen, Rossendale and Calderdale, have had consistently high vacancy rates.

8.76 There has also been a significant reduction in long-term vacancies in Greater Manchester, from a peak of 2.8% in 2008 to 1.0% in 2014, a level which is now at the lower end of the metropolitan counties though still marginally

above the national rate of 0.9%. Trafford has consistently had the lowest proportion of long-term vacant dwellings in Greater Manchester, and its figure of 0.6% in 2014 is well below the national average and matches London's. There was considerable variation amongst the ten districts in 2004, but they now have broadly similar levels of long-term vacancies. As with vacancies more generally, the north of the conurbation generally has slightly higher long-term vacancy rates than the centre/south, (Manchester, Salford, Stockport and Trafford have rates below 1%, whereas the other six districts have rates above 1%), but the difference is less pronounced than for all vacancies. Blackburn with Darwen, Rossendale and Calderdale again have the highest long-term vacancy rates for districts surrounding Greater Manchester, whereas Warrington and Cheshire East have the lowest.

Number of occupied dwellings

8.77 The table below uses data from live tables 125 and 615 to estimate the change in the number of occupied dwellings over the period 2005-2014. This could be considered to be a better indicator of demand than the net change of dwellings, as the analysis of vacancies above suggests that a significant proportion of recent demand has been accommodated within the existing stock rather than new provision. The slightly shorter period of 2005-2014 has been used here rather than 2004-2014 due to the likely error in the vacancy figure for Bolton in 2004.

	Change in occupied dwellings 2005-2014		
Area	Increase in occupied dwellings	Average increase per annum	% increase per annum
Bolton	7,020	780	0.69
Bury	3,326	370	0.48
Manchester	30,526	3,392	1.74
Oldham	2,727	303	0.34
Rochdale	3,730	414	0.48
Salford	12,401	1,378	1.38
Stockport	2,509	279	0.23
Tameside	6,534	726	0.77
Trafford	4,602	511	0.55
Wigan	8,869	985	0.74
Greater Manchester	82,244	9,138	0.83
London	272,856	30,317	0.94
England	1,615,386	179,487	0.82

8.78 Whereas the rate of increase in dwellings was higher in England than Greater Manchester, the proportionate increase in occupied dwellings was actually slightly higher in Greater Manchester. Within the sub-region there were very significant differences in the rate of increase. Manchester saw by far the

highest rate of increase in occupied dwellings, almost twice the rate seen in London. Salford's rate of increase in occupied dwellings was also far in excess of the London and national averages. Manchester and Salford have a very significant impact on the Greater Manchester average, with the other eight districts all below that sub-regional average, and the two cities accounted for more than half of the absolute increase in occupied dwellings in the sub-region. The rate of increase in occupied dwellings was particularly low in Stockport and Oldham, but was also quite modest in Bury, Rochdale and Trafford. As with dwelling completions, there is no clear correlation between the rate of increase in occupied dwellings and house price inflation, with Trafford having the highest price increases in Greater Manchester and Rochdale the lowest.

Overcrowding

8.79 The table below identifies the level of overcrowding and under-occupancy amongst households, based on 2011 Census data. The official interpretation of the census data uses the ages of the household members and their relationships to each other to derive the number of bedrooms they require, based on a standard formula. The number of bedrooms required is subtracted from the number of bedrooms in the household's accommodation to obtain the occupancy rating.

	Level of occupancy (% of households) (2011 Census)		
Area	Under-occupied	Occupied to standard	Overcrowded
Bolton	67.36	28.03	4.61
Bury	71.50	25.01	3.49
Manchester	56.51	35.73	7.76
Oldham	64.26	29.11	6.64
Rochdale	65.18	29.46	5.36
Salford	64.87	30.97	4.16
Stockport	73.58	23.49	2.93
Tameside	67.39	28.67	3.94
Trafford	73.91	22.85	3.24
Wigan	73.70	23.61	2.68
Greater Manchester	67.02	28.28	4.70
Merseyside	72.21	24.46	3.34
South Yorkshire	72.45	23.90	3.65
Tyne and Wear	69.64	26.92	3.43
West Midlands	64.99	28.57	6.43
West Yorkshire	68.90	26.85	4.25
London	49.38	39.28	11.34
England	68.68	26.68	4.64

8.80 The levels of overcrowding and under-occupancy are similar in Greater Manchester to England as a whole, although overcrowding is possibly a little higher than is typical for the metropolitan counties. London has far lower levels of under-occupancy and significantly greater overcrowding. Within Greater Manchester, the highest proportions of overcrowded households are in Manchester, Oldham and Rochdale, with low levels in Wigan, Stockport, Trafford and Bury. It is notable that the latter three have seen the highest average house price inflation over the last twenty years, and so there appears to be no correlation between increasing house prices and levels of overcrowding.

8.81 The next table compares the levels of overcrowding recorded in the last two censuses. It uses the 'room' rather than 'bedroom' definition, but the occupancy level is calculated essentially in the same way as described above.

	Level of overcrowding (total and number of rooms short)					
	2001 Census			2011 Census		
Area	Total	1 room	2+ rooms	Total	1 room	2+ rooms
Bolton	5.99	4.49	1.51	6.91	5.39	1.52
Bury	4.93	3.78	1.15	5.33	4.30	1.02
Manchester	11.19	7.72	3.48	16.43	12.22	4.21
Oldham	7.29	5.09	2.20	7.55	5.65	1.90
Rochdale	7.02	5.16	1.86	7.79	6.03	1.75
Salford	5.85	4.58	1.28	9.51	7.15	2.36
Stockport	4.51	3.52	1.00	4.81	3.87	0.94
Tameside	5.79	4.55	1.24	6.12	4.93	1.20
Trafford	4.68	3.42	1.26	5.59	4.35	1.24
Wigan	4.15	3.25	0.91	4.43	3.59	0.85
Greater Manchester	6.41	4.72	1.69	8.18	6.28	1.91
Merseyside	5.70	4.26	1.43	6.31	4.89	1.41
South Yorkshire	4.89	3.73	1.16	6.49	4.86	1.63
Tyne and Wear	6.07	4.72	1.36	6.28	5.03	1.25
West Midlands	7.36	5.15	2.22	9.19	6.68	2.51
West Yorkshire	7.25	5.22	2.03	7.80	6.04	1.76
London	17.32	10.78	6.55	21.66	14.32	7.34
England	7.13	5.02	2.11	8.74	6.40	2.34

8.82 All areas listed in the table saw an increase in overcrowding between the two censuses. Most of the increase is due to households requiring one room more to meet the census standard, with the rise in the proportion requiring two or more additional rooms generally being quite low and some areas saw a decline on this measure.

8.83 Using this measure of ‘rooms’ rather than ‘bedrooms’, overcrowding in Greater Manchester is below the national average, but the gap has narrowed very slightly between the two censuses. West Midlands and South Yorkshire saw a similar rise in overcrowding, whereas the increase was lower in the other metropolitan counties. Both Manchester and Salford saw a significant increase in overcrowding, with Manchester being closer to London than the national average, and Salford scoring comparatively much worse on this measure than on the bedrooms measure above. The other districts in Greater Manchester generally saw quite modest increases in overcrowding over this period.

8.84 Since the rooms occupancy rating assumes that every household, including one person households, requires a minimum of two rooms excluding bathrooms in addition to the number of bedrooms needed, it is likely that the increase in overcrowding in Manchester and Salford on this measure is related to the large numbers of apartments that have been provided in the two cities in recent years, where there may only be one room other than bedrooms and bathrooms (for example where the kitchen and lounge are combined rather than being separate). Such accommodation may be adequate for the households involved, and so an increase in overcrowding on this measure does not necessarily mean that the quantity or type of housing supply is not meeting household need.

8.85 The following table compares the levels of overcrowding in different tenures, using the bedrooms measure from the 2011 Census, and also identifies the proportion of households containing more than five people.

Area	Level of overcrowding (bedrooms measure) (% of households) (2011 Census)			% of households with 5 people or more
	Owned or shared ownership	Social rented	Private rented or living rent free	
Bolton	3.51	6.69	6.50	7.53
Bury	2.44	6.11	5.75	6.68
Manchester	4.97	8.10	10.97	8.96
Oldham	5.52	8.77	8.69	9.59
Rochdale	4.45	7.01	6.62	8.66
Salford	2.30	5.73	6.60	5.91
Stockport	1.79	7.20	5.03	5.93
Tameside	2.76	6.83	4.87	6.05
Trafford	1.77	6.57	6.76	6.99
Wigan	1.64	5.36	4.25	5.15
Greater Manchester	3.03	7.00	7.60	7.20
England	2.27	8.73	8.58	7.02

8.86 Levels of overcrowding are significantly higher in rented housing than in owned or shared ownership housing, and this is the case for each district as

well as for Greater Manchester as a whole. There are similar spatial differences between the districts when looking at each tenure to the overall levels, with rates of overcrowding typically being highest in Manchester, Oldham and Rochdale, although Stockport's rate for social rented housing is quite high as is Trafford's for private rented accommodation.

8.87 There is a clear correlation between levels of overcrowding and the proportion of households containing five people or more, with Manchester, Oldham and Rochdale having the highest percentage of these large households. This may suggest that overcrowding is primarily a result of the limited availability of suitable and affordable accommodation for large households, rather than separate households having to share a dwelling. However, it is possible that the large size of some households could be the result of constrained household formation due to housing costs rather than through choice.

Concealed families

8.88 The 2011 Census provides data on the number of 'concealed families', and this is summarised in the table below. A concealed family is one living in a multi-family household in addition to the primary family, such as a young couple living with parents. A single person cannot be a concealed family, and so one elderly parent living with their adult child and family, or an adult child returning to the parental home, is not counted as a concealed family. As a result of these definitions, the table presents data on families rather than households.

	% of all families that are concealed families (2011 Census)		
Area	All concealed families	Lone parent concealed families	Couple concealed families
Bolton	1.96	0.78	1.18
Bury	1.56	0.64	0.92
Manchester	2.46	1.20	1.26
Oldham	2.62	1.17	1.45
Rochdale	2.28	0.98	1.30
Salford	1.43	0.74	0.69
Stockport	1.53	0.62	0.91
Tameside	1.73	0.88	0.85
Trafford	1.58	0.67	0.91
Wigan	1.25	0.66	0.59
Greater Manchester	1.85	0.85	1.00
Merseyside	1.59	0.94	0.65
South Yorkshire	1.46	0.70	0.76
Tyne and Wear	1.40	0.74	0.66
West Midlands	3.05	1.20	1.84
West Yorkshire	2.25	0.86	1.39

Area	% of all families that are concealed families (2011 Census)		
	All concealed families	Lone parent concealed families	Couple concealed families
London	3.32	1.09	2.23
England	1.85	0.68	1.18

8.89 Greater Manchester has the same rate of concealed families as the national average, although a higher proportion of these are lone parent families. There is quite a significant deviation between the metropolitan counties, with Greater Manchester sitting broadly in the middle, and London has a significantly higher rate.

8.90 Within Greater Manchester, the highest proportions of concealed families are in Oldham, Manchester and Rochdale, with relatively low levels in Wigan, Salford, Stockport and Bury. This is a very similar spatial pattern to that described above in relation to overcrowding (using the 'bedroom' definition from the census).

8.91 The next table compares the change in concealed families between the last two censuses, both in terms of absolute numbers and as a percentage of all families.

	Families identified as concealed families (2001 and 2011 Census)				
	Number of concealed families			% of families that are concealed	
	2001	2011	Change 2001-2011	2001	2011
Bolton	939	1,535	596	1.27	1.96
Bury	536	828	292	1.03	1.56
Manchester	1,412	2,814	1,402	1.54	2.46
Oldham	995	1,647	652	1.62	2.62
Rochdale	898	1,347	449	1.56	2.28
Salford	585	891	306	1.01	1.43
Stockport	780	1,264	484	0.95	1.53
Tameside	660	1,098	438	1.08	1.73
Trafford	688	1,024	336	1.16	1.58
Wigan	812	1,195	383	0.91	1.25
Greater Manchester	8,305	13,643	5,338	1.21	1.85
North West	21,162	32,128	10,966	1.11	1.62
England	161,254	275,954	114,700	1.16	1.85

8.92 All areas have seen an increase, with the national rate having increased slightly more quickly than the Greater Manchester rate so that they are now the same, whereas the regional rate has risen a little more slowly. Manchester, Oldham and Rochdale had the highest rates recorded in Greater

Manchester in both censuses. Bury, Salford, Trafford and Wigan had the lowest increases in the number of concealed families.

8.93 Relatively high levels of concealment may not necessarily relate to issues of housing availability and affordability, and the Office for National Statistics has observed that they could be a function of cultural issues:

"Concealed family proportions may relate to cultural differences in familial ties between ethnic groups. Within England and Wales, 'other households' are more than twice as likely to have a HRP [household reference person] of non-white or mixed ethnic group (24 per cent) compared with all households (11 per cent). The ten LAs [local authorities] with the highest proportions of concealed families … also have the highest proportions of the population identifying with a non-white ethnic group; high proportions of the population of these areas identified as Indian, Pakistani or Bangladeshi. The high proportions of concealed families in these areas may be a result of closer familial ties in Asian cultures."[45]

8.94 Increases in the proportion of residents identifying themselves as Asian may therefore explain the increase in the proportion of concealed families at the regional and national levels identified above. For example, the proportion of residents identifying themselves as Asian has increased from 6% to 10% in Greater Manchester, 3% to 6% in the North West, and 5% to 8% in England.

8.95 Manchester, Oldham and Rochdale have the highest proportions in Greater Manchester of residents identifying themselves as Asian, as well as the highest levels of overcrowding and concealed families, which would seem to support the hypothesis of the ONS. Wigan has the lowest proportions in Greater Manchester on all of these measures, with Salford and Stockport next lowest in terms of both the proportions of concealment and of residents identifying themselves as Asian.

8.96 The table below shows all of the wards in Greater Manchester that have rates of concealed families exceeding 3%, and/or levels of overcrowding exceeding 10%, and also provides details of the proportion of residents who identified themselves as Asian in the 2011 Census.

Area	Concealed families, overcrowding and ethnic characteristics (2011 Census)		
	% of families that are concealed families	% of households that are overcrowded	% of people identifying themselves as Asian
Bolton			
Crompton	3.73	8.15	33.67
Great Lever	4.06	10.00	43.52
Halliwell	3.66	8.31	31.52

[45] Office for National Statistics (February 2014), *What does the 2011 Census tell us about concealed families living in multi-family households in England and Wales?*, p.11

Area	Concealed families, overcrowding and ethnic characteristics (2011 Census)		
	% of families that are concealed families	% of households that are overcrowded	% of people identifying themselves as Asian
Rumworth	4.77	12.74	55.11
Manchester			
Ardwick	2.28	12.10	27.46
Burnage	3.45	7.69	21.63
Cheetham	3.91	11.79	41.78
Crumpsall	3.94	8.51	32.04
Fallowfield	3.95	10.88	19.60
Gorton South	2.07	10.10	22.83
Levenshulme	3.71	9.21	27.85
Longsight	7.20	17.62	55.27
Moss Side	2.45	14.60	18.50
Rusholme	5.87	15.09	39.94
Whalley Range	4.61	8.91	30.75
Withington	2.81	10.98	12.78
Oldham			
Alexandra	3.35	9.56	27.95
Coldhurst	6.74	19.99	66.67
Medlock Vale	3.38	10.11	36.14
St Mary's	7.94	17.16	61.01
Werneth	9.32	18.73	71.81
Rochdale			
Central Rochdale	6.43	14.53	55.18
Milkstone and Deeplish	7.30	17.48	68.57
Spotland and Falinge	3.80	7.66	25.27
Trafford			
Clifford	5.25	9.47	35.95
Longford	4.08	6.85	25.86
Greater Manchester	1.85	4.70	10.15

8.97 This data clearly shows that all wards with significantly higher than average levels of overcrowding and/or concealment compared to the Greater Manchester average also have above average proportions of residents identifying themselves as Asian, often very substantially. Most of the wards with more than 3% concealed families have more than 10% overcrowding and vice versa, and all wards that are high on one measure are above average on the other, usually significantly so. It is also notable that the wards are generally in locations close to the city centre or town centres, rather than more suburban areas.

8.98 The six wards with more than 6% concealed families and the five wards with more than 17% overcrowding all have more than 55% of residents identifying themselves as Asian. This relationship seems slightly weaker in some wards of Manchester, which have quite high levels of overcrowding and/or concealment but lower, though still above average, proportions of households identifying themselves as Asian. For example, Moss Side has one of the highest levels of overcrowding at 14.60% but has amongst the lowest levels of concealment and residents identifying themselves as Asian in the table (though is still well above the Greater Manchester average on both measures). However, it has by far the highest proportion in Greater Manchester of residents identifying themselves as black (34.49%, with no other ward exceeding 20%), and so the high levels of overcrowding may once again be explained by the ethnic characteristics of the population, although whether or not this is the result of choice cannot be discerned from the data. It is possible that the high levels of overcrowding in Fallowfield and Withington are partly a result of the large concentration of private rented sector accommodation aimed at students.

Homelessness

8.99 The table below summarises information from DCLG live table 784 on homelessness, comparing data for 2004/05 and 2013/14 relating to the rate of homelessness and those in temporary accommodation per 1,000 households.

	Change in levels of homelessness			
	Numbers accepted as being homeless and in priority need per 1,000 households		Total in temporary accommodation per 1,000 households	
Area	2004-2005	2013-2014	2004-2005	2013-2014
Bolton	6.7	2.3	0.6	0.4
Bury	5.8	2.5	0.3	0.2
Manchester	7.3	2.6	3.7	1.6
Oldham	10.0	0.5	0.4	0.2
Rochdale	8.7	3.9	0.6	0.4
Salford	12.9	2.2	0.7	0.6
Stockport	4.6	1.0	0.5	0.2
Tameside	6.5	0.7	0.8	0.1
Trafford	3.9	1.8	1.1	0.5
Wigan	11.4	1.3	0.4	0.2
Greater Manchester	7.8	1.9	1.1	0.5
Merseyside	4.9	0.8	0.5	0.1
South Yorkshire	6.3	1.7	0.5	0.2
Tyne and Wear	7.4	2.0	0.5	0.2
West Midlands	7.6	5.1	1.1	1.0
West Yorkshire	6.6	1.3	1.3	0.3

Area	Change in levels of homelessness			
	Numbers accepted as being homeless and in priority need per 1,000 households		Total in temporary accommodation per 1,000 households	
	2004-2005	2013-2014	2004-2005	2013-2014
England	5.7	2.3	4.8	2.6
England excluding London	5.3	1.8	2.2	0.8

8.100 All areas have seen a significant reduction in the numbers accepted as being homeless and in priority need over the ten-year period, as well as a lowering in the number of temporary accommodation. If London is excluded, then the rate of homelessness in Greater Manchester remains marginally above the national average, and is broadly typical for a metropolitan county, but has fallen by a very large amount. The rate of households in temporary accommodation has more than halved, and is below the average for England excluding London although above four of the other five metropolitan counties.

8.101 Within Greater Manchester, the highest rate of homelessness is now in Rochdale, although Bolton, Bury, Manchester and Salford are also above the sub-regional average. Oldham and Tameside both have very low levels of homelessness. Manchester has by far the highest rate of households living in temporary accommodation in Greater Manchester, at twice the average for England excluding London. Most of the other districts have very low rates on this measure.

Suppressed migration

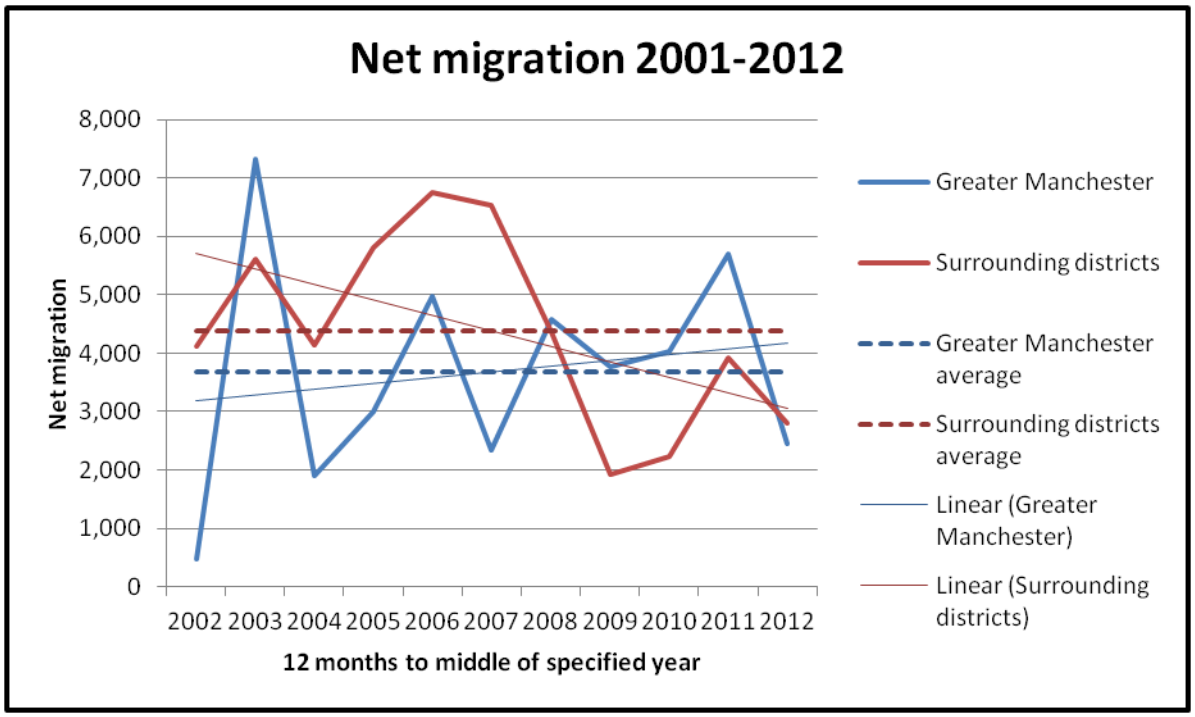
8.102 The potential for suppressed migration is not specifically referred to as a market signal in the Government's Planning Practice Guidance, but the Planning Advisory Service's guidance note suggests that it is worthy of consideration:

"it is difficult to believe that the PPG would acknowledge the impact of under-supply on only one driver of household need, HRRs [household representative rates], while ignoring its impact on another driver, migration. Such an approach would not make sense and if would be inconsistent with the NPPF, which at paragraph 159 makes it clear that migration is part of the OAN"[46]

8.103 The graph below shows the net migration to Greater Manchester over the period 2001-2012, taken from the ONS mid-year estimates. The total net migration for the eleven districts surrounding Greater Manchester that are discussed elsewhere (the ten districts adjoining Greater Manchester together with Cheshire West and Chester) is also included for comparison, as are the

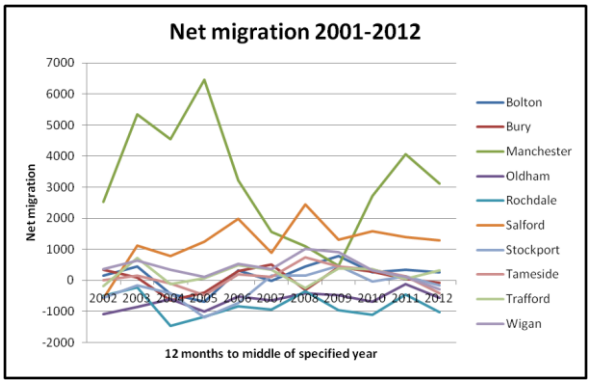
[46] Planning Advisory Service (July 2015), *Objectively Assessed Need and Housing Targets: Technical advise note – Second edition*, paragraph 7.12

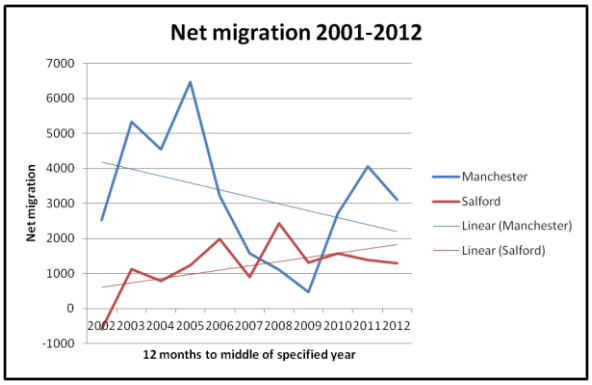
averages for these areas over the whole period and trendlines drawn using Excel.

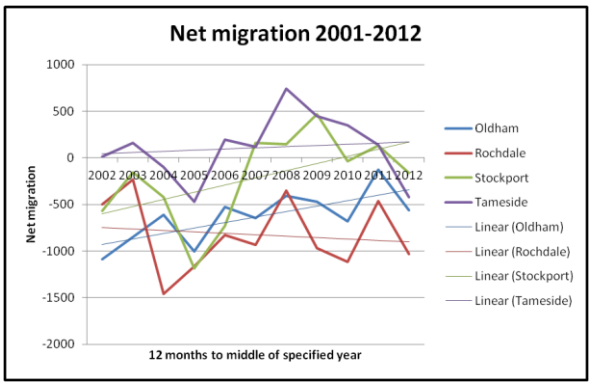


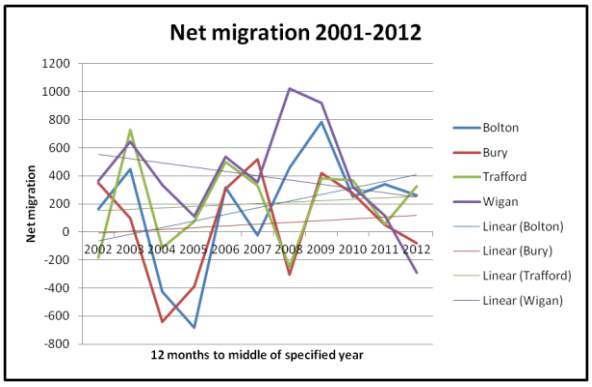
8.104 There is significant variation for both Greater Manchester and the surrounding districts over the period 2001-2012. However, the Greater Manchester line tends to oscillate either side of the average, and the trendline suggests a tendency towards an increase over time. The line for the surrounding districts is primarily above the average in the first half of the period, and below it in the second half, and this is reflected in its trendline. On this basis, there is no indication that migration to Greater Manchester has been suppressed in recent years, and indeed net inflows appear to be increasing albeit with considerable variation from year to year.

8.105 The first of the following four graphs shows net migration over the period 2001-2012 for the ten Greater Manchester districts, using the same data source as the previous graph. The other three graphs group the local authorities into central (Manchester and Salford), east (Oldham, Rochdale, Stockport and Tameside), and west (Bolton, Bury, Trafford and Wigan), and provide trendlines using Excel, to more easily distinguish the trends involved.



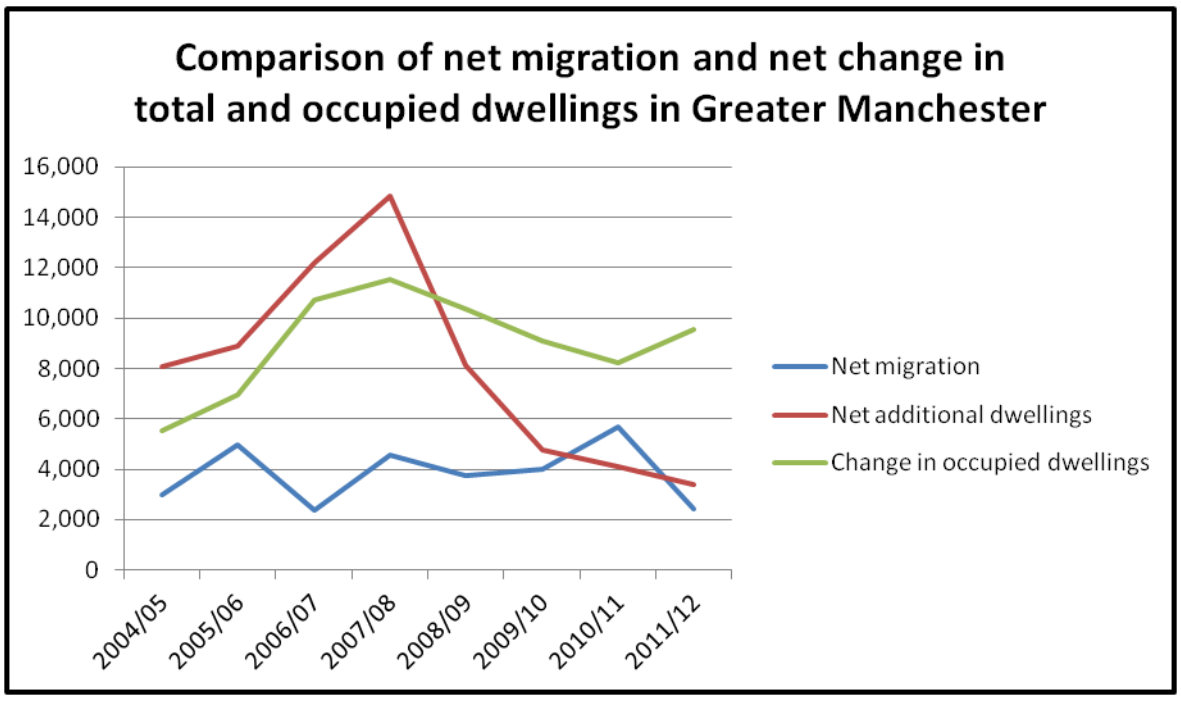






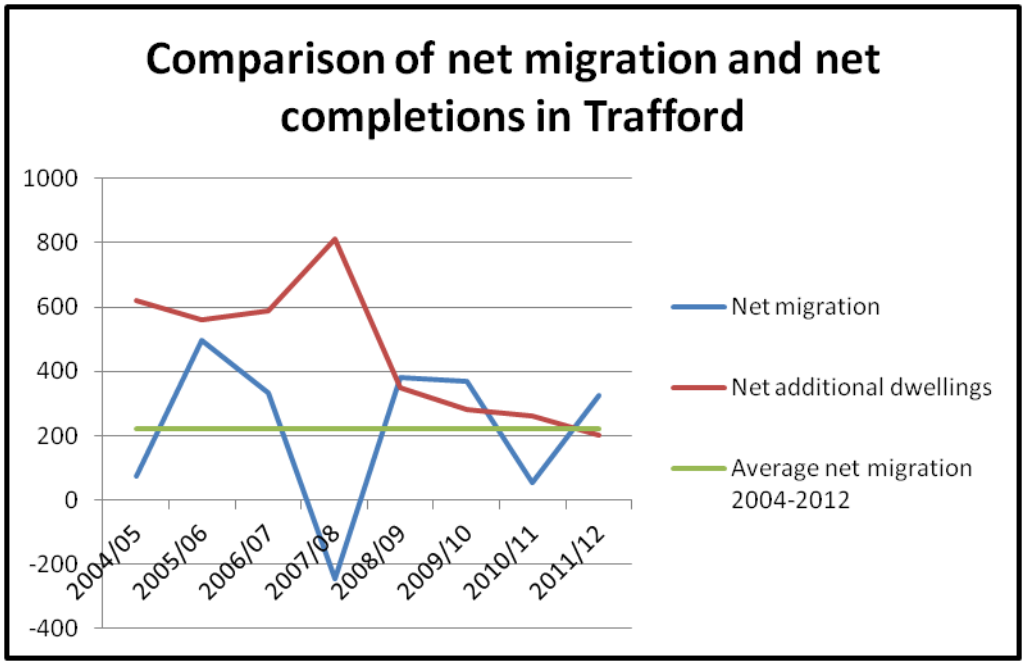
8.106 Manchester has seen very significant variation in its net migration each year, but overall there appears to have been some decline over the period 2001-2012. Wigan and Rochdale have also seen a general trend towards reduced net in-migration. Salford, Oldham, Stockport and Bolton have had quite a considerable overall increase net in-migration per annum, with more modest trend increases for Bury, Tameside and Trafford. Consequently, there has been quite a varied picture across Greater Manchester, with no clear spatial element to it.

8.107 The PAS advisory note refers to the relationship between net migration and net dwelling completions. This is displayed for Greater Manchester in the graph below, using the net migration figures from the ONS mid-year estimates and the net additional dwellings from DCLG live table 122. The latter only provides data from 2004/5, and so the graph covers the period 2004-12. The change in occupied dwellings, calculated from DCLG live tables 125 and 615, is also included for comparison.

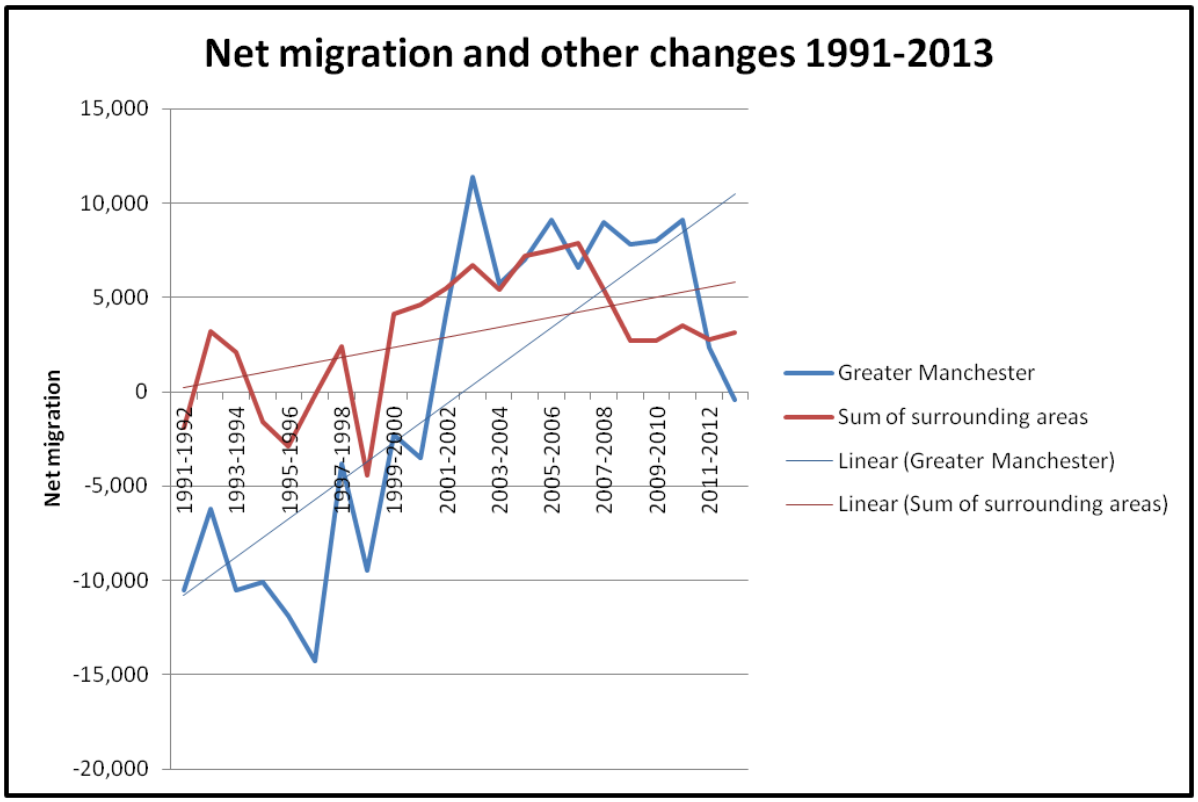


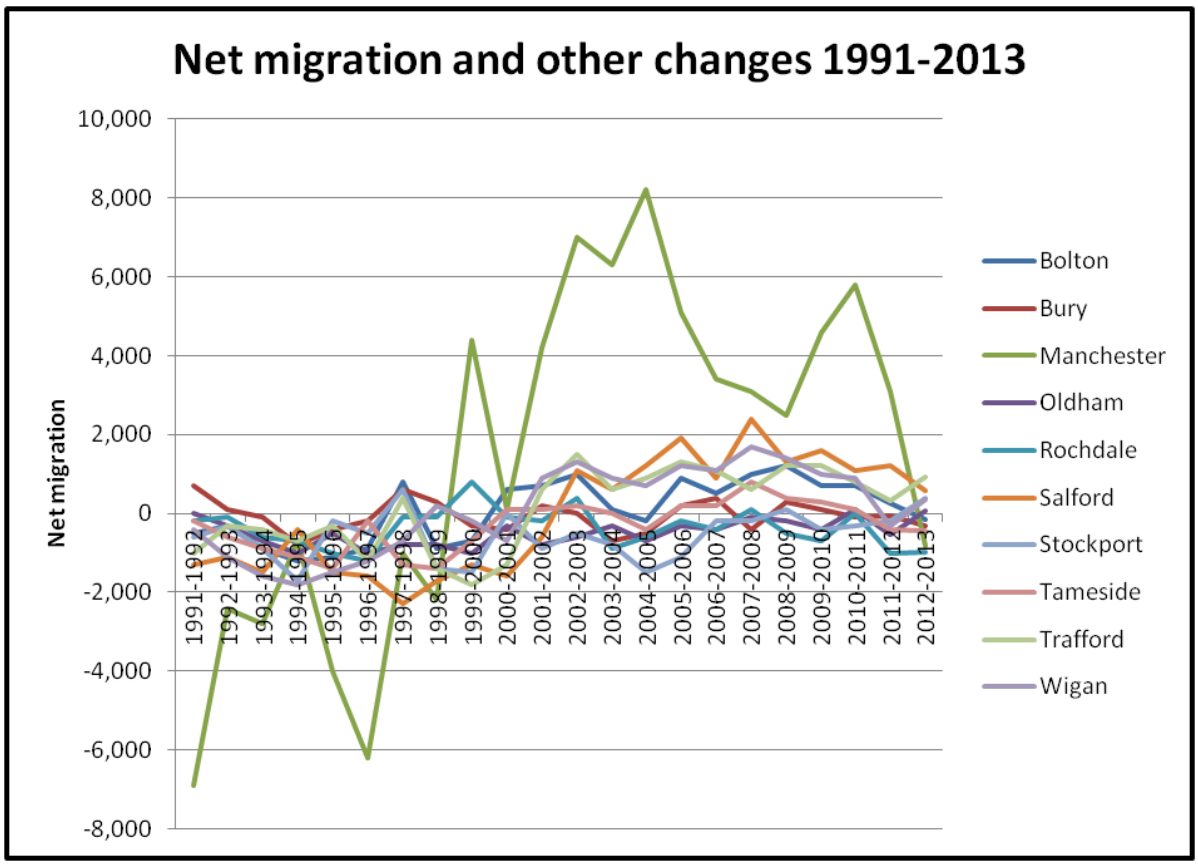
8.108 The number of net additional dwellings does not appear to have had any discernible impact on the scale of net migration to Greater Manchester. As noted earlier, in recent years the lower levels of net completions have been offset by a reduction in vacancy levels in existing housing, which has enabled Greater Manchester to accommodate reasonably consistent numbers of additional households. The increase in occupied dwellings has also fallen from its peak in 2007/8, though to a much lesser extent than with net dwelling change, but this does not appear to have dampened net migration to Greater Manchester.

8.109 The only district identified earlier as having seen recent house price increases as completions have fallen is Trafford. A similar graph to the one above for Greater Manchester is presented below for Trafford, but with the addition of a line showing average net migration over the period 2004-2012. It is difficult to reach any firm conclusions given the significant fluctuations in net migration between individual years, but net migration over the last few years has oscillated around the average as completions have continued to reduce and house prices have increased. Consequently, it would not appear that net migration to Trafford has been suppressed over that period.



8.110 In order to look at migration trends over the longer term, it is necessary to use data relating to net migration and 'other changes', as separate figures for net migration are not available prior to 2001, and so it provides a broad indication rather than a precise depiction of net migration. The other changes will include unattributable population change, special populations such as prisoners and armed forces, and adjustments such as those relating to boundary changes. The first graph below shows the data for Greater Manchester and the surrounding districts for the period 1991-2013, together with trendlines using Excel. The second graph then shows the data for each district in Greater Manchester.





8.111 Over this longer period, there has been a very clear upward trend for migration into Greater Manchester. However, there has also been an overall increase in net migration into surrounding districts, whereas there appeared to

be a trend of declining net in-migration to them over the last decade when it was considered in isolation. In terms of the individual Greater Manchester districts, most appear to have seen some trends towards an increase in net migration, including Manchester despite it seeming to have a trend of declining in-migration over the last decade.

8.112 This migration data does not indicate that there has been any under-supply of housing that has suppressed net migration. On the contrary, the evidence seems to suggest that since 1991 there has been sufficient housing to enable a significant increase in net in-migration to Greater Manchester, albeit that the rate of increase reduces when considering the period 2001-2012 alone. Within Greater Manchester, there has been an overall reduction in net migration to Manchester in recent years, but this has been offset by the cumulative increases elsewhere in the sub-region.

Conclusion on market signals

8.113 Evidence on residential land values is very limited, but the latest data suggests that greenfield values in the North of England are half of what they were in 2004, and brownfield values just one-third of 2004 prices.

8.114 Average house prices, private rents and affordability ratios in Greater Manchester are similar to other metropolitan counties. There is quite a broad mix of house prices within Greater Manchester and in surrounding districts, which would be expected over such a large area, but there is quite a clear spatial differentiation between higher values in the south and lower values elsewhere. Although the rate of house price increases has been below the national average over the last 20 years, it has still exceeded the overall rate of inflation. However, all of the increase for Greater Manchester was concentrated in the earlier 2000s, when there was an average price increase of roughly 15% in almost every part of the country, with little price change at other times. This would suggest that there were wider issues in the housing market that led to the house price increases, such as the easy availability of cheap and high loan to value mortgages, rather than any specific supply/demand issues in Greater Manchester. Furthermore, house price inflation in Greater Manchester has actually been lower than the rate of increase in the national index of private housing construction costs whereas the opposite would be expected if there was any supply shortage.

8.115 There are variations in the pattern of house price inflation depending on the timescale and data source, but Trafford, Stockport and Bury have typically seen the largest proportionate increases in house prices, and Rochdale and Oldham the lowest. More generally, if Bury is excluded then locations in and adjoining the north of Greater Manchester have seen lower rates of house price increase than locations in and adjoining the south of the sub-region. Affordability ratios are also higher in and around the south of Greater Manchester. Recent increases in private rents have been strongest in the centre and south of Greater Manchester, with little change across the north of the sub-region. It is possible that these spatial differences in house prices,

private rents and their change over time could in part reflect variability in the balance of housing supply and demand across Greater Manchester, but they are also likely to be a function of the type of housing that is available and its partial role as an investment.

8.116 As with the rest of the country, affordability ratios across Greater Manchester worsened significantly between 1997 and 2005, but have fallen back slightly since then. After peaking in 2010, the number of households on the housing waiting list in Greater Manchester has reduced, and it is the areas with the highest affordability ratios that have the fewest households on their waiting lists. Evidence supplied by developers in viability appraisals suggests that house prices are only just able to cover basic development costs in many parts of Greater Manchester, and an increase in supply would not improve this situation.

8.117 There has been a significant reduction in net housing completions in Greater Manchester since they peaked in 2007/8 but, rather than leading to market signals that there may be a supply shortage, this reduction has actually been accompanied by an overall decline in house prices and an improvement or only slight worsening in other market signals. The only exception to this is in Trafford, where house prices have consistently increased since dwelling completions have fallen. The continued increases in the number of occupied dwellings and net in-migration suggest that the reduced supply of new dwellings has not negatively impacted on demand, and the re-occupancy of existing vacant dwellings has helped to meet the needs of household growth. Both Trafford and Stockport have had consistently low vacancy rates in recent years, which could be indicative of relatively high underlying demand for housing, but could also reflect the higher house prices and rents that lead to people seeking to maximise the value of any residential investment by ensuring occupancy.

8.118 Levels of overcrowding and concealed families have worsened between the last two censuses, and the highest concentrations are in Manchester, Oldham and Rochdale. However, this may be largely explained by the ethnic characteristics of particular areas, and is more an issue of the availability and affordability of larger accommodation than it is the total volume of housing.

8.119 Overall, there is little evidence from the market signals that there has been a housing supply shortage across Greater Manchester as a whole that has constrained household growth. When looking at individual districts, Trafford and Stockport appear to consistently perform amongst the ‘worst’ on several measures such as house prices, private rents, increases in house prices and private rents, affordability ratios and dwelling completions, but they have relatively low numbers on their housing waiting lists. Trafford has also been the only district in Greater Manchester to see recent house price increases at the same time as net housing completions have been comparatively low. However, it is questionable whether these market signals are actually an indication of a mismatch in supply and demand that requires an uplift in housing numbers compared to projected levels which would improve

affordability, particularly as the recent house prices rises in Trafford are modest and do not exceed what might be expected in a properly functioning market. Trafford and Stockport form part of a much larger area extending across north Cheshire that shares many of the same characteristics, and this high value area may inherently perform differently due to the housing stock being perceived to have an investment value at a time when other opportunities for capital growth are limited. The varying pattern of house price change may also reflect the constrained finances of low- and medium-income households over recent years, whereas those on higher incomes and/or with greater assets have maintained the ability to invest large amounts in residential property.

8.120 Some of the market signals data could suggest that housing demand is lower in the northern parts of Greater Manchester, particularly Rochdale and Oldham. Low dwelling completions do not appear to have led to any worsening of market signals in these districts, but this may partly be a result of increasing pressures on low incomes making any significant house price inflation unrealistic. This potentially raises the challenge of how demand can be increased in such areas, so that they continue to secure investment over the long-term, and are able to attract a wider range of households.

8.121 At this stage it is considered that there is insufficient evidence to justify an uplift in the housing requirements of any districts in Greater Manchester compared to their projected/forecast need. The Government's Planning Practice Guidance states that: "A worsening trend in any of these indicators will require upward adjustment to planned housing numbers compared to ones based solely on household projections" (paragraph 2a-020-20140306), but it is questionable whether any of the indicators have been 'worsening' over the last few years when compared to how a well-functioning housing market would be expected to perform, for example in terms of modest annual increases in house prices and private rents. The recession has clearly had a major impact, and could be considered to distort some of the figures, as does the housing 'bubble' that preceded it. It will therefore be important to continue to monitor carefully all of the various indicators.

8.122 It is also appropriate to consider what the impacts of an upward adjustment to planned housing numbers would achieve in practice. The purpose of an uplift in housing numbers that is stated in the Planning Practice Guidance is to improve affordability (paragraph 2a-020-20140306). If the uplift did not result in an increase in the dwelling vacancy rate then it would be likely that demand would have risen in line with supply, with no associated improvement in affordability. However, it is questionable whether an increase in the dwelling vacancy rate would be desirable in Greater Manchester, and could be considered an inefficient use of land, buildings and materials. The existing vacancy rates are not considered unduly low, as discussed earlier, and indeed the Greater Manchester Combined Authority was allocated £6,862,780 for 2013-2015 in round 2 of the Government's empty homes programme specifically to reduce vacancies further, by far the highest allocation for any single provider. A policy response designed to increase vacancy rates would not therefore appear appropriate or consistent with other actions.

8.123 If there are any demand pressures then these are concentrated in the south of the sub-region, and to a lesser extent the centre. Although such pressures are not sufficient to lead to an uplift in the housing figures, they could indicate that any major redistribution of housing need from the south to other parts of Greater Manchester could lead to worsening market signals and the need for future uplifts in housing delivery. There may also be some indications that demand may be lower in parts of the north of Greater Manchester, particularly around Oldham and Rochdale, which raises the issue of whether there may be any ways of increasing demand in such locations so as to support a more even pattern of development.

9. Economic growth and labour supply

9.1 The Government's Planning Practice Guidance states that:

> "Plan makers should make an assessment of the likely change in job numbers based on past trends and/or economic forecasts as appropriate and also having regard to the growth of the working age population in the housing market area. … Where the supply of working age population that is economically active (labour force supply) is less than the projected job growth, this could result in unsustainable commuting patterns (depending on public transport accessibility or other sustainable options such as walking or cycling) and could reduce the resilience of local businesses. In such circumstances, plan makers will need to consider how the location of new housing or infrastructure development could help address these problems." (paragraph 2a-018-20140306)

Economic forecasts

9.2 Four different economic forecasts are considered here, together with their implications for labour supply requirements. The 2014 GMFM baseline forecast, produced by Oxford Economics, provides an integrated model covering economic and demographic variables. The population and household outputs of the 2014 GMFM, and the dwellings that would be required to accommodate them, were discussed in earlier sections of this report.

9.3 Oxford Economics has also produced three different versions of an accelerated growth scenario (AGS), focusing on the North West and Greater Manchester, using the framework of the GMFM but with some additional assumptions. These three scenarios are referred to as:

- AGS-SNPP, which uses the ONS 2012-based sub-national population projections as an input
- AGS-High, which uses the Popgroup population forecast referred to earlier as scenario 5
- AGS-Higher, which uses the Popgroup population forecast referred to earlier as scenario 6

9.4 These three scenarios were chosen as they cover a broad range of population outputs from the various projections and forecasts discussed earlier, thereby providing an indication of the range of economic outputs that might be associated with the different scales of population growth. They do not necessarily provide the most likely scenarios.

9.5 The AGS is based around the achievement of two key aspirations announced in the long term economic plan for the North West[47], which are more optimistic

[47] HM Government (8 January 2015) *Long term economic plan for the north-west set out by Prime Minister and Chancellor* - https://www.gov.uk/government/news/long-term-economic-plan-for-the-north-west-set-out-by-prime-minister-and-chancellor

than the equivalent assumptions in the 2014 GMFM baseline forecast produced by Oxford Economics, namely:

1) To increase the long term growth rate of the North West to at least the forecast growth rate of the whole of the UK
2) To raise the employment rate in the North West to the UK average, which would ensure that over 100,000 additional people are in employment in the North West during this Parliament (i.e. by 2020)

9.6 The sectors that are expected to contribute most to the additional growth in the North West in the AGS tend to be more heavily concentrated in Greater Manchester than elsewhere in the region, and they are also the sectors in which Greater Manchester is expected to have a comparative advantage. Consequently, Greater Manchester sees a larger boost to economic growth than the rest of the North West in the AGS.

9.7 The additional jobs between the AGS and the baseline GMFM forecast are translated into the additional number of people in work in Greater Manchester, with no distinction made between residents and in-commuters, and this figure will be lower than the number of additional jobs as some people hold more than one job. The additional people working in Greater Manchester are allocated to residents and in-commuters using Census commuting data, with 88% of jobs in Greater Manchester being held by Greater Manchester residents. Similarly, some of the jobs created elsewhere in the North West will be filled by Greater Manchester residents, and it is assumed that this is 5% based on the Census. The remaining additional jobs in Greater Manchester not taken by in-commuters will be filled by local residents, some of whom will currently not be participating in the labour market or are unemployed. Consequently, the resident employment rate is an output of other assumptions and relationships.

9.8 Further information on the methodology for producing the AGS forecasts and details of the outputs are contained in a separate report produced by Oxford Economics[48].

9.9 The main outputs of the three population scenarios modelled through the AGS are shown below, together with the baseline 2014 GMFM outputs. The first table shows the absolute figures for 2014 and 2035, the second table shows the absolute change in each variable, and the third table identifies the average rate of change per annum. The figures cover the period 2014-2035 as 2014 is the base date for the forecasts.

	Outputs from economic modelling							
	2014 GMFM baseline		AGS-SNPP		AGS-High		AGS-Higher	
	2014	2035	2014	2035	2014	2035	2014	2035
Population	2,729,065	2,943,704	2,729,065	3,030,100	2,729,065	3,142,674	2,729,065	3,266,188
Population aged 16-64	1,758,054	1,746,381	1,758,054	1,825,520	1,758,054	1,917,434	1,758,054	1,998,675
Population aged 15-74	2,025,414	2,110,944	2,025,414	2,173,700	2,025,414	2,262,149	2,025,414	2,352,694
Total	1,392,011	1,547,625	1,391,952	1,613,395	1,391,952	1,693,682	1,391,952	1,768,024

[48] Oxford Economics (October 2015) *An accelerated growth scenario for Greater Manchester*

	Outputs from economic modelling							
	2014 GMFM baseline		AGS-SNPP		AGS-High		AGS-Higher	
	2014	2035	2014	2035	2014	2035	2014	2035
employment								
Workplace people-based employment	1,352,970	1,472,631	1,352,913	1,535,214	1,352,913	1,611,611	1,352,913	1,682,350
Residence-based employment	1,291,369	1,410,984	1,291,321	1,476,666	1,291,321	1,550,149	1,291,321	1,618,191
Residence employment rate[49]	73.5	80.8	73.5	80.9	73.5	80.8	73.5	81.0
Unemployment level	59,222	45,965	59,231	47,700	59,231	50,101	59,231	52,224
Unemployment rate	3.4	2.6	3.4	2.6	3.4	2.6	3.4	2.6
GVA (£ million 2011 prices)	54,745	91,198	54,745	98,242	54,745	103,130	54,745	107,657

	Absolute change 2014-2035			
	2014 GMFM baseline	AGS-SNPP	AGS-High	AGS-Higher
Population	214,639	301,035	413,609	537,123
Population aged 16-64	-11,673	67,466	159,380	240,621
Population aged 15-74	85,530	148,286	236,735	327,280
Total employment	155,614	221,443	301,730	376,073
Workplace people-based employment	119,661	182,301	258,698	329,438
Residence-based employment	119,615	185,344	258,828	326,869
Residence employment rate	7.3	7.4	7.4	7.5
Unemployment level	-13,257	-11,532	-9,130	-7,007
Unemployment rate	-0.7	-0.8	-0.8	-0.8
GVA (£ million 2011 prices)	36,453	43,497	48,385	52,912

	% change per annum 2014-2035			
	2014 GMFM baseline	AGS-SNPP	AGS-High	AGS-Higher
Population	0.4	0.5	0.7	0.9
Population aged 16-64	0.0	0.2	0.4	0.6
Population aged 15-74	0.2	0.3	0.5	0.7
Total employment	0.5	0.7	0.9	1.1
Workplace people-based employment	0.4	0.6	0.8	1.0
Residence-based employment	0.4	0.6	0.9	1.1
Unemployment level	-1.2	-1.0	-0.8	-0.6
GVA (£ million 2011 prices)	2.5	2.8	3.1	3.3
Productivity	1.9	2.1	2.1	2.1

9.10 The additional population and achievement of the north west economic plan aspirations make a significant difference to the economic outputs. Oxford Economics' baseline forecast indicates a 2.5% per annum increase in GVA for the United Kingdom and a 3.0% per annum increase for London. The 2014

[49] The residence employment rate has been calculated by dividing the total residence-based employment by the population aged 16-64. Other population age group denominators can be used, and so residence employment rates from different sources are not always comparable. For example, the Office for Budget Responsibility uses the 16+ age group.

baseline GMFM forecast for Greater Manchester is therefore broadly in line with the growth rate for the United Kingdom forecast by Oxford Economics. The growth rate of 2.8% per annum in the version of the AGS based on the ONS 2012-based population projections therefore appears ambitious, above the forecast UK average growth rate in the long-term, and exceeding the level of growth being planned for in London[50]. The other two scenarios seem very optimistic in comparison, with growth rates significantly higher than the forecast for the UK, and also above the Oxford Economics growth forecast for London.

Implications for labour supply

9.11 The table below compares the baseline forecasts of the resident employment rate for the UK and Greater Manchester from Oxford Economics with the rates for the three AGS forecasts.

	Resident employment rate		
Area and forecast	2014	2035	Percentage point change
United Kingdom			
Oxford Economics	76.8	82.0	5.2
Greater Manchester			
2014 GMFM	73.5	80.8	7.3
AGS-SNPP	73.5	80.9	7.4
AGS-High	73.5	80.8	7.4
AGS-Higher	73.5	81.0	7.5

9.12 All of the scenarios for Greater Manchester result in similar increases in the resident employment rate. The overall percentage point increase would be higher than for that forecast for United Kingdom, but Greater Manchester would still have a lower resident employment rate in 2035 than the country as a whole. Thus, the gap with the UK average would be partly closed, but there would still be a need for further improvements in the resident employment rate in the longer term beyond 2035 to ensure that Greater Manchester residents are fully able to share in the benefits of economic growth and to reduce welfare dependency.

9.13 Delivering such an increase in the resident employment rate for Greater Manchester would require considerable efforts to improve education, skills, and health. This is a major priority for Greater Manchester, as reflected in the Greater Manchester Strategy and devolution agreement.

9.14 The next table compares the forecast levels of commuting from the 2014 GMFM baseline and the three AGS forecasts.

	Forecast net commuting to Greater Manchester

[50] The London Plan seeks to deliver a baseline growth forecast of 2.5% per annum.

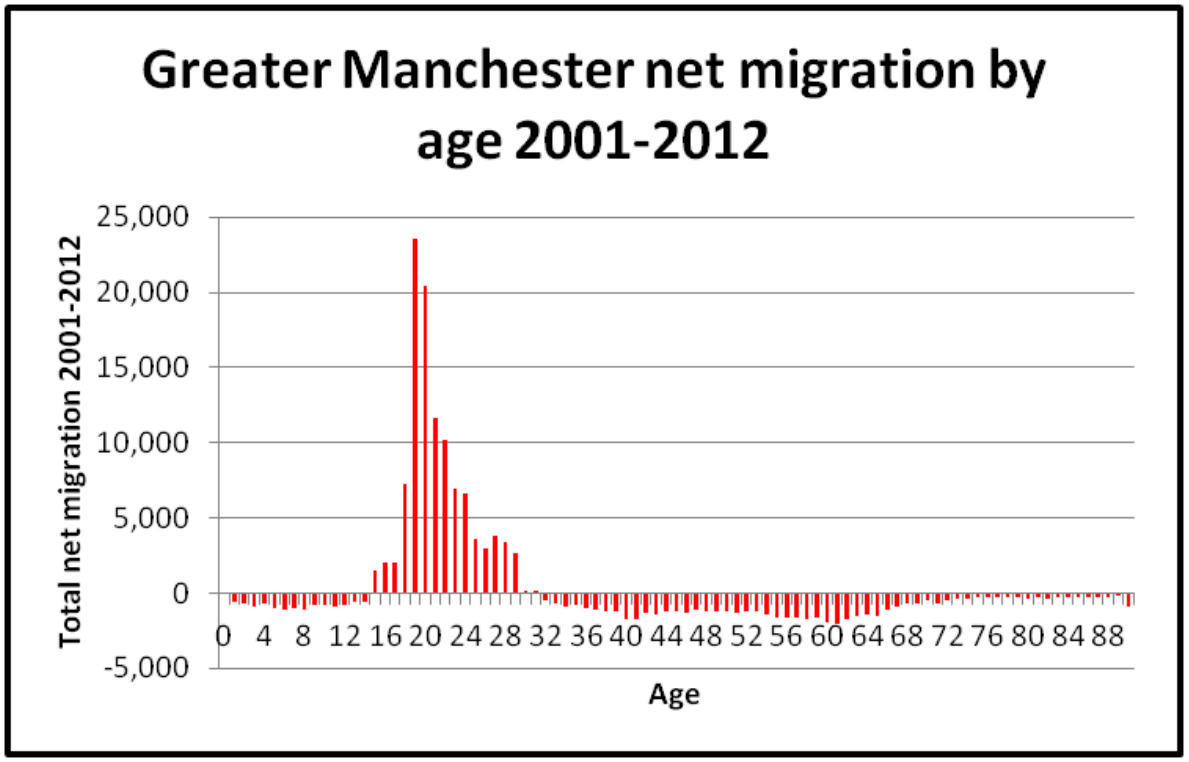
	2014	2035	Change 2014-2035
2014 GMFM	61,601	61,647	46
AGS-SNPP	61,591	58,548	-3,043
AGS-High	61,591	61,462	-129
AGS-Higher	61,591	64,160	2,568

9.15 There is relatively little difference in the forecast net commuting levels in 2035 under each scenario, and very little change from the 2014 figures, particularly given the total number of jobs within Greater Manchester.

9.16 The forecast increase in the resident employment rate in each scenario would therefore appear to be realistic and achievable, provided that appropriate measures are put in place to support increased labour market participation. The anticipated levels of commuting would also seem to be realistic, with little implication for surrounding districts. Consequently, the population increase in each scenario would be sufficient to provide the labour supply required to support economic growth, whether that is in baseline conditions or under accelerated levels of growth.

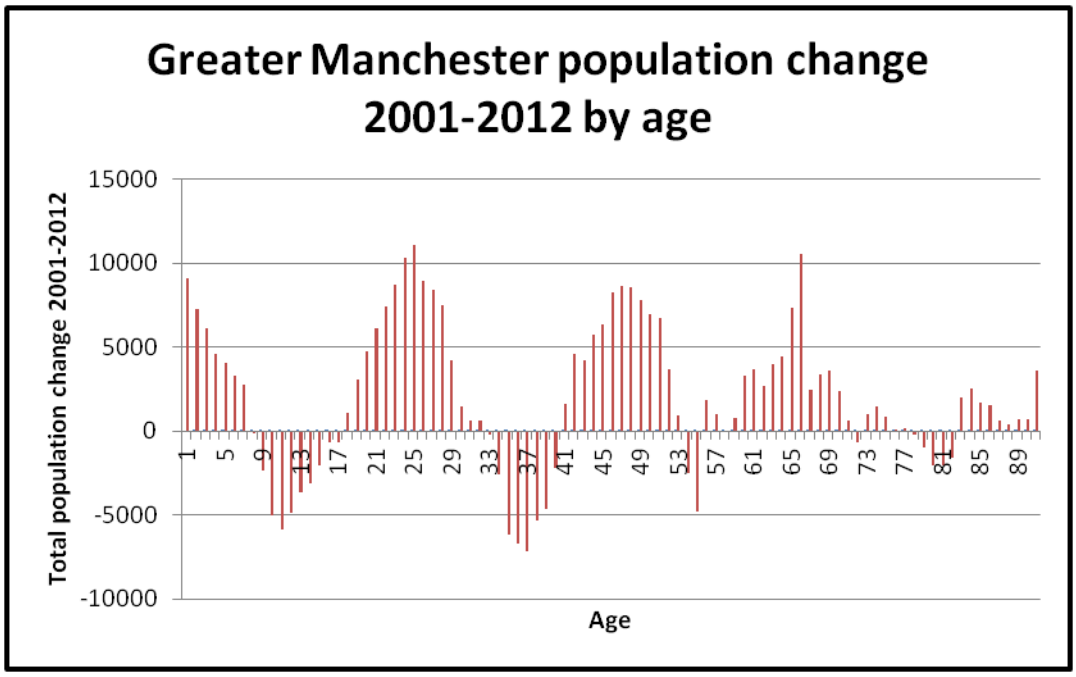
10. Age distribution of migrants

10.1 One of the issues raised in the last consultation on the Greater Manchester Spatial Framework related to the age distribution of net migration, with the suggestion that efforts should be made to reduce the net outflow of certain age groups. The graph below shows Greater Manchester's total net migration by individual year of age over the period 2001-2012, using ONS mid-year estimate flows data.



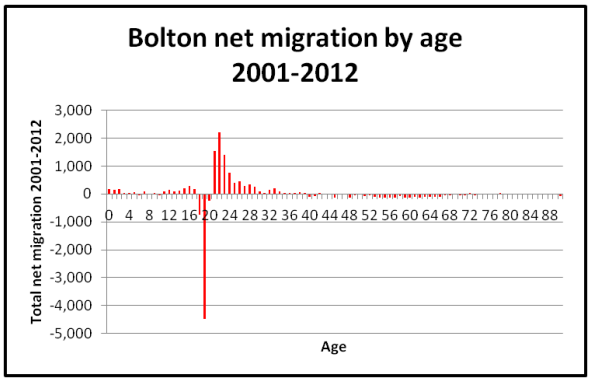
10.2 A very clear pattern emerges, with net in-migration for all ages from 15 to 31 inclusive, with very high levels for those aged 19 and 20. All other ages saw net out-migration of varying degrees, with the highest for those aged 60-61. Overall, there was net in-migration to Greater Manchester of 39,986 people over the period 2001-2012, so the very large inflows of young adults more than offset the modest losses in many of the other age groups.

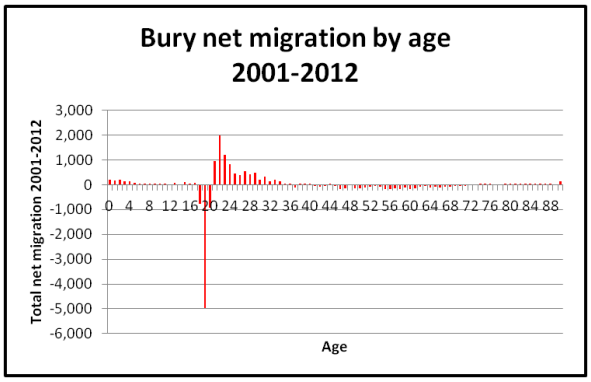
10.3 The next graph shows the total population change in Greater Manchester by individual year of age over the same period, rather than just net migration.

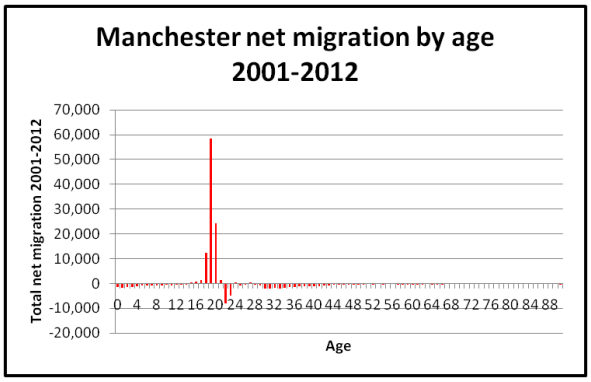


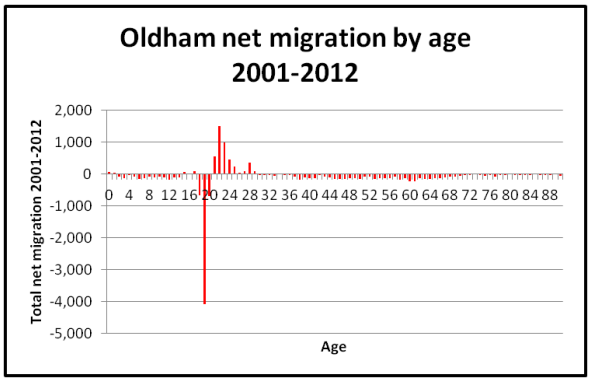
10.4 Although there was a very clear pattern in relation to migration in the previous graph, the overall population change by year of age is much more mixed because of the different numbers in each age group, with a series of peaks and troughs in terms of whether there has been growth or decline. This reflects changing birth rates and migration levels over time.

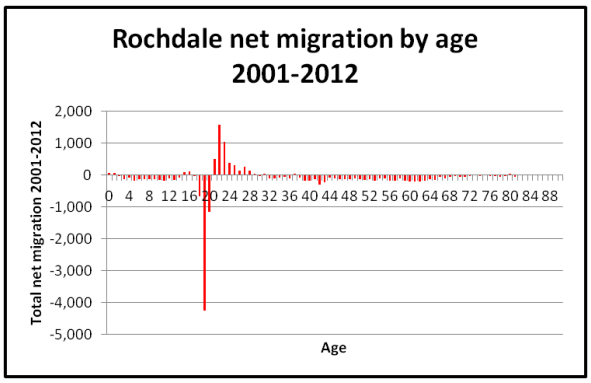
10.5 Similar graphs can be produced for each district in Greater Manchester. Those below relate to migration alone, but those that also include 'other changes', such as unattributable population change, generally show a similar pattern.

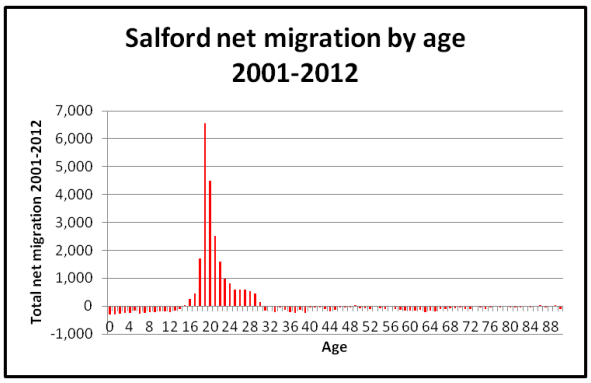


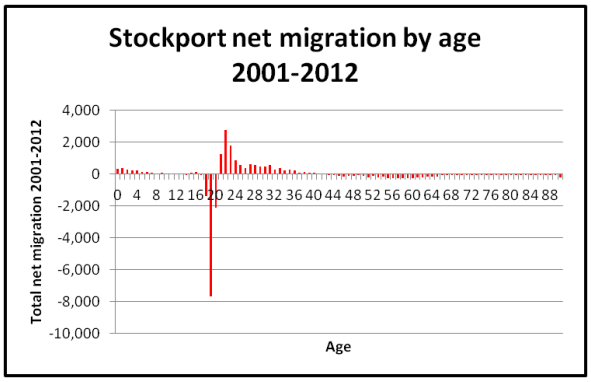


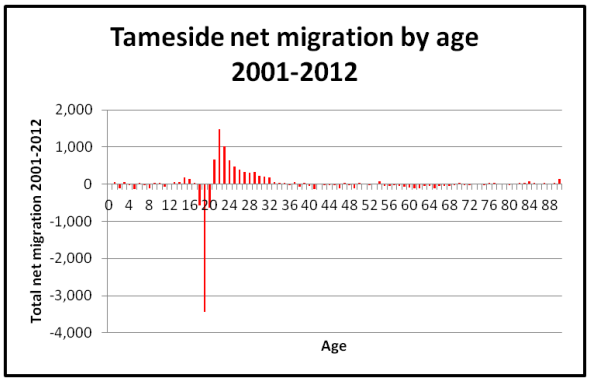


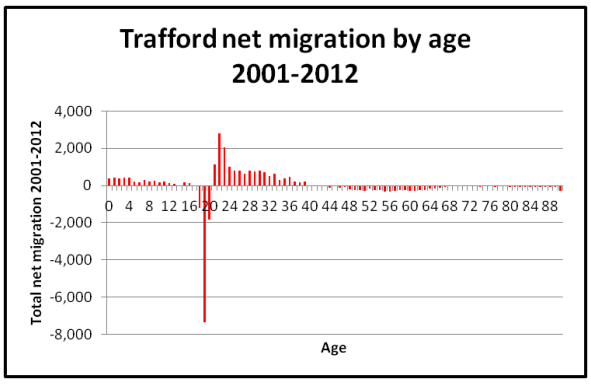


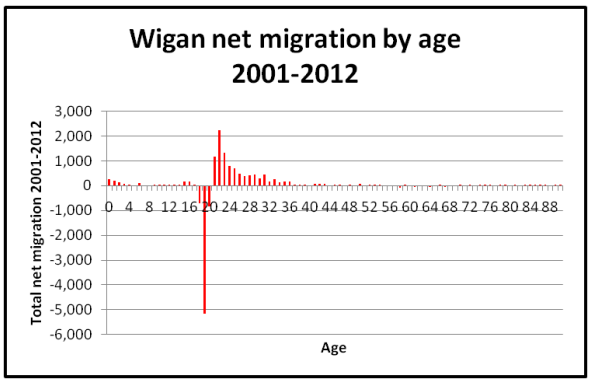










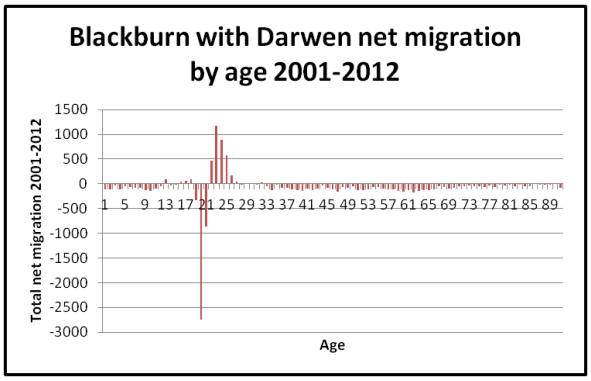


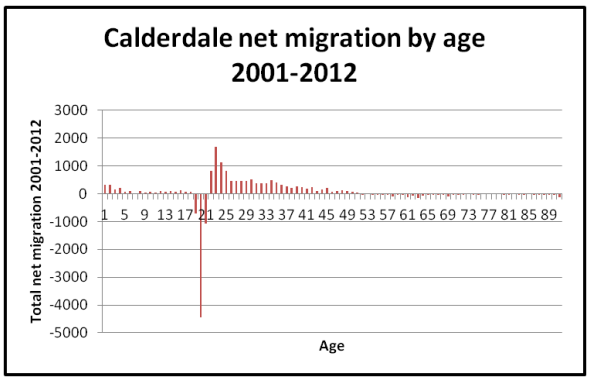
10.6 Salford has a very distinctive graph, similar to that for Greater Manchester as a whole, seeing net in-migration in the 15-30 age group, with a particular spike for those aged 19-20, but net out-migration for most other ages including the highest levels for those under 15. Manchester's graph also stands out, with an enormous level of net in-migration for those aged 19, and

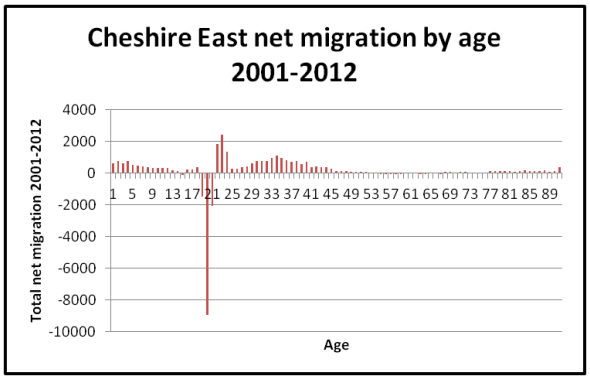
slightly lower but still very high levels for those aged 18 and 20. However, it also saw quite significant net out-migration for those aged 22-23, those in their 30s, and those aged 5 and under.

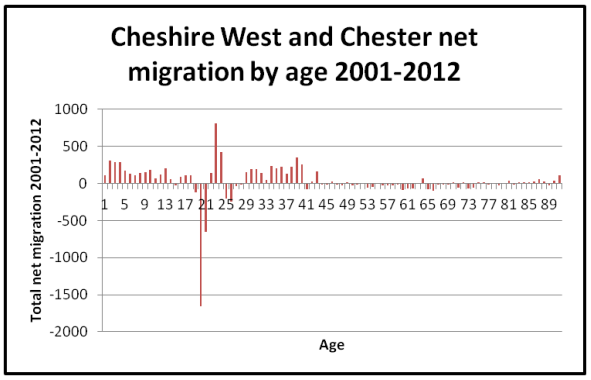
10.7 The other eight districts have reasonably similar graphs to each other, although there are some differences. They all saw high levels of net out-migration for those aged 19, and lower net out-migration for those aged 18 and 20, which when coupled with the net in-migration for those ages to Manchester and Salford is likely to be explained primarily by the location of the largest universities (Bolton is similar in this regard to the other districts outside Manchester and Salford, despite having its own university). Those eight districts then all have a peak in their net in-migration for those aged 21-23, with lower levels of net in-migration typically extending through to those in their early/mid 30s, although this carries through to the late 30s/early 40s in the case of Stockport, Trafford and Wigan, but only extends to the late 20s for Oldham and Rochdale. The eight districts see varying levels of migration for those aged under 18, with Bury, Stockport and Trafford seeing net in-migration for almost all ages, and Wigan for most, whereas Tameside saw net in-migration for older children, and Oldham and Rochdale had net out-migration for most ages. In the discussion of market signals earlier in this report, it was observed that the highest absolute house prices and house price inflation have been in Bury, Stockport and Trafford, and the lowest have been in Oldham and Rochdale, and so it is possible that these age-related migration patterns are influenced by the availability of higher value housing and properties suitable for families with children, given the age ranges involved. For those over 70, Bury and Tameside saw small levels of net in-migration for almost all age groups, whereas Stockport, Trafford and Rochdale had net out-migration for nearly all ages, although the numbers involved were generally smaller for Rochdale.

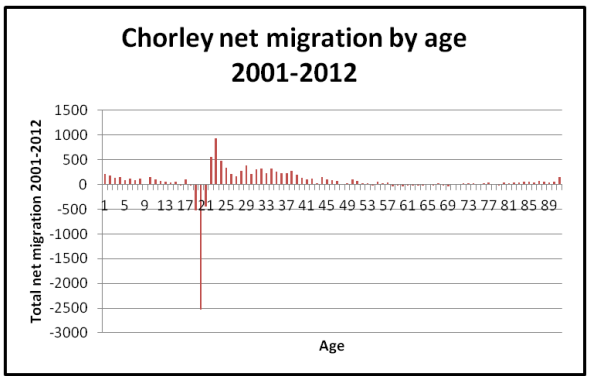
10.8 Given these distinct age characteristics of Greater Manchester's net migration, it is also useful to consider similar data for the surrounding districts, and the relevant graphs are set out below.

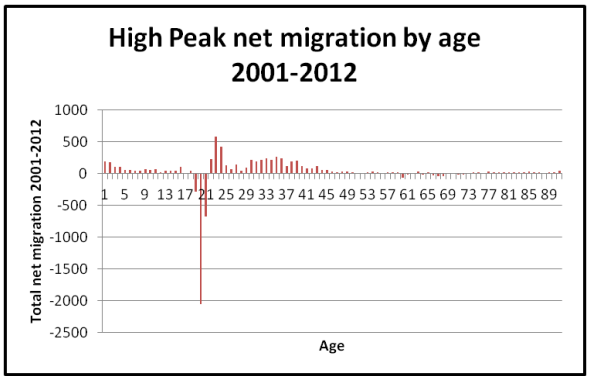


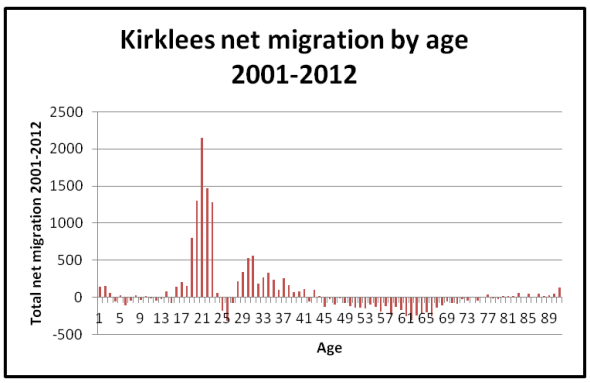


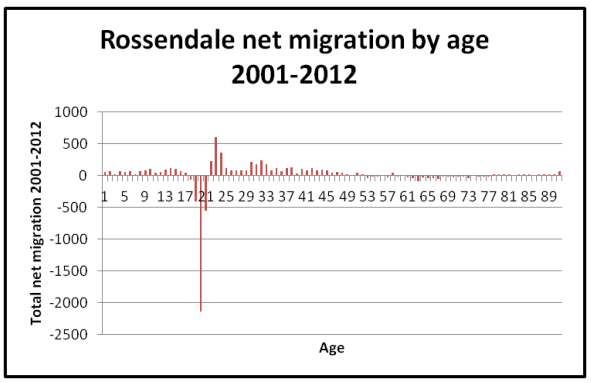

Cheshire East net migration by age 2001-2012
Total net migration 2001-2012
Age

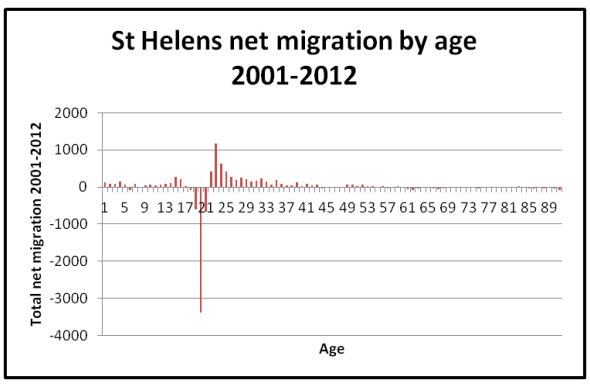

Cheshire West and Chester net migration by age 2001-2012
Total net migration 2001-2012
Age

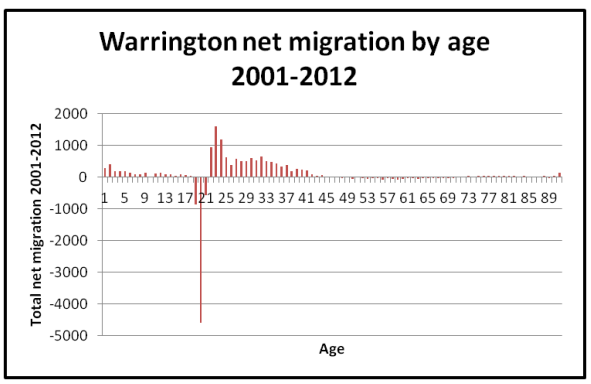

Chorley net migration by age 2001-2012
Total net migration 2001-2012
Age

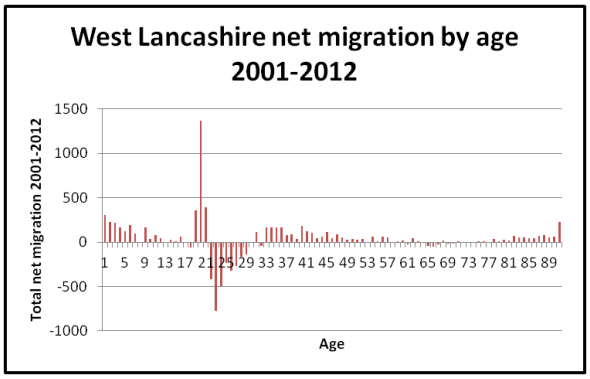

High Peak net migration by age 2001-2012
Total net migration 2001-2012
Age


Kirklees net migration by age 2001-2012
Total net migration 2001-2012
Age


Rossendale net migration by age 2001-2012
Total net migration 2001-2012
Age

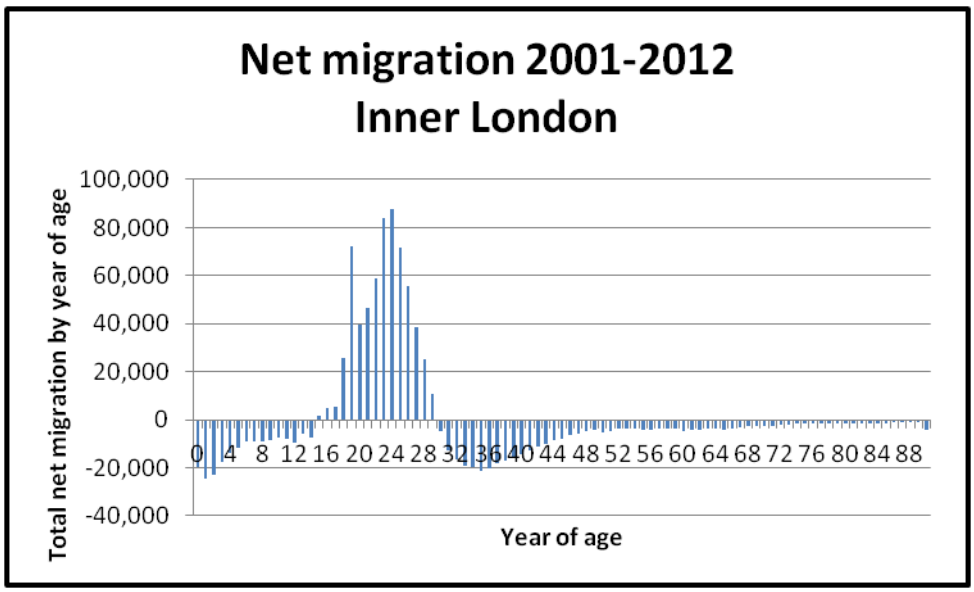

St Helens net migration by age 2001-2012
Total net migration 2001-2012
Age

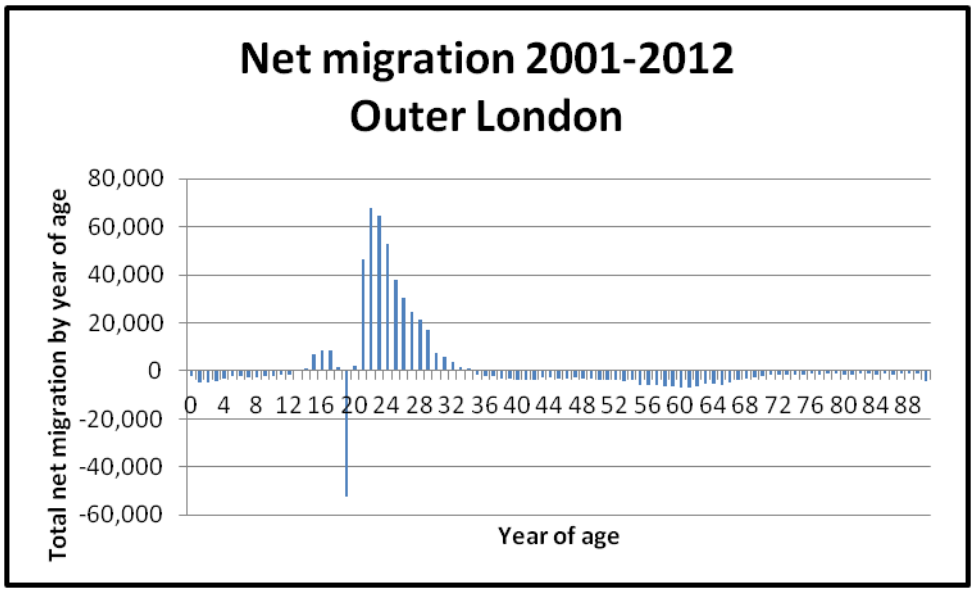

Warrington net migration by age 2001-2012
Total net migration 2001-2012
Age

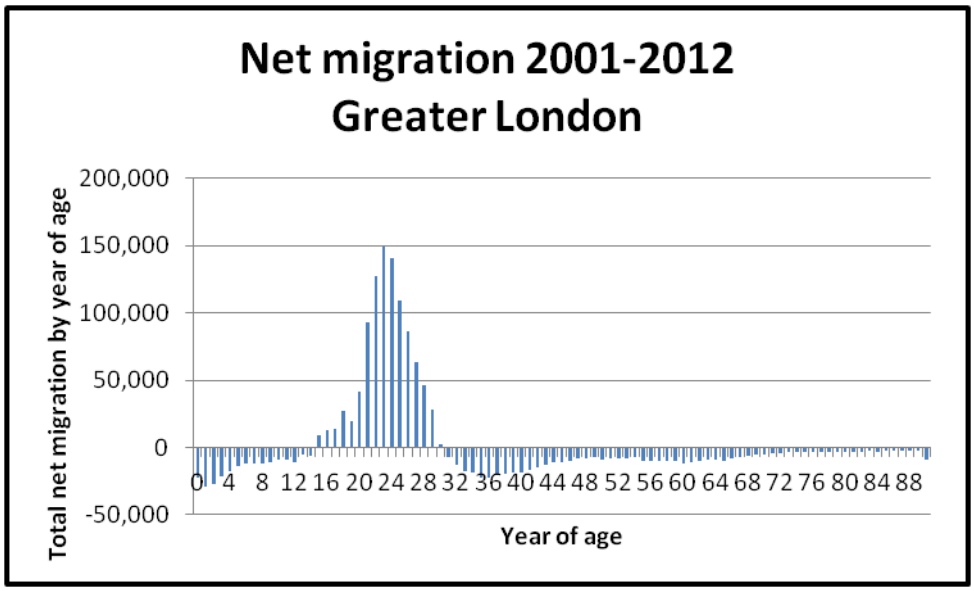


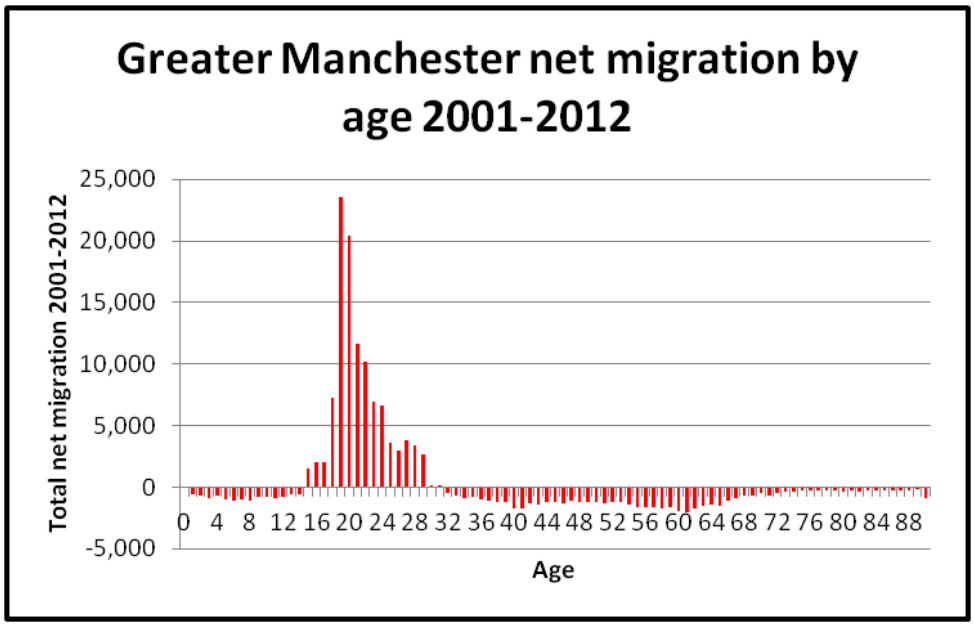
10.9 There is some variety in the age distribution of net-migration for these districts. Cheshire East, Chorley, High Peak, Rossendale and Warrington all have net in-migration for most ages under 18 and from 21 to early 50s, with a significant spike of net out-migration for ages 19-21. St Helens shares some of these characteristics, but with less extensive age ranges of net in-migration. Blackburn with Darwen's graph is quite similar to those for several of the Greater Manchester districts. Kirklees has a distinctive graph, but given the limited migration links with Greater Manchester this is unlikely to have implications for the sub-region.

10.10 One of the issues raised in relation to the net out-migration of certain age groups from Greater Manchester is the impact that this has on the skills base of the sub-region and therefore the prospects for economic growth. The next three graphs provide similar data to the previous ones but this time for Inner London, Outer London and Greater London as a whole, in order to provide a comparison with a global city that undoubtedly has a very strong economy that draws in skilled labour.




Net migration 2001-2012
Outer London
Total net migration by year of age
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88
Year of age

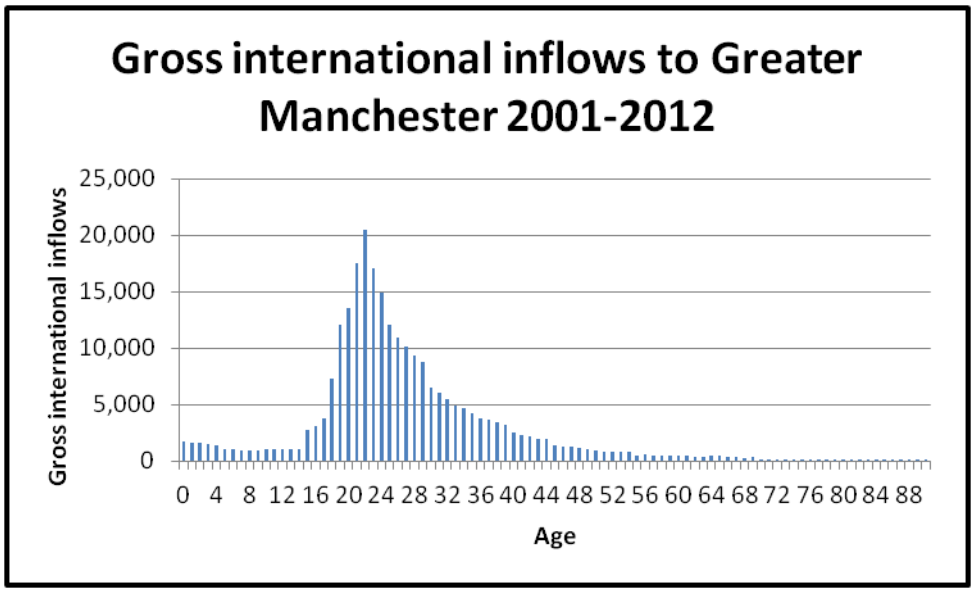

Net migration 2001-2012
Greater London
Total net migration by year of age
200,000
150,000
100,000
50,000
0
-50,000
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88
Year of age

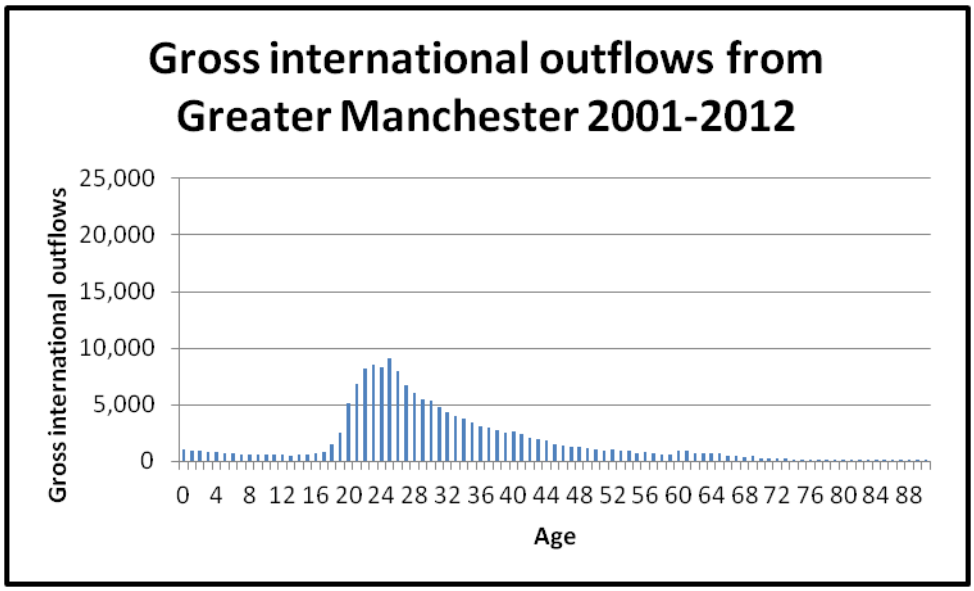

Greater Manchester net migration by age 2001-2012
Total net migration 2001-2012
25,000
20,000
15,000
10,000
5,000
0
-5,000
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88
Age

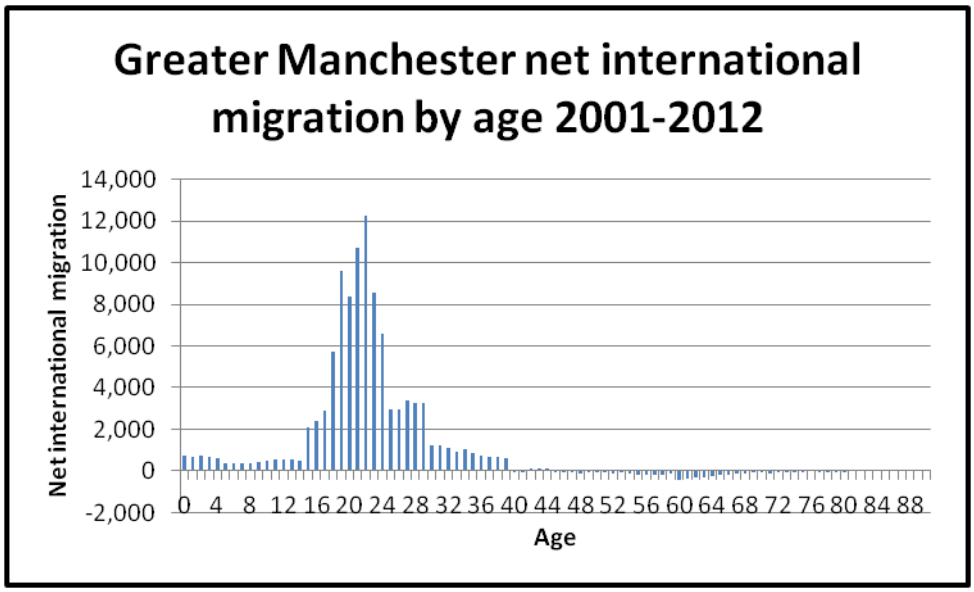
10.11 The general shape of the graph for Greater London is broadly similar to that for Greater Manchester, with net in-migration for all ages between 15 and 30, and net out-migration for all other age groups. Greater Manchester has its peak in-migration in the 19-20 age group, whereas Greater London's is in the 21-25 age group, which may reflect its ability to attract graduates from across the world. The largest net outflows for Greater London are the youngest children and people in their mid 30s, whereas Greater Manchester's highest net out-migration is people aged 60-61. Outer London generally has a similar pattern to Greater Manchester in terms of the age groups with out-migration, but has a huge outflow of people aged 19 and then large inflows of those in their early 20s. The graph for Inner London is largely a more extreme version of Greater London's.

10.12 This comparison suggests that the age distribution of Greater Manchester's net migration is not unusual for a major city, and is not inconsistent with delivering high levels of economic growth. In particular, the outflows of people aged over 30 and under 15 are similar to those seen in London. Districts outside the large conurbations are likely to be reliant on such migration to replenish their populations, particularly given the outflows of people in their late teens and early 20s that some of them see, as shown above in relation to the districts surrounding Greater Manchester. If those outflows from the conurbations were reduced then some other districts could struggle to maintain their populations and economic functions. The main difference between Greater Manchester and Greater London is the ability of the latter to attract very large numbers of people in their early 20s, and it is likely that a significant proportion of such people are highly qualified and economically active. The type and location of property that such people seek may be different to the population as a whole, and further analysis of this issue will be required.

10.13 The next three graphs show the age distribution of international migrants to and from Greater Manchester, in terms of gross inflows, gross outflows and net change.

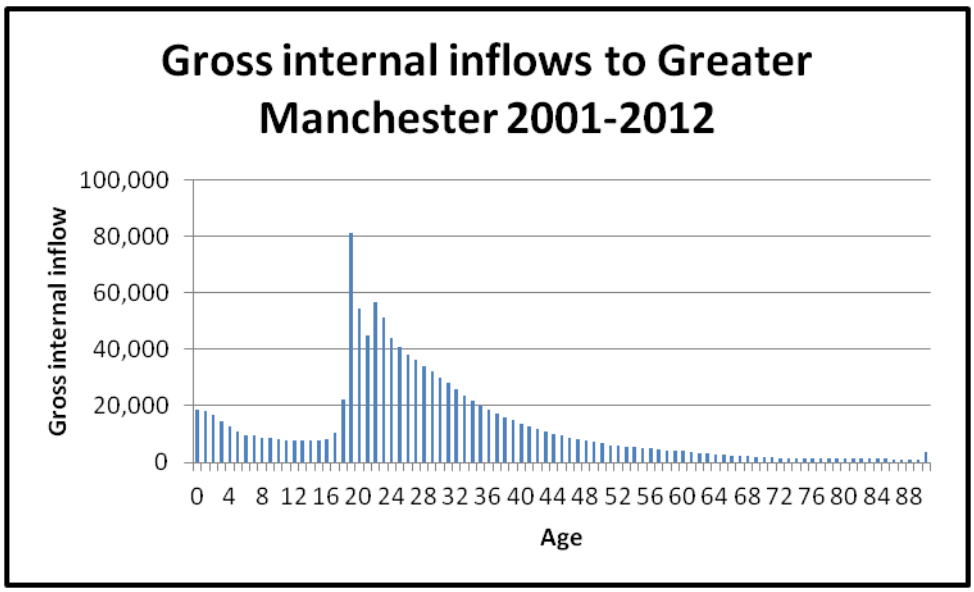

Gross international inflows to Greater Manchester 2001-2012
Gross international inflows
25,000
20,000
15,000
10,000
5,000
0
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88
Age

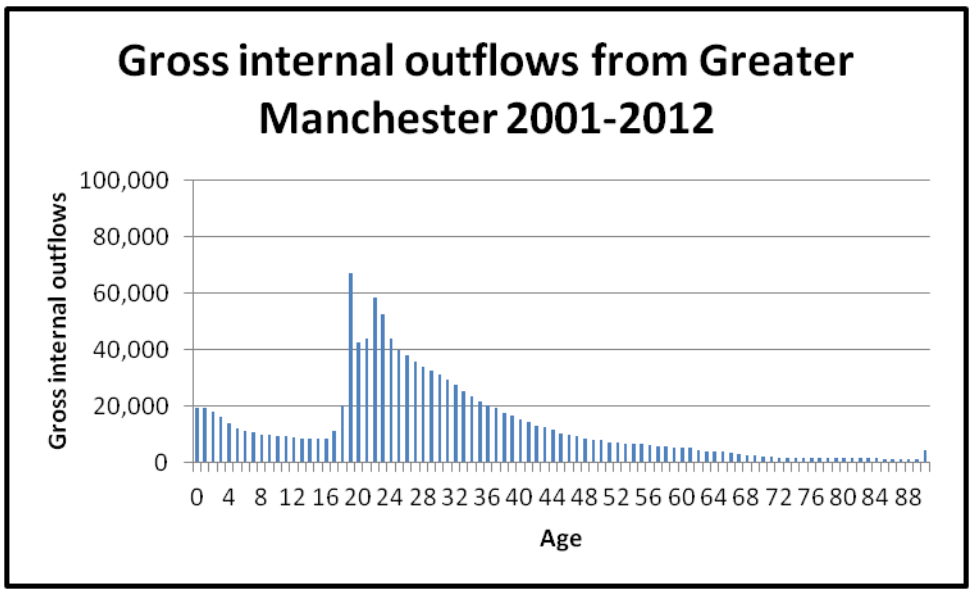

Gross international outflows from Greater Manchester 2001-2012
Gross international outflows
25,000
20,000
15,000
10,000
5,000
0
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88
Age

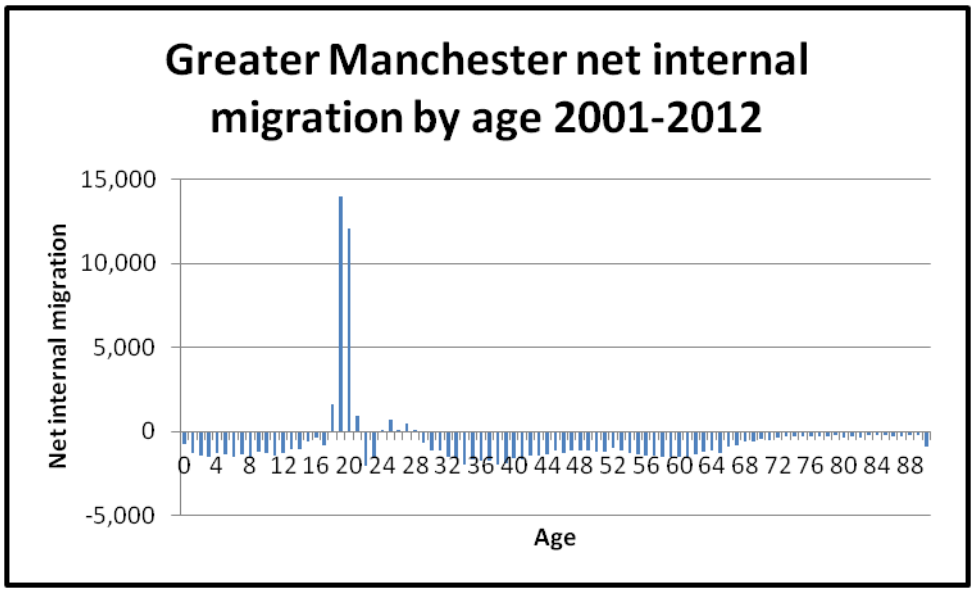

Greater Manchester net international migration by age 2001-2012
Net international migration
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
-2,000
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88
Age

10.14 The age distribution of the international migrants into and out of Greater Manchester is similar, with low levels in the younger ages rising to a peak in the early twenties, and then gradually tailing off to low levels from around the fifties, although the size of the peak is substantially less for the outflows. Despite the shape of the graphs for the gross flows being alike, there is still very significant net migration in certain age groups, particularly those in their early twenties.

10.15 The next three graphs show similar data for internal migrants (i.e. those within the UK).







10.16 As for international migration, the graphs for the gross inflows and gross outflows of internal migrants are similar to each other in shape. Once again there is a peak for those in their early twenties and then a gradual reduction moving through older age groups, but migration in the youngest age groups is more significant. In terms of net internal migration, there is net out-migration for most age groups, but very high positive net in-migration for those aged 19-20, which is likely to be largely the result of people moving to Greater Manchester to attend university.

10.17 Overall, migration flows to and from Greater Manchester, both internal and international, can be seen to be dominated by those in their late teens, twenties and early thirties. The comparison with Greater London suggests that the age distribution of net migration for Greater Manchester is typical of what might be expected for a successful conurbation, but there may be potential to attract and retain more people in their early 20s.

11. Affordable housing need

11.1 Paragraph 47 of the National Planning Policy Framework (NPPF) requires that local planning authorities should use their evidence base to ensure that their local plan meets the full, objectively assessed needs for market and affordable housing in the housing market area. The Government's Planning Practice Guidance (PPG) recommends that plan makers will need to estimate the number of households and projected households who lack their own housing or live in unsuitable housing and who cannot afford to meet their housing needs in the market (paragraph 2a-022-20140306). The PPG contains the methodology for calculating the level of affordable housing need.

11.2 The total affordable housing need should then be considered in the context of its likely delivery as a proportion of mixed market and affordable housing developments, given the probable percentage of affordable housing to be delivered by the market. The PPG suggests that an increase in the total housing figures included in the local plan should be considered where it could help to deliver the required number of affordable homes (paragraph 2a-029-20140306).

11.3 Work has been undertaken across Greater Manchester in accordance with the NPPF and associated guidance. Affordable housing has formed an important component of the supply of new housing in Greater Manchester over recent years and has been delivered primarily through two routes, the Affordable Homes Programme and the planning process via planning obligations.

11.4 New government policy, as announced in the Summer Budget 2015 and the Housing and Planning Bill published in October 2015, as well as the changes to the planning obligations system, has significant implications for the delivery of affordable housing through the planning system, and the future of the Affordable Homes Programme is uncertain. The decision announced in the Summer Budget 2015 to impose 1 per cent annual rent reductions in the social rented sector for four years from April 2016 will directly reduce social landlords' rental income, and therefore their financing for investing in new the building of new affordable homes. The Office for Budget Responsibility forecasts that the adjustment would be broadly consistent with reducing housebuilding by housing associations by around 4,000 in 2019-20, when the full effect of the policy on their rental income has been reached and that over the forecast period (2015-2021), assumptions suggest around 14,000 fewer 'affordable homes' will be built[51].

11.5 The Housing and Planning Bill introduces the intention to create a legal obligation on councils to provide 200,000 new starter homes. Starter homes are to be defined as a new building or part of a new building available for purchase by qualifying first-time buyers only, and so may not meet the affordable housing needs identified. The Government has indicated that it will

[51] Office for Budget Responsibility (July 2015) *Economic and fiscal* outlook, p.41-42

change the definition of affordable housing to include not just properties for rent but also starter homes. It is currently unclear as to what the impact of the starter homes duty will be, and the extent to which local authorities will be able to require rather than simply encourage the provision of affordable housing for rent or shared ownership in order to meet their identified needs.

11.6 Given these uncertainties it is not considered appropriate to apply any uplift to the objectively assessed need for housing. If it is no longer possible to require the provision of affordable housing in the form of homes for social rent, affordable rent and/or shared ownership, and developers instead have the option of providing starter homes, then increasing the overall housing requirement would offer no guarantee that additional homes able to meet the identified affordable needs would be provided. This approach will be kept under review as more information is made available and the implementation of the starter homes proposals becomes clearer.

12. Conclusions on objectively assessed housing need

12.1 The ONS population projections and DCLG household projections take into account recent trends in migration and household formation, and produce methodologically consistent figures across the country. They therefore provide the most appropriate basis for planning if it is considered that the continuation of past trends is likely and appropriate.

12.2 If it is thought that recent past trends are not indicative of what is likely or should occur in the future, then population and household scenarios based on alternative assumptions may be appropriate. Any alternative population scenarios would be expected to have implications for districts outside Greater Manchester, for example in terms of reduced in-migration or increased out-migration, which could negatively impact on those areas, but it is not possible to precisely quantify this for any individual district without undertaking a very complex and extensive demographic modelling process.

12.3 The various population scenarios produced using Popgroup all essentially assume that absolute average levels of migration in the recent past are a better indicator of future population change than the trend-based figures produced by ONS that take more account of how levels are changing over time. It would normally be expected that a trend-based figure should be more indicative of future population change than one based on simple averages, provided that it is considered that those trends are likely to continue or indeed that it is appropriate for them to do so. Thus, the starting point should normally be to use the ONS/DCLG figures that are consistent across the country.

12.4 The average net migration projected by ONS for Greater Manchester over the period 2012-2035 appears low when compared to the average figures for the last decade, but it is slightly above the average since 1991, even when an allowance is made for the unattributable population change between the last two censuses. As the earlier section on labour supply shows, the population growth in the ONS projections would be sufficient to support strong economic growth above the national average growth rate. It may be expected that economic success would promote in-migration, but this would not be necessary to deliver Greater Manchester's economic ambitions.

12.5 The analysis of the unattributable population change (UPC) from between the last two censuses suggests that alterations to the recording of international migration, and the updating of mid-year estimates back to 2006 in light of this, mean that not only is UPC much less likely to occur in the future but also the past UPC that is associated with international migration would be expected to have been concentrated in the period 2001-2006. Thus, since the ONS 2012-based sub-national population projections utilise international migration trends for the period 2006-2012, even if part of the UPC was specifically assigned to international migration, it would have limited impact on those trends and therefore on the projection. Consequently, the population scenarios that alter estimated international migration flows to make an allowance for

unattributable population change would appear to be less likely to accurately forecast future population change than those that do not, and would be expected to result in a significant overestimate of population growth.

12.6 The analysis of household representative rates suggests that the DCLG 2012-based sub-national household projections are likely to provide the most accurate forecast of future household formation. A return to the rates used in the DCLG 2008-based household projections would seem improbable given the evidence available.

12.7 As a result, it is considered that the ONS 2012-based sub-national population projections and the household representative rates from the DCLG 2012-based sub-national household projections provide the most appropriate starting point for estimating future population change. However, there is no doubt that the level of net international migration to the UK over the first two years of the projection period has been significantly above the levels identified in the ONS projections, and this will inevitably filter down to increased levels of growth for at least some districts. Although the Government's stated ambition is to reduce net international migration, and forecasters generally appear to agree that this is likely in the longer term, it would seem possible that in the short term there will be limited change in net levels of international migration to the UK. The proposed UK referendum on EU membership, which is scheduled to be held by the end of 2017, may mark a turning point either because of a different relationship with the rest of the EU or due to negotiations resulting in actions that reduce migration into the UK from other parts of Europe. The relative strength of the UK economy, which has probably promoted higher than expected levels of net international in-migration over the last few years, is likely to be tempered in the medium term as the economies of other countries finally recover from the global economic crisis, potentially reducing international inflows to the UK. Thus, higher than projected international inflows to Greater Manchester may be expected in the short term, before returning to the levels projected by the ONS in the medium/long term.

12.8 On this basis, **scenario 8A** (10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates) is considered to be the most appropriate household forecast to feed into the calculation of the objectively assessed housing need for Greater Manchester and its individual districts, being primarily based on the ONS and DCLG 2012-based projections, but taking into account the likely higher levels of international migration in the earlier years of the forecast period than has been assumed by ONS. Once net dwelling additions over the period 2012-2014 have been take into account, this would suggest a net housing requirement for Greater Manchester of approximately 10,350 dwellings per annum over the period 2014-2035, leading to a total increase of 217,350 dwellings, which equates to an 18.4% increase or dwelling growth of 0.81% per annum.

12.9 The discussion of market signals highlights the difficulties of identifying whether key indicators are changing because of a shortage of housing supply or due to other factors such as a major recession, constrained mortgage

availability and a risk-averse development industry. Notwithstanding these difficulties, there appears to be little evidence of worsening market signals within Greater Manchester. This is particularly the case in recent years, despite housing completions having been relatively low, and when market signals have worsened in the past, such as the rapid increase in house prices in the early 2000s, this would appear to be the result of cheap credit and speculative activity as there was a parallel increase in dwelling completions. Consequently, it is not considered that there is sufficient evidence from market signals to suggest that it would be appropriate to apply an uplift to housing numbers based on scenario 8A.

12.10 It is therefore concluded that **the objectively assessed housing need for Greater Manchester over the period 2014-2035 is 217,350 net additional dwellings, which equates to an average of 10,350 net additional dwellings per annum or a rate of dwelling increase of 0.81% per annum**.

12.11 This level of housing growth would appear to be quite high historically, supporting a similar rate of household growth to that seen over the period 2001-2011, which was last exceeded in 1931-1951. It represents a significant uplift compared to the 0.70% increase in dwellings over the period 2002-2012, which was itself high compared to the previous few decades.

12.12 In the longer term, consideration will need to be given to whether it is realistic or desirable to maintain this growth rate in the number of dwellings. If the number of dwellings in Greater Manchester continued to increase at a rate of 0.81% per annum beyond 2035 then there would be one-third more dwellings than in 2014 by 2050, 50% more by 2065, and double by the end of the century.

13. Type of housing

13.1 The national Planning Practice Guidance states that:

"Once an overall housing figure has been identified, plan makers will need to break this down by tenure, household type (single, couples and families) and household size. Plan makers should therefore examine current and future trends of:

- the proportion of the population of different age profile;
- the types of household (eg singles, couples, families by age group, numbers of children and dependents);
- the current housing stock size of dwellings (eg one, two+ bedrooms);
- the tenure composition of housing." (paragraph 2a-021-20140306)

13.2 The DCLG household projections are released in two stages, with the more detailed estimates of household type only being available in the second stage. Only the first stage of the DCLG 2012-based sub-national household projections has been released thus far, and so there is limited data available on household type to inform decisions on the appropriate mix of housing types that are required. Nevertheless, it is possible to identify the projected number of single person households from the first stage of the projections, as shown in the table below.

	DCLG 2012-based sub-national household projections				
	% of households that are single person		Change in households 2012-2035		
	2012	2035	Single person	All households	% single person
Bolton	18.28	24.77	12,748	20,754	61.42
Bury	17.58	24.45	8,352	12,033	69.41
Manchester	36.08	43.43	36,648	49,193	74.50
Oldham	17.32	23.39	8,979	14,955	60.04
Rochdale	18.78	24.95	7,862	9,756	80.59
Salford	26.74	35.42	19,073	28,107	67.86
Stockport	17.12	23.75	12,711	19,308	65.83
Tameside	18.94	25.59	10,933	17,832	61.31
Trafford	18.44	25.18	11,537	20,245	56.99
Wigan	15.75	22.99	14,809	21,200	69.85
Greater Manchester	21.87	29.04	143,652	213,383	67.32

13.3 The total proportion of single person households in Greater Manchester is expected to increase from less than 22% to just over 29%. The highest proportions will continue to be in Manchester and Salford, with reasonably similar levels in the other eight districts both in 2012 and projected in 2035.

13.4 More than two-thirds of the projected household growth in Greater Manchester over the period 2012-2035 is expected to consist of single person

households, and the proportion exceeds 55% in every individual district. Single person households account for the highest proportions of household growth in Rochdale and Manchester, and the lowest in Trafford, Oldham, Tameside and Bolton. The largest absolute increases in single person households are expected in Manchester and Salford, with the lowest absolute increase in Rochdale despite it being the highest as a proportion of total district household growth.

13.5 Further analysis will be undertaken once more detailed household type data is available from the latest DCLG projections, and this will form part of a more comprehensive discussion relating to the type and tenure of housing required in Greater Manchester.

13.6 At this stage, the above projections suggest that household growth in Greater Manchester, and in each district, will be dominated by small households. Although some one or two person households will want or require larger dwellings, the greatest increase in demand is likely to be for smaller dwellings rather than for what might be termed ‘family’ dwellings. This will have implications both for the type and location of new housing that needs to be brought forward in Greater Manchester.

14. Supply capacity

Total identified supply

14.1 The ten local authorities have provided data on their estimated housing land supply for the period 2014-2035, in terms of the number of dwellings on specific sites, as shown below. The sites within this supply are considered by the local authorities to be developable and deliverable, and broadly compliant with existing planning policies. The precise methodology that has been used for calculating their housing land supply may vary between districts. In particular, some would also make an additional allowance for other sites not specifically identified, especially small sites falling below a size threshold used in collecting the data, and so the supply shown below could be an underestimate of what may be available. It should also be noted that, as the economy continues to recover, the densities of some housing developments are increasing, particularly in and around the city centre. Consequently, when districts update their housing land supplies next year, the total supply could increase by several thousand without utilising any additional open land.

	Housing supply (net additional dwellings 2014-2035)		
	Total dwellings	Total houses	Total apartments
Bolton	11,132	9,377	1,755
Bury	5,105	3,423	1,682
Manchester	43,133	10,431	32,702
Oldham	8,329	6,627	1,702
Rochdale	8,902	7,874	1,028
Salford	29,384	8,769	20,615
Stockport	5,621	3,698	1,923
Tameside	8,807	6,825	1,982
Trafford	9,918	4,084	5,834
Wigan	22,453	21,538	915
Greater Manchester	152,784	82,646	70,138

14.2 The table below calculates the supply surplus or shortfall for each district under each of the dwelling scenarios discussed earlier, based on the above supply data. Scenario 8A, which represents the objectively assessed housing need, is shown in bold.

Scenario		Dwelling supply surplus (positive)/shortage (negative) 2014-2035					
		Greater Man-chester	Bolton	Bury	Man-chester	Oldham	Roch-dale
1A	2012-based population projections with 2012-based headship rates	-60,571	-9,540	-6,902	-6,565	-6,569	-411
1B	2012-based population projections with return to 2008-based headship rates	-101,287	-12,799	-9,310	-20,490	-10,084	-1,512
2A	10-year average internal migration rates with 2012-based headship rates	-26,253	-7,028	-6,304	9,801	-5,629	191
2B	10-year average internal migration rates with return to 2008-based headship rates	-65,769	-10,154	-8,723	-3,277	-9,110	-920
3A	10-year average international migration	-74,487	-11,512	-7,110	-17,585	-5,024	-350

	flows with 2012-based headship rates						
3B	10-year average international migration flows with return to 2008-based headship rates	-116,672	-14,861	-9,540	-32,515	-8,548	-1,510
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates	-107,463	-16,462	-6,849	-29,015	-6,481	-3,707
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates	-150,882	-19,905	-9,218	-44,712	-10,200	-4,956
5A	10-year average internal and international migration flows with 2012-based headship rates	-106,725	-10,154	-3,733	-72,957	-3,176	3,731
5B	10-year average internal and international migration flows with return to 2008-based headship rates	-152,361	-13,479	-6,155	-91,917	-6,678	2,700
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates	-150,723	-16,686	-2,662	-92,112	-5,876	-1,371
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates	-198,316	-20,157	-4,930	-112,396	-9,679	-2,555
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates	-93,193	-14,444	-6,643	-17,807	-7,969	-3,721
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates	-135,221	-17,802	-8,999	-32,534	-11,679	-4,917
8A	**10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates**	**-64,528**	**-10,182**	**-6,960**	**-9,633**	**-6,056**	**-414**
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates	-105,481	-13,446	-9,373	-23,710	-9,582	-1,528
9	2014 GMFM	19,242	-79	-3,079	-2,601	3,847	5,303
Scenario		Dwelling supply surplus (positive)/shortage (negative) 2014-2035					
			Salford	Stock-port	Tame-side	Trafford	Wigan
1A	2012-based population projections with 2012-based headship rates		1,297	-13,620	-8,919	-10,714	1,373
1B	2012-based population projections with return to 2008-based headship rates		-26	-18,002	-11,388	-16,268	-1,409
2A	10-year average internal migration rates with 2012-based headship rates		7,361	-10,791	-7,175	-7,313	633
2B	10-year average internal migration rates with return to 2008-based headship rates		6,115	-15,138	-9,638	-12,730	-2,193
3A	10-year average international migration flows with 2012-based headship rates		-463	-14,061	-8,534	-12,266	2,418
3B	10-year average international migration flows with return to 2008-based headship rates		-1,868	-18,525	-11,058	-17,900	-347
4A	10-year average international migration flows, and unattributable population change, with 2012-based headship rates		-743	-11,984	-10,385	-17,356	-4,481
4B	10-year average international migration flows, and unattributable population change, with return to 2008-based headship rates		-2,045	-16,335	-12,927	-23,277	-7,307
5A	10-year average internal and international migration flows with 2012-based headship rates		-9,071	-4,644	-3,307	-8,464	5,050
5B	10-year average internal and international		-10,641	-8,828	-5,726	-13,968	2,330

	migration flows with return to 2008-based headship rates						
6A	10-year average internal and international migration flows, and unattributable population change, with 2012-based headship rates		-6,391	-1,052	-5,368	-15,575	-3,629
6B	10-year average internal and international migration flows, and unattributable population change, with return to 2008-based headship rates		-7,732	-5,007	-7,784	-21,632	-6,444
7A	10-year unattributable population change plus ONS international flows, with 2012-based headship rates		990	-11,599	-10,765	-15,778	-5,456
7B	10-year unattributable population change plus ONS international flows, with return to 2008-based headship rates		-238	-15,872	-13,256	-21,620	-8,303
8A	**10-year average international flows to 2019, return to ONS flows by 2023, with 2012-based headship rates**		**834**	**-13,784**	**-8,806**	**-11,202**	**1,675**
8B	10-year average international flows to 2019, return to ONS flows by 2023, with return to 2008-based headship rates		-495	-18,179	-11,283	-16,766	-1,118
9	2014 GMFM		8,469	-6,880	2,057	30	12,174

14.3 Scenario 9 (2014 GMFM) is the only one in which Greater Manchester as a whole has a sufficient supply of identified site to meet the housing requirement. The supply shortfall in the other options varies from 26,000 in scenario 2A to 198,000 in scenario 6B, with the latter being larger than the total supply that has currently been identified. The shortfall in scenario 8A, which has been identified as the objectively assessed housing need, is around 64,550 and this is more than three-quarters of the total number of dwellings currently in the district of Bury (82,180 in 2014, according to DCLG live table 125).

14.4 In terms of individual districts, Wigan has a supply surplus under seven of the 17 scenarios, although its shortfall exceeds 8,000 under scenario 8B, Salford has a surplus in five scenarios and Rochdale in four. Several districts have shortfalls exceeding their existing identified supply in some of the scenarios, with Manchester's shortfalls being over 50,000 under four of the scenarios. In terms of the objectively assessed housing need in scenario 8A, only Wigan and Salford have an identified supply surplus, and Rochdale has a small shortage. Bolton, Stockport and Trafford each have supply shortages exceeding 10,000 under scenario 8A.

Type of supply

14.5 A detailed analysis of dwelling type and tenure will be undertaken at the next stage. However, a simple comparison can be made between the mix of houses and apartments in the identified supply, and the mix of single and non-single households in the DCLG 2012-based sub-national household projections, as shown below.

	Comparison of projected increase in household types and dwelling supply

	DCLG projected increase in households 2012-2035		Housing supply identified by districts 2014-2035	
	Non-single	Single	Houses	Apartments
Bolton	8,006	12,748	9,377	1,755
Bury	3,681	8,352	3,423	1,682
Manchester	12,545	36,648	10,431	32,702
Oldham	5,976	8,979	6,627	1,702
Rochdale	1,894	7,862	7,874	1,028
Salford	9,034	19,073	8,769	20,615
Stockport	6,597	12,711	3,698	1,923
Tameside	6,899	10,933	6,825	1,982
Trafford	8,708	11,537	4,084	5,834
Wigan	6,391	14,809	21,538	915
Greater Manchester	69,731	143,652	82,646	70,138

14.6 As noted earlier, it is a simplification to assume that all single people will live in one or two-bedroom apartments, and all larger households will live in houses. Nevertheless, a comparison of the projected increase in non-single person households and the supply of new houses provides a broad indication of whether there is a likely to be a shortfall in this type of accommodation or if apartments could potentially fill any supply gap. It should be noted that part of the increase in households will already have been accommodated, as the household projections have a base date of 2012 whereas the supply covers the period from 2014.

14.7 Across Greater Manchester as a whole, the identified potential supply of houses would be more than enough to accommodate the projected increase in non-single person households. This ‘surplus’ is wholly accounted for by Wigan, with the projected increase in non-single person households slightly exceeding the supply of additional houses across the rest of Greater Manchester. Rochdale also has a significant surplus when comparing the projections and supply. Most of the other districts are reasonably well-balanced in terms of the projected increase in non-single person households and the supply of additional houses, but there is potentially a considerable shortfall in Trafford, Stockport and Manchester.

14.8 The projected increase in single person households is around double the identified supply of additional apartments, and Salford is the only district where the new apartment supply is higher than the projected increase in single person households. This suggests that any supply gap is likely to largely relate to smaller dwellings, though not necessarily apartments. However, there may be a need for a reasonably significant uplift in the identified supply of additional houses in a few districts focused in the south of Greater Manchester.

14.9 It will also be important to consider the age of the single person households, and whether this could impact on the type of housing that they need or want.

The majority of the growth is projected to be in the middle age groups, with around 13% aged less than 35, 64% aged 35-64, and 23% aged 65 or over.

Increasing the supply

14.10 There are essentially two ways in which the supply of dwellings could be increased:

1) Make better use of sites already identified as being suitable for housing, by securing higher densities
2) Identify additional sites for housing development

Increase densities

14.11 Many of the assumptions in the district land supply data are informed by recent trends in housing, which has included a move towards lower density developments due to perceived relative levels of risk. However, there is evidence that densities are beginning to increase again, particularly within the most accessible locations. Although this has been taken into account to some extent in the land supply data, there is likely to be considerable scope for further density increases in some locations.

14.12 The potential for increasing densities will vary considerably depending on the location, context and planning status of a site. Around 30% of the sites in the identified supply have planning permission, and although some developers may seek to renew these permissions with increased densities, many of them may be implemented at their current densities.

14.13 The location of some sites may make them unsuitable for higher densities, particularly if they have very limited public transport accessibility. The design context may also impact on the ability to deliver increased densities, for example limiting appropriate heights or massing. The need to accommodate other uses on sites, such as open space, schools and infrastructure, could also act as a restriction on the ability to accommodate additional dwellings.

14.14 Regard will also need to be had to the overall mix of housing that comes forward within Greater Manchester and individual districts, and whether it will be capable of meeting the needs of the forecast types of household.

14.15 Given the importance of delivering a very significant modal shift towards walking, cycling and public transport, and the need to minimise increases in car use, the focus for increasing densities will be in and around the city centre and town centres, and in other locations with excellent public transport accessibility.

Identify additional sites

14.16 The emerging strategy for the Greater Manchester Spatial Framework places a very strong emphasis on the importance of green infrastructure within the urban area. Consequently, it is unlikely that urban greenspaces could make any contribution to increasing the supply of housing beyond that already identified.

14.17 The main opportunities for additional housing land supply within the urban area are likely to be employment sites, both in terms of those with an existing employment use and allocations for new employment provision that have not been implemented. Some districts have already included quite extensive areas of existing employment uses within their housing land supply, but there may be additional opportunities in some locations, particularly where there is a large supply of low quality business premises. This will have to be balanced against the need to ensure a good supply of cost-effective accommodation for businesses.

14.18 The amount of new employment floorspace that is provided is also likely to impact on the amount of existing employment floorspace that it is possible and appropriate to redevelop for housing, and on how many existing employment land allocations need to be retained. The redevelopment of existing employment sites and premises raises a number of challenges, such as land assembly, potential contamination, and possible conflicts with remaining employment uses, and these may limit the amount of additional housing supply that can be realistically delivered through this source.

14.19 Most of the land in Greater Manchester outside the urban area is designated as green belt. Some districts have quite significant areas of land outside the urban area that have a lower level of policy protection than green belt, which may for example be referred to as protected open land or safeguarded land. The Government places a very strong emphasis on protecting the green belt, and it will only be appropriate to release sites within the green belt for housing in exceptional circumstances. Although sites outside the urban area may appear more developable because they are perceived as a blank canvas, they often face environmental and infrastructure constraints that could impact on the realism and appropriateness of bringing them forward.

Key principles for identifying locations for additional housing

14.20 As part of the consultation on the Greater Manchester Spatial Framework, people are being asked to put forward additional sites that they think could contribute to the provision of new housing or employment floorspace over the next two decades.

14.21 A separate consultation on the Greater Manchester Spatial Framework Integrated Assessment Scoping Report has recently taken place. The integrated assessment will be used to assess the sustainability of different options for bringing forward additional land for housing. The assessment covers the full range of sustainability issues, incorporating a variety of environmental, social and economic objectives. Notwithstanding this, there

will be some particularly important considerations that should guide the identification of additional locations for bringing forward new housing.

Supporting regeneration

14.22 The regeneration of existing neighbourhoods will continue to be a key priority for Greater Manchester throughout the next few decades. The redevelopment for housing of previously-developed land within the urban area provides an opportunity to secure investment to support that regeneration.

Accessibility

14.23 A major modal shift to more sustainable modes of transport, such as walking, cycling and public transport, is a central part of the strategy for Greater Manchester. It will be vital to supporting economic growth and making Greater Manchester a more attractive place to live, as well as supporting health improvements and helping to deliver key environmental objectives such as enhancing air quality and reducing greenhouse gas emissions.

14.24 All new housing locations must therefore have high levels of public transport accessibility, or be capable of securing such levels as part of their development, having regard to the probable capacity of public transport provision in the long-term. Given the likely availability of funding for new major public transport infrastructure, this will be a key constraint on the suitability of many sites for housing.

Location of housing relative to employment opportunities

14.25 One of the most effective ways of reducing the need to travel and minimising congestion will be to ensure that new housing is well-located relative to the main concentrations of employment opportunities, both locally within individual districts and across Greater Manchester as a whole. The 2014 GMFM forecasts that the proportion of Greater Manchester's jobs that are in Manchester and Salford will increase from 36.4% to 39.7% over the period 2012-2035, and an even greater concentration in the conurbation core might be expected under any accelerated growth scenario as this would be driven in large part by activities related to the city centre.

14.26 A significant proportion of new housing should therefore have easy access to the city centre, with the remainder relating well to other major employment locations such as the main town centres. Enabling people to live and work in the same area would have particular benefits in sustainability terms, and so locations in and around the city centre and town centres will be a priority.

Broad distribution of growth

14.27 It will be important to ensure that all parts of Greater Manchester have a positive function in the long-term, and securing investment in new housing will be one component of this. A concentration of new housing in and around the central areas of Greater Manchester will be desirable for the reasons set out above, but there will be benefits in ensuring that housing growth across the rest of the sub-region is reasonably well distributed, so that all places benefit from new investment. Focusing housing on one side of Greater Manchester could lead to excessive pressures on infrastructure and the environment in

certain locations. In particular, the advantages of a strong centre with a reasonably even distribution of town centres and neighbourhoods around it could be reduced, with increasing demands for travel along a smaller number of routes.

Creating sustainable communities

14.28 New housing sites will need to relate well to existing neighbourhoods, enabling them to be integrated into existing communities rather than sitting in isolation, and enhancing rather than detracting from or watering down their identity. Design will clearly be important in this regard, as will investment in additional infrastructure, services and facilities as required, but it also raises wider issues relating to the location of new housing. New housing sites that would effectively function separately from existing neighbourhoods will only be appropriate where they would be of sufficient scale to sustain adequate facilities on their own.

Environmental constraints

14.29 A wide range of environmental considerations will need to be taken into account in determining whether individual sites are appropriate for housing. Wherever possible, it will be necessary to avoid areas of high value in terms of nature conservation, landscape, agricultural land or heritage, as well as locations that may be at high risk of flooding.

15. Identifying district housing requirements

15.1 The identification of an objectively assessed housing need is the starting point for identifying housing requirements for each of the ten districts in Greater Manchester.

15.2 As noted in the previous section, there is a shortage of housing land supply across Greater Manchester as a whole in all of the dwelling scenarios other than the 2014 GMFM (scenario 9), including scenario 8A which represents the objectively assessed housing need. The picture is more varied for individual districts, but most have a supply shortage in the majority of the scenarios, and only Wigan and Salford have a surplus in scenario 8A. The availability of sustainable and deliverable sites will determine whether it is appropriate to meet the identified objectively assessed housing need, both in terms of individual districts and Greater Manchester as a whole.

15.3 Paragraph 14 of the National Planning Policy Framework (NPPF) states that:

"Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change, unless:
- any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or
- specific policies in this Framework indicate development should be restricted."[52]

15.4 Footnote 9 of the NPPF, which is related to the last clause above, says:

"For example, those policies relating to sites protected under the Birds and Habitats Directive (see paragraph 119) and/or designated as Sites of Special Scientific Interest; land designated as Green Belt, Local Green Space, an Area of Outstanding Natural Beauty, Heritage Coast or within a National Park (or the Broads Authority); designated heritage assets; and locations at risk of flooding or coastal erosion."

15.5 Consequently, if the only way of meeting the objectively assessed need conflicted with the aforementioned policies in the NPPF, then a decision would need to be made as to whether the benefits of providing the additional housing outweighed the conflict with the NPPF. Given the supply shortage in relation to the objectively assessed housing need, it is probable that the identified need could only be met by releasing some Green Belt land within Greater Manchester.

15.6 It may be appropriate to seek to 'redistribute' housing requirements between districts within Greater Manchester. Depending on the location of suitable housing sites, this may be the only way of ensuring that the supply of housing land is consistent with the NPPF. For example, there may be previously-

[52] Department for Communities and Local Government (March 2012) *National Planning Policy Framework*

developed sites in one district that could be used to help meet the housing need in an adjoining district rather than having to release Green Belt in that district. The redistribution of housing requirements may also help to support the overall strategy in the Greater Manchester Spatial Framework, for example in terms of providing a better relationship between the location of new homes and employment opportunities, minimising the need to travel, and maximising the opportunities for people to walk, cycle and use public transport. If such an approach is proposed, then care will need to be taken that the moving around of housing need in this way is realistic, and that demand will manifest in the locations to which it is being directed.

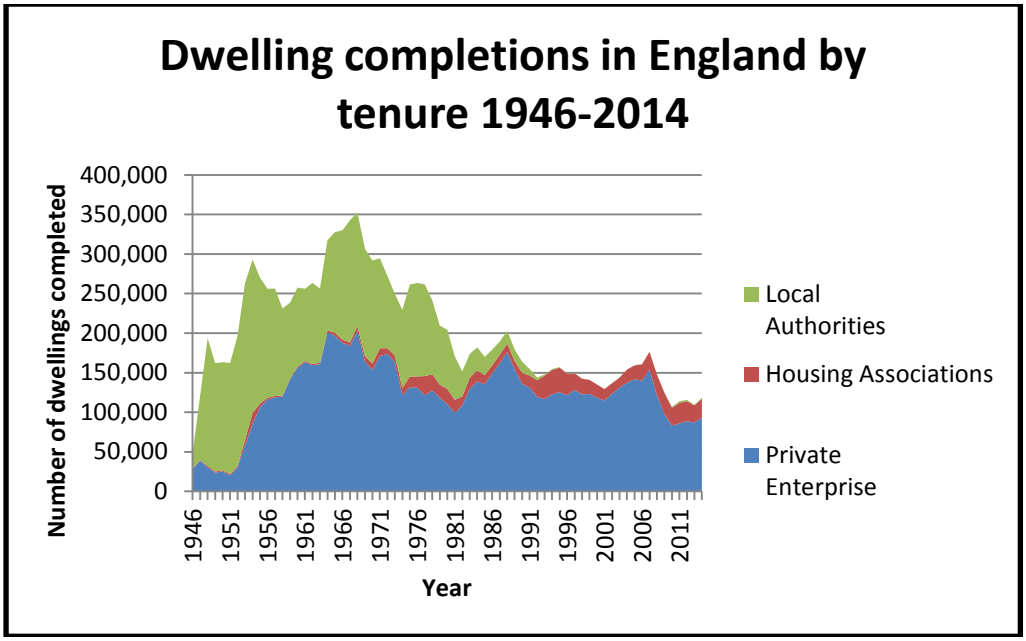
15.7 In accordance with the overall vision for the sustainable growth of Greater Manchester, every effort will be made to accommodate the objectively assessed housing need within the sub-region. However, if it is ultimately determined that this is not possible then consideration will need to be given as to whether any districts adjoining Greater Manchester could accommodate part of the unmet housing need. This will require discussions within individual districts.

15.8 Regard should also be had to whether there is any unmet need that has been identified in districts adjoining Greater Manchester that could potentially be accommodated within Greater Manchester. If this could only be achieved through the release of part of the Greater Manchester Green Belt then it is very unlikely to be considered appropriate or compliant with the National Planning Policy Framework.

Market capacity

15.9 Whatever approach is taken to the proposed scale and distribution of new housing across Greater Manchester, it must be deliverable. Otherwise, the vision of the Greater Manchester Spatial Framework will not be achieved.

15.10 One aspect of this deliverability is whether developers will build the number of dwellings required in the locations that have been identified. The graph below shows the number of dwellings completed in England each year since 1946, split by tenure.



15.11 The contribution of the private sector has been reasonably consistent over recent decades, and the scale of housebuilding that many commentators suggest is required at the national level, often above 200,000 per annum, has generally only been achieved when there has been very significant public sector investment. The private sector has not filled the perceived gap in supply, even when there have been favourable economic conditions. Private sector developers often suggest that this is due to the lack of appropriate sites, in part due to planning policy. However, it may also be in the interest of individual developers to manage the supply of new housing in order to maximise their profits and minimise their risk exposure, which cumulatively across the industry would seem likely to lead to an undersupply that ensures demand is maintained rather than an oversupply that could leave unsold dwellings on the books.

15.12 Consequently, new mechanisms may be required for delivering new housing and the associated infrastructure required to support it, complementing the business model that private sector developers currently employ. Given the level of infrastructure investment that may be required to support development in some locations, this may require methods of capturing land values that are not currently used in Greater Manchester, such as those similar to New Town powers.

Source of migrants

15.13 Another aspect of the extent to which any proposed scale and distribution of housing can be delivered is whether the locations that are identified can attract and retain residents. This will be a particularly important consideration if some redistribution of housing requirements is proposed compared to the underlying objectively assessed housing need.

15.14 In the ONS 2012-based sub-national population projections, the majority of projected population growth in Greater Manchester is due to natural growth. However, the absolute flows of migrants are substantial, typically around 85,000 or above in terms of flows into Greater Manchester per annum. In the various population scenarios generated using Popgroup, migration is an even more significant component of population change.

15.15 If Greater Manchester is reliant to some extent on in-migration to provide sufficient labour to support its economic growth, then it is important to consider which locations within the sub-region are most capable of attracting migrants from outside Greater Manchester. The table below shows the 25 wards in Greater Manchester that have the highest proportions of people who have moved to an address within the ward that have come from outside the sub-region, based on 2011 Census data, and the 25 wards that have the lowest proportions.

Proportion of migrants coming from within Greater Manchester (2011 Census)					
Wards with lowest proportion of migrants coming from within Greater Manchester			Wards with highest proportion of migrants coming from within Greater Manchester		
Ward	District	%	Ward	District	%
Fallowfield	Manchester	53.25	Waterhead	Oldham	93.70
City Centre	Manchester	53.86	Royton North	Oldham	93.65
Hulme	Manchester	55.25	Hollinwood	Oldham	93.55
Ardwick	Manchester	58.29	St James'	Oldham	93.06
Ordsall	Salford	63.68	Ashton Waterloo	Tameside	92.78
Orrell	Wigan	64.56	West Middleton	Rochdale	92.71
Irwell Riverside	Salford	65.07	West Heywood	Rochdale	92.32
Rusholme	Manchester	66.78	Harper Green	Bolton	92.31
Levenshulme	Manchester	68.29	Denton South	Tameside	92.22
Hale Central	Trafford	69.41	East Middleton	Rochdale	92.18
Shevington with Lower Ground	Wigan	70.73	North Middleton	Rochdale	92.18
Langworthy	Salford	70.89	Werneth	Oldham	92.08
Bramhall North	Stockport	72.59	Medlock Vale	Oldham	92.04
Longsight	Manchester	72.80	Failsworth West	Oldham	91.96
Didsbury West	Manchester	73.36	Shaw	Oldham	91.96
Ramsbottom	Bury	73.39	Droylsden West	Tameside	91.82
Bramhall South	Stockport	73.44	Royton South	Oldham	91.79
Heald Green	Stockport	73.49	Droylsden East	Tameside	91.78
Didsbury East	Manchester	73.85	Hopwood Hall	Rochdale	91.67
Altrincham	Trafford	73.85	Radcliffe East	Bury	91.65
Golborne and Lowton West	Wigan	73.98	Saddleworth West and Lees	Oldham	91.63
Moss Side	Manchester	74.14	Failsworth East	Oldham	91.61
Marple South	Stockport	74.17	Little Hulton	Salford	91.38
Ancoats and Clayton	Manchester	74.39	Dukinfield Stalybridge	Tameside	91.36
Bowdon	Trafford	74.40	Denton North East	Tameside	91.26

15.16 The ward with the highest proportion of migrants coming from outside Greater Manchester is Fallowfield in Manchester, which is likely to be largely a result of it being the major focus for university students in Greater Manchester. The next three highest levels of in-migration from outside Greater Manchester are also for wards in Manchester, consisting of the City Centre ward and the two wards to its immediate south (Hulme and Ardwick). These four Manchester

wards are the only ones in Greater Manchester that have more than 40% of those moving to an address within them coming from outside the sub-region.

15.17 There are then six wards that attract more than 30% of migrants from outside Greater Manchester. Two of these are again located in Manchester to the south of the city centre, namely Rusholme and Levenshulme (which are also just to the east of Fallowfield). Two of them are located in the south-east of Salford, incorporating part of the city centre, Salford Quays and immediately adjoining neighbourhoods. The other two wards are on the edge of Greater Manchester, in Wigan and Trafford, where significant flows in and out of the sub-region might be expected as a result of their geographical relationship with settlements outside Greater Manchester.

15.18 A further five wards in south Manchester, between the city centre and the M60, are included in the list of wards attracting the highest proportions of migrants from outside Greater Manchester, and another one is in the inner part of Salford. The rest of the wards in the list are typically located around the edge of Greater Manchester, but it is notable that they are in Stockport, Trafford and Wigan, with one also in Bury.

15.19 The 25 wards with the highest proportions of migrants coming from within Greater Manchester all have very similar levels, at 91-94%, and indeed there are 42 wards with a figure above 90% and a total of 121 wards (out of 240 in Greater Manchester) above 85%. The top four wards are all in Oldham, as are a total of ten out of the top 25. In addition, there are six wards in Tameside and five in Rochdale in the top 25, and the others are all broadly in the north of Greater Manchester.

15.20 Consequently, overall, the city centre and the surrounding areas to the south and west have comparatively high proportions of migrants from outside Greater Manchester, and it is wards in the south and west of the sub-region more generally that attract significant numbers from beyond Greater Manchester. The wards with very high proportions of migrants from within Greater Manchester are concentrated in the north and east of the sub-region. This may partly reflect the proximity of nearby settlements outside Greater Manchester.

15.21 The next table identifies, for each of the 25 wards in Greater Manchester that have the highest proportions of migrants coming from outside the sub-region, the districts in which their top ten source wards outside Greater Manchester are located, using 2011 Census data. Many of the wards in Greater Manchester that attract a significant proportion of their migrants from beyond the sub-region actually draw those people from a wide area, and so the proportion from any single ward outside Greater Manchester can often be very low. Consequently, care needs to be taken in drawing any firm conclusions from this data.

Ward (district)	Districts containing the ten wards outside Greater Manchester that send the highest proportion of the migrants to the listed ward in Greater Manchester (2011 Census)				
Ramsbottom	Rossendale	Rossendale	Rossendale	Rossendale	Rossendale

Ward (district)	Districts containing the ten wards outside Greater Manchester that send the highest proportion of the migrants to the listed ward in Greater Manchester (2011 Census)				
(Bury)					
	Hillingdon	Lambeth	Blackburn with Darwen	North Hertfordshire	Calderdale
Ancoats and Clayton (Manchester)	Liverpool	Sheffield	Newcastle upon Tyne	Leeds	Leeds
	Leeds	Warrington	Lewisham	Liverpool	Birmingham
Ardwick (Manchester)	Haringey	Leeds	Leeds	Tower Hamlets	Liverpool
	Calderdale	Pendle	Charnwood	Knowsley	Sheffield
City Centre (Manchester)	Liverpool	Leeds	Warrington	Sheffield	Birmingham
	Reading	Leeds	Nottingham	Ealing	Warrington
Didsbury East (Manchester)	Bromley	York	Bath and North East Somerset	Hillingdon	Leeds
	Liverpool	Leeds	Brighton and Hove	Sheffield	Sheffield
Didsbury West (Manchester)	Cheshire East	Sheffield	Leeds	Cheshire East	Sheffield
	Leeds	Cheshire East	Preston	Hammersmith and Fulham	Wandsworth
Fallowfield (Manchester)	Leeds	Leeds	Kingston upon Hull, City of	Coventry	Tunbridge Wells
	Newport	Camden	Liverpool	Birmingham	Kirklees
Hulme (Manchester)	Cheshire West and Chester	Calderdale	Leeds	Hyndburn	Croydon
	Liverpool	Cheshire West and Chester	Greenwich	Haringey	Sheffield
Levenshulme (Manchester)	Wakefield	Sheffield	Birmingham	Pendle	Warrington
	Hammersmith and Fulham	Wolverhampton	Richmond upon Thames	Birmingham	Leeds
Longsight (Manchester)	Bradford	Bradford	Birmingham	Blackburn with Darwen	Cheshire East
	Sefton	Kingston upon Hull, City of	Camden	Croydon	Greenwich
Moss Side (Manchester)	Bradford	Liverpool	Darlington	Liverpool	Wakefield
	York	Erewash	Conwy	Croydon	Ealing
Rusholme (Manchester)	Croydon	Leeds	Sheffield	Daventry	Liverpool
	Bradford	Calderdale	Barnet	St. Helens	Sheffield
Irwell Riverside (Manchester)	Wirral	Barnsley	Warrington	Warrington	Preston
	Cheshire West and Chester	Liverpool	Wirral	Sheffield	Calderdale
Langworthy (Manchester)	Liverpool	Kirklees	Warrington	South Ribble	Sefton
	Leeds	Southwark	St. Helens	Sefton	Wirral

Ward (district)	Districts containing the ten wards outside Greater Manchester that send the highest proportion of the migrants to the listed ward in Greater Manchester (2011 Census)				
Ordsall (Manchester)	Sheffield	Leeds	Liverpool	Leeds	Liverpool
	Leeds	Cheshire East	Cheshire East	Redbridge	Liverpool
Bramhall North (Stockport)	Cheshire East	Cheshire East	Cheshire East	Cheshire East	Rushcliffe
	Cheshire East	Bristol, City of	Peterborough	High Peak	North East Derbyshire
Bramhall South (Stockport)	Cheshire East	Cheshire East	Cheshire East	West Berkshire	Cheshire East
	Cheshire East	Cheshire East	North Hertfordshire	Cheshire East	Cheshire East
Heald Green (Stockport)	Cheshire East	Cheshire East	Cheshire East	Guildford	Redbridge
	Doncaster	Cheshire East	Cheshire East	Reading	South Oxfordshire
Marple South (Stockport)	Cheshire East	Cheshire East	High Peak	High Peak	High Peak
	Norwich	Waltham Forest	Leeds	Huntingdonshire	High Peak
Altrincham (Trafford)	Warrington	Cheshire East	Warrington	Cheshire West and Chester	Cheshire East
	Cheshire East	Knowsley	Cornwall	Bromley	Redbridge
Bowdon (Trafford)	Cheshire East	Warrington	Cheshire East	Norwich	Cheshire East
	Nottingham	Southwark	Wandsworth	St. Helens	Warrington
Hale Central (Trafford)	Cheshire East	Cheshire East	Warrington	Cheshire East	Cheshire East
	Lambeth	Richmond upon Thames	Brighton and Hove	Rushcliffe	Wandsworth
Golborne and Lowton West (Wigan)	St. Helens	St. Helens	St. Helens	Warrington	Warrington
	Barnet	St. Helens	Warrington	West Lancashire	Warrington
Orrell (Wigan)	St. Helens	West Lancashire	St. Helens	St. Helens	St. Helens
	West Lancashire	St. Helens	West Lancashire	Liverpool	St. Helens
Shevington with Lower Ground (Wigan)	West Lancashire	West Lancashire	Warrington	Chorley	Lancaster
	Sefton	Wolverhampton	St. Helens	Sefton	Blackpool

15.22 The main sources outside Greater Manchester for the wards around the edge of the sub-region are primarily in adjoining districts. For example, the top five sources outside Greater Manchester for Ramsbottom in Bury are all located in Rossendale. Cheshire East is an important source for the listed wards in Stockport and Trafford, with High Peak also being important for Marple South in Stockport, and Warrington being significant for the Trafford wards. Wards in St Helens, Warrington and Lancashire generally dominate the main sources for the listed wards in Wigan.

15.23 For the listed wards in Manchester and Salford, which are primarily in and around the city centre, the main sources are typically other major towns and cities, particularly those in the north of the country. Didsbury West in Manchester may share some characteristics with the more outlying wards discussed above, as three of the top ten non-Greater Manchester source wards are located in Cheshire East, and Irwell Riverside and Langworthy in Salford may have a slightly more local draw, with the main sources outside Greater Manchester being located in Cheshire, Lancashire and Merseyside.

15.24 Different parts of Greater Manchester therefore appear to have different roles in attracting people from outside the sub-region. This may reflect a greater propensity for younger people to travel between major towns and cities, both for study and work, searching out locations towards the core of the conurbation. The areas around the edge of Greater Manchester are more likely to be competing as a residential location with surrounding districts, and so their main sources outside the sub-region are typically closer.

15.25 For each of the 25 wards that have the highest proportions of migrants from outside Greater Manchester, the following table shows the proportion of housing that is in the private rented sector.

	Migration and housing tenure (2011 Census)		
Ward	District	% of migrants coming from within Greater Manchester	% of housing that is in the private rented sector
Fallowfield	Manchester	53.25	32.12
City Centre	Manchester	53.86	64.89
Hulme	Manchester	55.25	41.29
Ardwick	Manchester	58.29	28.67
Ordsall	Salford	63.68	54.66
Orrell	Wigan	64.56	7.48
Irwell Riverside	Salford	65.07	26.25
Rusholme	Manchester	66.78	38.79
Levenshulme	Manchester	68.29	35.95
Hale Central	Trafford	69.41	17.72
Shevington with Lower Ground	Wigan	70.73	7.28
Langworthy	Salford	70.89	19.55
Bramhall North	Stockport	72.59	8.22
Longsight	Manchester	72.80	35.91
Didsbury West	Manchester	73.36	45.76
Ramsbottom	Bury	73.39	13.57
Bramhall South	Stockport	73.44	5.14
Heald Green	Stockport	73.49	7.66
Didsbury East	Manchester	73.85	24.05
Altrincham	Trafford	73.85	23.11
Golborne and Lowton West	Wigan	73.98	13.52
Moss Side	Manchester	74.14	32.34
Marple South	Stockport	74.17	7.69

Ward	Migration and housing tenure (2011 Census)		
	District	% of migrants coming from within Greater Manchester	% of housing that is in the private rented sector
Ancoats and Clayton	Manchester	74.39	42.92
Bowdon	Trafford	74.40	12.83
Greater Manchester average			16.05

15.26 All of the wards in and around the city centre have levels of private rented sector housing above the Greater Manchester average, often far higher. Six of the seven wards in Greater Manchester with the highest proportion of private rented sector housing appear in the table. Much lower levels of private rented housing are typically seen in the wards around the edges of Greater Manchester. This may suggest that the ability of the inner areas to accommodate significant numbers from outside Greater Manchester is partly a result of the high levels of private rented housing, whereas the outer areas have more typically suburban characteristics similar to their migration sources outside Greater Manchester. The location of any redistributed housing requirement should therefore reflect the type and tenure of housing that is required or able to meet the identified need rather than simply address the issue of the total numbers.

Next stages

15.27 This report, together with the separate report on the area of assessment, contains a considerable amount of evidence that will need to inform the proposed distribution of housing across Greater Manchester. A key part of the options consultation on the Greater Manchester Spatial Framework is the ‘call for sites’, which provides an opportunity for residents, developers and landowners to suggest sites that they consider could help to fill the gap between the identified supply and the objectively assessed housing need, which is estimated to be around 64,550 dwellings. It will only be once these suggested sites have been assessed that it will be appropriate to put forward a proposed distribution between the ten districts of the Greater Manchester housing requirement for 217,350 net additional dwellings over the period 2014-2035, having regard to the factors discussed above.