

# Chelmsford Draft Local Plan

Examination Hearing Statement

Matter 3:

Objectively Assessed Housing Need

November 2018



# Introduction

- 1. This hearing statement sets out the Council's response in relation to the Inspector's Matters, Issues and Questions.
- 2. All the evidence base documents referred to in this statement are listed at **Appendix A**, with their evidence base or examination document reference numbers as applicable.

# Matter 3 – Objectively assessed housing need

Question 13	Does the identified HMA, comprising Braintree, Colchester, Chelmsford
	and Tendring Council areas, provide a robust and appropriate basis for assessing housing needs?
	Is the exclusion of the Maldon Council area justified?

- 3. The Council's consultant, Peter Brett Associates (PBA) define the Housing Market Area (HMA) as comprising Braintree, Chelmsford, Colchester and Tendring. The analysis underpinning this definition is set out in Chapter 2 of the Braintree District Council, Chelmsford City Council, Colchester Borough Council, Tendring District Council Objectively Assessed Housing Need (OAHN) Study November 2016 update (EB048). Briefly, it shows that the HMA defined in Chapter 2 of the OAHN Study (EB048) easily passes the containment test set in national Planning Practice Guidance (PPG). As is often the case, it is not the only geography that passes the test: an area that additionally includes Maldon is also compliant with the PPG (2014). Faced with the choice of two PPG-compliant alternatives, the authorities in the HMA identified in the OAN Study (EB048) and Maldon Council made a pragmatic choice, reflecting the duty to co-operate, to treat Maldon, as a free-standing HMA, and the Council has prepared the Local Plan on that basis.
- 4. The HMA identified in the OAHN Study (EB048 chapter 2) has previously been challenged; most recently at the North Essex Section 1 Local Plan examination but also many times (unsuccessful) at Appeal in the administrative area of Chelmsford.
- 5. In summary, the HMA identified in OAHN Study (EB048) is challenged on the grounds that:
  - i There are migration and commuting flows linking Maldon and the authorities in the HMA defined in the OAHN Study (**EB048**);
  - ii None of the individual authorities defined in the OAHN Study (**EB048**) qualifies as a freestanding HMA on its own;
  - iii Adding Maldon to the HMA defined in the OAHN Study (**EB048**) increases migration containment, which is the indicator recommended by the PPG (2014), from 70% to 71%.

- 6. The facts mentioned above are common ground, but it is wrong to infer from them that the HMA identified in the OAHN Study **(EB048)** should include Maldon:
  - Just because there are significant commuting and migration flows between one authority and another it does not necessarily follow that they are in the same HMA.
  - Neither the Councils defined in the OAHN Study (**EB048**) or their consultant, PBA, have ever suggested that the individual authorities in the Council's HMA are free-standing HMAs. The fact that they are not has no bearing on the question whether Maldon should be added to the HMA identified in the OAHN Study (**EB048**).
  - The PPG (2014) does not say that HMAs should be defined so as to maximise migration containment. Rather than seek a maximum, it sets a minimum, or threshold, and an approximate one at that 'the areas within which a relatively high proportion of household moves (typically 70%) are contained'<sup>1</sup>. In any case, the difference between 70 and 71% is too small to be of any significance.
- 7. With specific regard to Maldon, the view that Maldon can properly be assessed as a single-district HMA was endorsed by the Maldon Local Plan Inspector in June 2017 (the plan was adopted in July 2017). The Inspector's conclusion on this is set out below:

'36 ... I consider that it is reasonable to regard Maldon district as one HMA, for the purposes of this Plan at least. It is the nature of HMAs that they do not have clear-cut boundaries and establishing their extent for the practical purposes of plan-making requires a degree of judgement. Taken as a whole, the evidence concerning house prices, migration and travel to work areas points to treating Maldon as a single HMA with adequate conviction. The paths pursued by neighbouring authorities lend further support to this approach. In relation to the four 'mid-Essex' authorities, it is a position reached through co-operation. I note that cooperation has involved local politicians, and in that sense has had a political dimension. But that should not be regarded as an undermining factor. Meeting the DtC inevitably involves authorities engaging at the political level.'<sup>2</sup>

8. In addition, the extent of the HMA has been considered at the North Essex Section 1 Local Plan examination. The HMA identified in the OAHN Study (EB048) was considered an appropriate geography for assessing housing need as set out in the North Essex Section 1 Plan Inspector's Supplementary Post-Hearing Letter on Housing Requirements (EB171), dated 27 June 2018, with the Inspector, Mr Roger Clews, concluding that:

'4...While consideration of the HMA also including Maldon would have been valid too, the exclusion of Maldon makes no practical different to the conclusions of the study for the NEAs.'

<sup>&</sup>lt;sup>1</sup> PPG, Paragraph: 011 Reference ID: 2a-011-20140306

<sup>&</sup>lt;sup>2</sup> *Report on the Examination of the Maldon District Local Development Plan 2014 – 2029, June 2017, paragraph* 36.

Q14	The OAHN Study Update (EB048) (OAHN Update) identifies a 671 dwellings per annum (dpa) 'demographic starting point' for Chelmsford.
	Is the use of the 2014-based sub-national household projections for this
	'starting point' appropriate?
	In the light of the latest 2016-based household projections, do these
	represent a meaningful change in the housing situation and what bearing,
	if any, do they have on the assessment of the OAHN and the soundness of
	the plan?

## Response to Q14

#### Background

- 9. At the time of submission of the Local Plan, the 2014-based sub national household projections were still the official household projections.
- The 2016-based Sub National Population Projections (SNPP) were published on 24th May 2018 after the submission Local Plan was drafted but prior to the Local Plan being submitted around a month later. The related household projections (2016-based) were not published until after submission of the Local Plan (September 2018).
- 11. In light of these facts, the Council decided to submit the Local Plan rather than delay pending a full analysis of the 2016 population projections and potentially waiting for the related household projections. The new projections are lower for Chelmsford than previous rounds.
- 12. To better understand the new projections the Council commissioned an update of earlier analysis from John Hollis, former head of demography at the Greater London Authority (GLA) and current advisor to the Office for National Statistics (ONS), to prepare a new note looking at why the data has changed.
- 13. Mr Hollis was part of the team that produced the OAHN Study (EB048), providing the demographic analysis and projections for the study. As part of his work he provided advice on the demographic links between the HMA identified in the OAHN Study (EB048) and London. His note is attached at **Appendix B**.

#### What do projections show and why?

- 14. The 2016-based demographic projections are showing less household growth, and hence imply lower housing need, than the previous version. This is largely the result of changed methods and assumptions at national level, which affect all local areas, not just Chelmsford.
- 15. At the national level the 2016 household projections show a growth of 158,000 households per annum over the plan period, compared to 210,000 in the previous version. In Chelmsford, average annual household growth has fallen from 656 households per annum (2013-37), as reported in the OAHN Study **(EB048)**, down to 549.

- 16. The factors behind these changes are complex. One factor is that ONS have 'backwards revised' previous historical data indicating that previous estimates of past change were wrong. This revision even affects 2011, the most recent Census year. For the future, the new projection has reduced both the factors that drive household growth population and household formation rates. Those lower numbers result both from these changes in historical data and new methods for rolling forward (projecting) that history into the future.
- 17. Regarding the population, the new projections expect lower growth both for England and most local areas, including Chelmsford. This results from lower international migration, fewer births (partly as a result of that lower migration) and more deaths, as the long-term increase in life expectancy is levelling out. For Chelmsford population growth is around 10% lower in the 2016 projections than the 2014 ones.
- 18. The new projection has also changed household formation rates (household representative rates, HRRs), the factor that translates population into households. Again, this is a national change. The ONS did not accept the method previously used by the then Department for Communities and Local Government (DCLG), which until the 2016 datasets prepared the household projections. The DCLG method rolled forward long-term trends in formation rates, dating back to the 1971 Census. ONS has determined that the older data is unreliable. Therefore, the new projection is based on a much shorter period, 2001-11, and only two data points the last two censuses. While until 2001 formation rates for most groups had been improving, after 2011 these improvements were slowed down or reversed, especially for younger adults. Therefore, the ONS's new method is that formation rates in the new projection are lower than the previous one, again affecting younger adults in particular.
- 19. In Chelmsford, the reduction in the population is the main driver of the reduction in housing need, not changes in HRRs. Of the reduction in annual household growth of 106 p.a., PBA estimate that 82 households p.a. result from lower population and only 24 relate to the ONS new view of HRRs. Thus, roughly 80% of the reduction results from lower population growth and only 20% from lower household formation.
- 20. Of the two drivers of household change, population in the new projections has proved relatively uncontroversial, as the reduction in future growth is based on sophisticated expert analysis of long-term trends. But the new formation rates have provoked controversy, because they are based on just two data points; and between those points the trends in formation rates deteriorated, so the projection 'bakes in' a period of unfavourable change. Many commentators conflate the ONS 'policy-off' view, with their own 'policy-on' aspiration of what household formation rates should be. Alternatively, they provide their own interpretations of (as yet awaited) Government policy. For the purposes of OAHN, which must be a 'policy off' indicator, this is unhelpful.

## Do the new projections represent a meaningful change?

21. The new household projections for Chelmsford are 20% lower than the previous version; and the main reason for the reduction is reduced expectation of population growth, which is based on robust evidence. In these circumstances, it seems clear that the new projections represent a meaningful change in the housing position.

# What bearing, if any, do they have on the assessment of the OAHN and the soundness of the plan?

- 22. The new household projections are a material fact, which does bear on the submitted Local Plan. In a perfect world, the Council would reconsider its assessment of housing need and the resulting housing requirement (target) in the light of the new evidence. In line with the PPG (2014), the new needs assessment would involve the same steps as the existing OAHN study:
  - i Demographic starting point

The assessment would test the 2016-based household projections to see if they should be adjusted in the light of local factors. The likely result is that the population component of future change would not need adjustment. But household formation rates might justify an adjustment, which would likely be upward, since the new ONS formation rates are so low. The likely net outcome would be a 'demographic starting point' projection lower than the 2014-based household projection, but higher than the 2016-based version.

ii Market signals

The new assessment would consider an uplift to the demographic starting point to take account of past provision and market signals. In percentage terms this would likely be the same as in the existing study, because there has been no material change in the underlying facts.

iii Future jobs

The new assessment would consider if the demographic starting point should be uplifted further in order to align with future labour demand. This could potentially produce a significant uplift, since the 2016 projections show substantially less population than before, which would produce substantially lower labour supply.

- 23. Overall, the new assessment would likely produce a lower OAHN than the present number. But the reduction would be less than the 20% between the 2014-based and 2016-based household projection.
- 24. In practice a new housing needs assessment would not be a proportionate response to the new projections. The plan timetable would have to be put back, delaying the release of much-needed sites for housing and other land uses.
- 25. In these circumstances, there are two options for the plan: to continue with the existing housing requirement of 805 dwellings per annum (dpa), based on the existing OAHN study, or to reduce that requirement by 20% in line with the new projections.
- 26. In the Council's judgment the second option would be a bad choice, because it could significantly underprovide the true housing need.

27. The first option, to maintain the requirement of 805 dpa, may result in a requirement in excess of the true need – though on the evidence that excess would be less than 20%. There would be increased 'headroom' between that true need and the requirement, which is not necessarily a bad thing. In the spirit of positive planning, this is the Council's preferred option.

## **New Standard Method Consultation**

- 28. On Friday 26th October the Ministry of Housing Communities and Local Government (MCLG) launched a new consultation relevant to the Standard Method<sup>3</sup>. For this plan the consultation is of only limited relevance because it relates to the application of the 2016 based household projections though the Standard Method. Unlike OAHN, which case law has confirmed must be a 'policy off' assessment of 'need', the Standard Method is the Governments 'policy on' assessment of how many new homes should be delivered via the new 2018 NPPF.
- 29. However; elements of the technical discussion demonstrate that there is concern that the latest projections provide too little household growth for the 2016 based population projections. This is partly in response to the ONS adopting a different method to estimate the number of households needed to house the 2016 based population.
- 30. For the purposes of the OAHN assessment:
  - A) The Consultation does not question the robustness of the 2016 Population Projections as a demographic starting point for 'policy off' OAN assessments. It is the agreed fact that future plans may expect to accommodate fewer people in the future than previously expected because of increased mortality and lower migration.
  - B) But there is concern about the robustness of the 2016 HRRs given the ONS have adopted a new method. So more new homes may be needed to accommodate the smaller (2016 based) population than the 2016s imply.
- 31. For this examination, while the Standard Method is not relevant, and this is only a consultation, the Council shares some of the technical concerns regarding the most recent 2016 based Headship Rates. The 2016 HRRs are largely untested and are significant technical departure from those discussed in the PPG (2014).

<sup>3</sup> 

 $https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/751810/LHN\_Consultation.pdf$ 

Question 15	The OAHN Update concludes that for Chelmsford there is a need for a
	market signal adjustment, due to house prices and private rents being well
	above the national average and affordability being substantially above the
	national average. A market signals uplift of 20% is recommended which
	when added to the base point of 671 dpa equates to 805 dpa.
	Is this uplift justified and based on robust evidence?

- 32. The OAHN Study **(EB048)** recommends a range of uplifts across the HMA which are based on a judgement of what can be considered reasonable, is compatible with the principles of sustainable development, and are aligned with benchmark comparisons. This is in line with the advice given in the PPG (2a 20) (2014).
- 33. The approach taken by the Council's consultant, PBA, has already been supported in the North Essex Section 1 Plan Inspector's Supplementary Post-Hearing Letter on Housing Requirements (EB171). The North Essex Section 1 Local Plan Inspector has already agreed with the scale of uplift in three of the four Council areas in the HMA identified in the OAHN Study (EB048). These range from zero to 15% which he notes is 'substantial in percentage and absolute terms and could reasonably be expected to improve affordability.'
- 34. The recommendation for Chelmsford is for a larger uplift (20%) reflecting a more adverse package of Market Signals for Chelmsford. Chelmsford is not only the most expensive Council area in the HMA but least affordable so was prescribed a larger uplift.
- 35. The OAHN Study **(EB048)** has been criticised because the analysis focuses on absolute values, but the evidence is presented as 'indexed' (e.g. fig 5.5 in **EB048**), so that the rate of change across the comparison areas can more easily be seen. In any event the conclusion remains the same, Chelmsford shows more adverse signals and so a higher uplift is warranted.
- 36. Setting this aside, the main criticism being made in representations appears to be that alternative methods to arrive at an uplift should be preferred.
- 37. Some representations cite the Local Plan Experts Group (LPEG) approach as one alternative. However, this approach, along with LPEGs proposed re-draft of the PPG and wider adjustments for OAHN assessments, was rejected by Government.
- 38. Of the use of various modelled approaches, the main model cited is one which purports to use University of Reading and Office of Budget Responsibility (OBR) data to calculate an increase.
- 39. In representations for Bovis Homes Ltd (PS2038), prepared by Lichfields, they 'champion' this model but don't actually show how many homes it suggests in Chelmsford. To understand how many homes the model shows we need to look to Barton Willmore's representations made on behalf of Gladman Developments Ltd (PS1629). In their representations they arrive at an OAHN of 1,444 dpa. This is a 215 % increase on the starting demographic data.

- 40. A 215% increase is well beyond the bounds of what could ever be described as 'reasonable' in the context of any previous (sound) OAHN assessment; including sound plans and Secretary of State appeals. As noted in the OAHN Study **(EB048)**, 30% is generally considered at the upper end of 'reasonable' in the context of the PPG (2014)<sup>4</sup>.
- 41. Regarding the application of the model in Mid Sussex, which objectors including both Barton Willmore on behalf of Gladman Developments Ltd (PS1629) and Lichfield on behalf of Bovis Homes Ltd (PS2038) both say supports its use here, it is difficult to see how robust parallels can be drawn.
- 42. In Mid Sussex the Inspector concluded that a 20% market signal was justified because it was 'reasonable' in the context of other benchmark cases and in the context of Mid Sussex neighbours. It also happened to be broadly in alignment with what the model suggested in that case. But this was not the evidence the Inspector used to arrive at the uplift.
- 43. For the avoidance of doubt the full letter is attached and the Inspectors full reasoning can be seen in **Appendix C.**
- 44. Since the North Essex Section 1 Local Plan Examination, the use of the same model, originally developed by Mr Spry (Lichfields) and presented in Mid Sussex, has been extensively tested at an appeal in Elmbridge (APP/K3605/W/17/3172429) determined by the Secretary of State himself on 24th May 2018.
- 45. At that appeal the Inspector noted that there was a risk that the model could be miss-attributed to the institutions cited. Rather than attribute the model to either the OBR or the University of Reading the Inspector noted that "In fact the author of the model was Mr Spry, the appellant's witness on housing need" and proceeded to discuss the 'Spry' model (IR 352) before dismissing it as unsound. His reasons for being clear about nomenclature are apparent in later paragraphs. His opinion, and one the Secretary of State agreed with, was the model was not robust and was mis-representing the source data.
- 46. In forming this opinion, the Inspector considered Mid Sussex. In this regard the Inspector noted:

"Whilst I have found that there should be an uplift to reflect market signals, for the reasons given above I attach very little weight to the appellant's evidence regarding what that uplift should be. [i.e. the 'Mr Spry model'] The Mid Sussex Inspector's Interim Findings noted that there was evidence of action being taken across a broad range of authorities in response to worsening affordability. Market signals uplifts were mostly of 10% to 20%. In general, evidence of what has been done elsewhere may be less satisfactory than sound evidence which is specific to the area in question. Nevertheless, in this case I consider that evidence of what has been done elsewhere is the best evidence before me"

<sup>&</sup>lt;sup>4</sup> Inspectors in both Mid Sussex and Elmbridge (discussed in the next few paragraphs) also gave weight to similar benchmarking with previous Inspectors.

47. In the Secretary of State's decision on the appeal, he agrees with the Inspector that:

"very little weight can be afforded the appellants evidence regarding what that uplift should be [i.e. Mr Sprys model]. He further agrees that in this case he considers that evidence of what has been done elsewhere is the best evidence before him" (para 18)

48. Finally; the same model was also presented to the North Essex Section 1 Local Plan Inspector. Braintree District Council, Colchester Borough Council and Tendring District Council, in their hearing statement, dismissed the use of the model for similar reasons as those discussed in Elmbridge – namely that the 'sources' were being misapplied. The Inspector, Mr Clews, in his letter dated 27 June 2018 (EB171), agreed with the Councils position and also dismissed this evidence.

Question 16	In relation to London's housing needs, the OAHN Update concludes that only an insignificant uplift to the HMA's housing need is justified. Is this approach reasonable and based on robust evidence? Is there alternative evidence demonstrating a need to consider
	accommodating London's housing needs?

- 49. London is outside the HMA identified on the OAHN Study **(EB048)** and so unmet need could be viewed as a Duty to Co-operate issue.
- 50. However; the OAHN Study **(EB048)** acknowledges that London could influence migration flows into (and out of) Chelmsford. This is especially the case because the London Plan (Further Alterations to the London Plan) does not use the ONS/DCLG household projections but an alternative prepared by the GLA. Recognising this, the Council's consultant, PBA, consulted with the GLA when preparing the OAHN reports **(EB046 and EB048)** to minimise the risk that the use of the official projections here, and the GLA's own in London, results in homes 'falling through the gaps'.
- 51. As outlined in the OAHN Study (EB048), and earlier Essex Planning Officers Association (EPOA) Phase 6 work, the GLA requested that the OAHN assessment (EB048) consider the GLA's own demographic projections which inform the Further Alternations to the London Plan. But, as set out in the OAHN Study (EB048), this alternative view of migration flows (not absolute values) was tested and found to make an insignificant difference in this HMA.
- 52. In subsequent representations to the Local Plan (PS1881), the GLA have again referred the Council to their projections which have now been updated to a 2016 base (the previous set were 2013 based). These are published on the GLAs website, alongside earlier versions<sup>5</sup>. For Chelmsford, these continue to show a housing need below the OAHN identified in **EB048**. The current set show 634 households per annum for Chelmsford (2013-2033).

<sup>&</sup>lt;sup>5</sup> <u>https://data.london.gov.uk/dataset/projections/</u> 634 is from the 'Central Scenario'.

- 53. There is therefore no evidence, or DtC request from the GLA, to suggest the OAHN for Chelmsford should be increased to take greater account of London.
- 54. Finally, the Council note that the Local Plan is making provision for significantly more new homes than demographic need. This is partly in response to Market Signals but also the Councils proposed 'supply buffer'. There is a 'reasonable' expectation that these additional homes will both help address market pressure in Chelmsford, but also the wider market. However, in what proportion or share is impossible to determine. The Council has no control over how the resulting homes will be occupied; whether they will allow Chelmsford households to form more readily or attract additional inward migration; including from London.

Question 17	The OAHN Update uses two different economic forecasting models, the
	East of England Forecasting Model (EEFM), and Experian. Whilst the
	Update concludes that both forecasts are reasonable, for the purpose of
	assessing housing need the EEFM is recommended. It concludes that the
	jobs-led housing need over the plan period is 706 dpa for Chelmsford.
	Is the approach identified robust and is the identified need reasonably
	aligned with the forecasts for jobs growth?
	assessing housing need the EEFM is recommended. It concludes that the jobs-led housing need over the plan period is 706 dpa for Chelmsford. Is the approach identified robust and is the identified need reasonably aligned with the forecasts for jobs growth?

- 55. The Council's consultant PBA's approach to aligning jobs and houses in Chelmsford has been accepted in the North Essex Section 1 Local Plan examination and also, on many occasions, at S78 inquires in Chelmsford.
- 56. In the past this was a very challenging area of evidence because there was a divergence of views regarding Economic Activity Rates. Until recently the OBR reported significantly poorer (or more pessimistic) rates than other sources, mainly Experian. It was common for objectors to apply OBR economic activity rates to Experian (and other) economic forecast and 'backward' engineer the data to result in a higher labour need (and so household growth) compared to that which the forecasting house assumed. This was contrary to the advice of the forecasting house concerned.
- 57. However, the OBR has updated its view of future activity rates in the light of more recent evidence. As explained in the Experian 'Longevity note' **(Appendix D)**, these new OBR rates have increased, reducing the gap between OBR and Experian and EEFM. In his appeal decision on Siege Cross, Berkshire (APP/W0340/W/15/3141449) the Secretary of State supported an Inspector's view that these OBR activity rates were too pessimistic, and the higher rates from Experian and Oxford Economics were preferable for the purpose of housing needs assessment.
- 58. This means that many of the precedents cited around Economic Activity Rates and how they should be used to inform OAHN assessments are now out of date.
- 59. Regarding the 'precedents' cited in the Barton Willmore report appended to Gladman Developments Ltd representation (PS1629), it is also the case that they are either out of date or out of context.

- 60. In the HMA identified in the OAHN Study **(EB048)**, and in Chelmsford, the Council's consultant's approach has been found sound when directly challenged by Barton Willmore on behalf of Gladman Developments Ltd. Most recently at two Inquiries at Bicknacre and Great Leighs. These views are in paragraphs 52-55 of the Land East of Main Road, Bicknacre decision (APP/W1525/W/15/3129306) and paras 27-28 of the Land East of Main Road, Great Leighs decision (APP/W1525/W/15/3121603). In both these decisions, Inspectors supported PBA's approach to job-led housing need against Barton Willmore's objections. Neither Barton Willmore nor Lichfields make reference to these decisions in their representations on behalf of Gladman Developments Ltd (PS1629) and Bovis Homes Ltd (PS2038) respectively, despite the fact they are both more recent and relevant to this examination than others cited.
- 61. Both Barton Willmore on behalf of Gladman Developments Ltd (PS1629) and Lichfields on behalf of Bovis Homes Ltd (PS2038) also refer to Longbank Farm (Ormesby). PBA undertook further work testing the OBR rates and alternatives regarding Longbank Farm (Ormesby). Following this, and testing through the Redcare and Cleveland Local Plan examination, the Plan Inspector passed the OAHN as sound in March 2018.
- 62. It is also the case that the same Inspector at Ormesby (Mr J A Murray), in a later appeal in Suffolk Coastal district (APP/J3530/W/16/3160194), accepted PBAs approach which had been challenged by Pegasus Planning along similar lines as Barton Willmore.
- 63. In any event on behalf of Gladman Developments Ltd (PS1629), Barton Willmore promote an economic led housing need of 752 dpa (para 5.63 of Appendix 1 of PS1629) well below the OAHN of 805 dpa. We note none of their sensitivity testing exceeds the Council's proposed housing requirement. Lichfields, on behalf of Bovis Homes Ltd (PS2038), who challenge the assessment in **EB048**, don't appear to conclude or set out an alternative number.
- 64. As regards PBAs choice of the EEFM over Experian; as noted in paragraph 6.28 of the OAHN Study **(EB048),** the Council's consultant took the EEFM in preference simply because it suggested slightly more new homes were needed. It is also the case that the EEFM allows for economic led migration where the population is attracted to move into an area in response to economic potential and that the EEFM is commonly used across the region for employment land planning.
- 65. A number of other criticisms are made of the approach taken by PBA in the OAHN Study **(EB048)**, which are discussed below:
  - PBA's approach is not consistent across the HMA, because it uses a different method for Tendring to the other two authorities. Barton Willmore, on behalf of Gladman Developments Ltd (PS1629), consider this 'a weakness'.

The OAHN Study (**EB048**) treats Tendring differently because as accepted by the North Essex Section 1 Local Plan Inspector its circumstances are different. In summary errors in their demographic data means that treating it in the same way would produce nonsensical results. This represents an appropriate and robust approach to local evidence and circumstances.

• Another 'weakness' is that that EB048 assesses future job growth on the basis of one forecast only. Barton Willmore on behalf of Gladman Developments Ltd (PS1629), recommends that several forecasts be considered, and that the assessment be based on an average of those forecasts.

The OAHN Study (**EB048**) does not consider one forecast only. It considers two forecasts, from EEFM and Experian. It does not average the two, because they may include mutually inconsistent assumptions, especially about UK economic activity rates, which would confuse the jobs-to-houses analysis. Rather, in the interest of prudence and positive planning, the Council's consultant chose the forecast that produces the higher housing need, which is the EEFM one.

• Yet another 'weakness' is that to predict future jobs PBA uses economic forecasts, but not past trends. This is contrary to the PPG, which advises the use of 'past trends and / or economic forecasts, as appropriate'.

Barton Willmore, on behalf of Gladman Developments Ltd (PS1629), here seems to misunderstand the words and /or. These words say plainly that housing needs assessments should use *either* past trends, *or* economic forecasts, *or* both past trends and economic forecasts. The Council's consultant's method, which uses economic forecasts only, is compliant with this advice and is justified and indeed appropriate in the circumstances.

The Council consider that this method is appropriate because economic forecasts try to take account of factors that may result in the future being different from the past, such as the macroeconomic climate and the profile of the UK population.

In the case of North Essex Part 1 Local Plan examination this criticism was of no consequence, because both the EEFM and Experian forecasts show similar trends in the future to the past. Accordingly, Barton Willmore's lengthy analysis of past trends on behalf of Gladman Developments Ltd (PS1629), concluded that the forecast-based job numbers used by PBA were reasonable.

For Chelmsford, Barton Willmore on behalf of Gladman Developments Ltd (PS1629), estimate past job growth at 836 per year which rests between the EEFM and Experian numbers used in **EB048** (725 & 952 per annum). But, as they admit, this past average is exceptionally volatile and dependent on the period taken.

• The EEFM forecast 'assumes' an increase in double-jobbing, so that over the plan period the ratio of jobs to workers increases from 1.125 to 1.132.

The very small forecast increase in double-jobbing is not an **assumption** – i.e. an external view or judgment that is input into the forecasting model. Rather, it is a **prediction** that is output by the forecasting model – which is a simulation of how the economy works. Double-jobbing has changed in the past and naturally will continue to change in the future. It seems reasonable to expect that it will increase in most places over the long term, as across the UK part-time and casual employment grows. In this context, Barton Willmore on behalf of Gladman Developments Ltd (PS1629), has provided no evidence that the forecast is unreasonable.

• The EEFM forecast also 'assumes' changes in commuting. Barton Willmore on behalf of Gladman Developments Ltd (PS1629), does not support this approach, because adjusting commuting assumptions has implications for other authorities affected by it.

The EEFM does not **make assumptions** about commuting, nor does it **adjust** such assumptions. Commuting, like unemployment, is a prediction, or output, of the forecasting model. It has varied in the past and will continue to vary in the future, as it responds to the shifting balance of labour demand and labour supply in different places - just like earnings, unemployment, economic activity rates and job-led migration. There is

no reason why commuting, unlike any other economic variable, should remain forever at the level it happened to be in 2013.

Naturally a change in commuting, like many other kinds of economic change, can have cross-boundary impacts. If neighbouring planning authorities consider that forecast changes in commuting will have harmful impacts, they should work co-operatively for a different future. They cannot change commuting directly, because they have no powers to control people's choice of home or workplace. Rather, they would need to change the factors that drive commuting – for example through land allocations for housing or employment; or to improve transport infrastructure, so that commuting becomes easier or more sustainable.

In relation to Chelmsford, no local authority has expressed concerns about forecast changes in net commuting, probably because they are so small – in the region of 3,000 people for each local authority area, or 3% of the resident labour force.

 Various aspects of the EEFM forecast are 'inconsistent' with the rest of PBA's analysis. Thus, EEFM shows different population and housing to the official projections, as well as different vacancy rates, and it takes a different approach to household formation. It is a 'weakness' of PBA's analysis that it 'takes the EEFM assumptions at face value'.

Barton Willmore's discussion of EEFM on behalf of Gladman Developments Ltd (PS1629), as summarised above, is riddled with errors and misunderstandings. Thus, Barton Willmore say that EEFM 'uses population as an input'. That is incorrect: population (and households) are outputs of the forecast, and in the present context they are its most important outputs, estimating what population and how much housing will be required to meet the demand for labour. It is entirely to be expected that these population and housing numbers are different from the official projections, because they are job-led forecasts of labour demand, rather than projections that carry forward past demographic trends. To translate people into households and households into houses EEFM uses different methods and assumptions; this is entirely reasonable, because there are many different ways to approach these issues.

In short, Barton Willmore misunderstands the nature of forecasts and the way they are used. The Council's consultants' do not 'take the EEFM forecast at face value'. Rather, the OAHN Study (**EB048**) considers EEFM as one of two alternative forecasts, both of which look generally reasonable as we know, among other things, from the technical documents that accompany the forecasts (in the case of EEFM this document, titled 'East of England Forecasting Model Technical Report: Model description and data sources'<sup>6</sup>, is in the public domain). Barton Willmore on behalf of Gladman Developments Ltd (PS1629), has provided no evidence to suggest that either forecast is unreasonable or difficult to believe.

<sup>&</sup>lt;sup>6</sup> East of England Forecasting Model Technical Report: Model description and data sources, Cambridge Econometrics, September 2016.

Question 18	In relation to affordable housing the SHMA Update (2015) identifies the
	need for 173 new anordable nomes per year which equates to 22% of the
	OAHN figure. As such the study does not recommend an uplift for
	affordable housing.
	Is the SHMA's methodology for assessing affordable housing needs robust
	and in line with Government guidance and are the identified needs
	justified?
	Are the conclusions of the OAHN update robust in this regard?

- 66. The Braintree, Chelmsford, Colchester and Tendring Councils Strategic Housing Market Assessment (SHMA) Update (HDH Planning & Development Ltd, December 2015) **(EB047)** was carried out strictly in line with the NPPF (2012) and the PPG (2014) which were the relevant national policy and advice documents at the time.
- 67. It is timely to note that the SHMA was examined in some detail (in particular the assessment of Affordable Need) at the North Essex Section 1 Local Plan examination and Mr Clews, the Inspector, accepted its findings (paragraphs 26 to 33 of **EB171**).
- 68. The SHMA Update (EB047) has also been challenged in detail at the appeals at Land East of Plantation Road, Boreham (APP/W1525/W/15/3049361), Land East of Main Road, Bicknacre (APP/W1525/W/15/3129306), Land East of Main Road, Great Leighs (APP/W1525/W/15/3121603), and Old Chase Farm, Hyde Lane, Danbury, Chelmsford CM3 4LP (APP/W1525/W/16/3162344). Whilst not all these appeals were successfully defended by the Council, in each case the Inspector accepted the methodology and findings of the SHMA Update (EB047).
- 69. The reason for updating the SHMA was because the previous SHMA prepared by David Couttie Associates in 2013 was not compliant with the PPG (2014). It did not draw on the data sources specified or follow the steps set out in the PPG (2014) having been prepared before the PPG was published in 2014.
- 70. The SHMA Update (EB047) was carried out strictly in line with the PPG (2014). This opportunity is taken to highlight that the preparation of the assessment included consultation with the development industry. The results of the consultation are reflected through the SHMA Update (EB047) and summarised in Appendix 1 of the SHMA Update (EB047). This is important as a SHMA requires the use of professional judgement rather than simply looking up numbers and putting them into a predetermined formula. In this case there was a broad consensus on the details of the methodology and assumptions used, although as would be expected a range of comments were made. The sensitivity testing requested by several consultees was included in the final document.

71. The SHMA Update (EB047) is up to date. The process of undertaking a SHMA is set out in the sections of the PPG (2014) headed Housing and economic development needs assessments - Methodology: assessing housing need. It draws on a range of data sources. Much of the analysis in the SHMA Update (EB047) is based on secondary data from published sources, such as the Census and data from returns made by Councils to the Government. The SHMA Update (EB047) also draws on data that is not in the public domain that is held by the Councils, such as the Housing Register (the waiting list for affordable housing). The final component of SHMA Update (EB047) is information about the housing market that is gathered through market survey.

Question 19	Overall is the OAHN Study conclusion that the OAHN for Chelmsford
	should be the higher of the two adjusted figures (market signals or jobs
	led) at 805 dpa, justified?

- 72. The Council cannot control how any uplifted new homes may be occupied in the future so cannot apportion an uplift to one reason or another. In the North Essex Section 1 Local Plan Inspector's supplementary post-hearing letter **(EB171)** the Inspector, Mr Clews, notes that the homes uplifted for market signals (the higher adjustment) will also be available to meet future labour demand.
- 73. Recognising that uplifts overlap, as opposed to cumulatively stack, it is sensible to take the higher of the possible uplifts. Were the Council to have taken the lower of the two adjusted figures, there would be a risk that the Council could underprovide homes to meet labour demand.
- 74. The Local Plan is making provision for significantly more new homes than demographic need through the response to market signals and the Councils proposed 'supply buffer'. This is in line with the Council's vision that the Local Plan provides a positive, forward thinking and deliverable framework for the future development of the Chelmsford area.

Question 20	Does the OAHN assessment take adequate account of factors including
	migration trends, any suppressed household formation rates and forecast
	jobs growth?
	Does alternative evidence, such as that contained within Barton Willmore's
	'Technical Review of Councils' Housing Needs Evidence Base' (March 2018),
	commissioned by Gladman Developments Ltd, justify a higher OAHN?

## Response to Q20

75. Most of these points have already been addressed in earlier questions. It is also the case that Barton Willmore's approach was rejected in the North Essex Section 1 Local Plan examination and almost universally<sup>7</sup> at appeal in Chelmsford.

## **Barton Willmore view of HRRs**

- 76. Regarding the use of 2014 HRRs, the Council note that Barton Willmore, on behalf of Gladman Developments Ltd (PS1629), provide no evidence that this council area is any different to national trends. Nor do they promote an alternative and quantify what impact this may make.
- 77. This contention, that the Council's consultant, PBA, should not use the official HRRs in the OAHN Study **(EB048)**, was a reoccurring theme in each of the three S78 planning appeals in Chelmsford where Barton Willmore on behalf of Gladman Developments Ltd has challenged the Councils' consultant's work in both OAHN studies **(EB048 and EB046)**. It also formed part of their unsuccessful challenge at the North Essex Section 1 Local Plan examination.
- 78. Each challenge has been unsuccessful because in each case Inspectors have agreed that the OAHN Studies (EB046 and EB048) have correctly tested the local HRRs. As part of this testing, the Council's consultant established that HRRs in the HMA identified in the 2016 OAHN Study (EB048) broadly follow national trends and there was no 'local' evidence (PPG) (2a15) (2014) to support departing from them.
- 79. This is summarised in the North Essex Section 1 Local Plan Inspector's supplementary posthearing letter **(EB171)** where the Inspector, Mr Clews, stresses that "there are no local demographic factors or evidence of suppressed household formation rates that might require adjustments to those projections". Similar comments can be found in the three S78 appeals in this Council area in which the OAHN Studies **(EB046 and EB048)** has been challenged by Barton Willmore on behalf of Gladman Developments Ltd.

<sup>&</sup>lt;sup>7</sup> Excepting one early case relating to EA rates in Chelmsford. Since superseded at least twice at appeal with more recent Council evidence and Inspectors findings.

- 80. Further, as a wider sense check, for the North Essex Section 1 Local Plan examination, the Council's consultant reviewed recent reports from Local Plan Inspectors to see what they say about household formation. This review covers the 21 Inspectors' reports published since March 2016<sup>8</sup> and up to the start of 2018. 15 of those reports mention household formation rates. Only one, favours any kind of return to the DCLG 2008 rates (as preferred by Barton Willmore in their previous representations on behalf of Gladman Developments Ltd (PS1629) and in North Essex Section 1 Local Plan examination), and it does so tentatively.
- 81. It is not the case that the Council's consultants have adopted HRRs unquestioningly. The OAHN Study **(EB048)**, at paras 3.39 onwards, explains why it has used the DCLG 2012 / 2014 formation rates (the two sets are virtually identical). In summary, this is for three reasons:
  - The PPG (2014) advises that the latest DCLG projections provide the most up-to-date estimates of future household growth, and any adjustments to these projections would have to respond to local factors and be justified by robust evidence.
  - Authoritative studies confirm that at national level these projections are the best available indication of underlying long-term trends in household formation. The downturn recorded in the 2011 Census was not a short-term effect of the economic cycle, but a manifestation of long-term trends that started in the 1990s and are continuing into the future. The earlier, 2008-based DCLG projections, which showed considerably higher formation rates throughout England, were over-optimistic given the evidence available at the time; and subsequent evidence has confirmed that they overstated long-term trends in housing demand and need.
  - The OAHN Study (EB048) analysed local formation rates across the HMA. It found no evidence that they had been suppressed by local undersupply, and therefore that projections should be uplifted locally.
- 82. In summary, the Council's consultant, PBA, has tested the use of many different sets of HRRs, over a suite of OAHN reports culminating in **EB048**. This testing, which has been extensively challenged by Barton Willmore, did not find any justification to depart from these in Chelmsford. This has very recently been agreed in the North Essex Section 1 Local Plan examination.

# Barton Willmore view of Trend Periods

- 83. Barton Willmore, on behalf of Gladman Developments Ltd (PS1629), suggest that the OAHN should be tested using a new set of Barton Willmore trend projections which draw on Mid-Year Estimates 2016 data.
- 84. However, these do not appear to use the most recent ONS data regarding migration and mortality and other revisions the ONS has made since Barton Willmore prepared their data.

<sup>&</sup>lt;sup>8</sup> This time period was chosen in order to capture plans whose supporting evidence bases were able to use the DCLG 2012 or 2014 projections. Earlier plans did not have the benefit of this recent evidence.

85. As part of testing the more recent ONS data, John Hollis has prepared new 'Trend' projections; including a new 10-year projection (**Appendix B**). This new projection shows a need for only 490 households per annum. This is well below the proposed OAHN and demographic starting point.

Question 21 Should the starting point for assessing housing needs be the Government's standard methodology?

#### Response to Q21

86. The standard method was introduced by paragraph 60 of the NPPF (2018). It is clear from paragraph 214 of the NPPF (2018) that for the purposes of examining local plans, where such plans were submitted on or before 24 January 2019 the policies in the 2012 Framework continue to apply. This Local Plan was therefore submitted in the 'transition' period so there is no basis to apply the Standard Method to this examination. Moreover, and in any event, the Standard Method may change following the Technical consultation on updates to national planning policy guidance recently issued.

Question 22	Have the needs of particular groups (eg older people and those requiring
	specialist support) been appropriately taken in to account in the OAHN?

- 87. The SHMA Update **(EB047)** has been carried out strictly in line with the requirements of the 2012 NPPF and the 2014 PPG. This includes the disaggregation of the OAHN Study **(EB048)** by tenure and size (in terms of bedrooms) as per PPG (2a-21) (2014).
- 88. The 2012 NPPF lists the following groups: 'families with children, older people, people with disabilities, service families and people wishing to build their own homes'. The PPG (2014) adds the Private Rented Sector and Student Housing and refers to 'households with specific needs' rather than 'people with disabilities'.
- 89. The analysis of these groups can be found in Chapter 6 and Appendix 6 of the SHMA Update **(EB047).** Chapter 6 of the SHMA update includes analysis of the need for the housing of particular groups, including specialist accommodation, further Chelmsford specific data is provided in Appendix 6 of that document. It is clear that there is a substantial need for specialist accommodation.
- 90. In considering the needs of older households, it is important to note that most older people wish to remain in their own home, further the Council have several initiatives to enable older people to continue to live independently. If the occupation patterns remain at current levels (123 units per 1,000 people 75 or over), then there is a requirement for 1,382 additional specialist units of which 1,315 should be sheltered housing and 67 extra care housing over the plan-period. If it is assumed that occupation rates increase to a rate of 170 per 1,000 people 75 or over (as per the Strategic Housing for Older People tool) then 2,711 additional specialist units would be required. Bearing in mind the current patterns of occupation, and that there is no suggestion that this will change in the foreseeable future, it is appropriate for the Council to pursue the lower of these two figures, which is based on current occupation patterns.

- 91. Students occupying a household, as defined by the 2011 Census, form part of the OAHN Study (EB048). The need for other types of student accommodation (institutional accommodation, outside the 2011 definition) are considered in the SHMA Update (EB047) from paragraph 6.25 onwards, specifically in relation to Anglia Ruskin University, which has a campus in Chelmsford. The University is planning expansion, but it was concluded (EB047, Paragraph 6.29) that 'the housing market should be able to absorb the growth required in the private rented sector to housing the expanding student population comfortably'.
- 92. The SHMA Update **(EB047)** describes the data on household with specific needs and disaggregates the OAHN Study **(EB048)** to identify the types of housing needed in the Chelmsford area.

Question 23	Have the housing needs for gypsies, travellers and travelling showpeople
	been adequately assessed in accordance with national policy and have
	they been based on robust evidence?

Question 24	The GTAA (EB05a) concludes there is a need for 6 additional pitches over
	the GTAA period to 2033 for Gypsy and Traveller households that meet the
	planning definition; a need for up to 17 additional pitches for Gypsy and
	Traveller households that may meet the planning definition – although if
	the ORS national average of 10% were to be applied this could be as few as
	2 additional pitches; and a need for 18 additional pitches for Gypsy and
	Traveller households who do not meet the planning definition.

## Responses to Q23 and Q24

- 93. In accordance with the national Planning Policy for Traveller Sites (PPTS), the Council has undertaken a Gypsy and Traveller Accommodation Assessment (GTAA) **(EB050A to C)** to assess future need. The GTAA has identified the need for 6 additional nomadic Gypsy and Traveller pitches and 16 nomadic Travelling Showpeople plots in the period to 2033. The assessment accords with national policy and the needs identified are based on robust evidence. It is considered to be up-to-date, soundly based, and justified.
- 94. The scope of the assessment was to cover the whole of the Essex Region. This includes the 12 local authorities in Essex, together with Southend-on-Sea and Thurrock. This is considered to be an appropriate scale for a strategic assessment of accommodation needs.
- 95. The assessment was undertaken by Opinion Research Services (ORS). ORS have undertaken over 120 assessments of Gypsy, Traveller, and Travelling Showpeople accommodation need for local authorities since changes were made to Planning Policy for Traveller Sites (PPTS) in 2015. ORS have successfully defended their methodology at a number of Local Plan examinations and planning appeals across the country and it has repeatedly been assessed as robust<sup>9</sup>.

<sup>&</sup>lt;sup>9</sup> Report on the Examination into the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy (October 2017), Paragraph 148; Report on the Examination of the Maldon District Local Development Plan (June 2017), Paragraph 143; Report on the Examination of the East Herts District Plan (July 2018), Paragraphs 37-38.

- 96. The GTAA **(EB050A to C)** was carried out in accordance with the PPTS (2015). The primary change made by the PPTS (2015) was to the definition of Gypsies, Travellers and Travelling Showpeople for planning purposes.
- 97. Whilst requiring local authorities to complete a local assessment of need, the PPTS does not provide a methodology for the assessment of current and future pitch need. The GTAA (EB050A to C) has sought to understand the accommodation needs of the Gypsy, Traveller and Travelling Showpeople population in Chelmsford that met the planning definition of a Traveller through a combination of desk-based research, stakeholder interviews and engagement with members of the travelling community living on all known sites/yards.
- 98. The GTAA **(EB050A to C)** also includes an estimate of current and future accommodation need for those Gypsies, Travellers and Travelling Showpeople who were not able to be interviewed who may meet the planning definition (unknown households).
- 99. It is not now a requirement for a GTAA to include a formal assessment of need for households that did not meet the current planning definition. However, this assessment was carried out for completeness and to provide information on overall levels of need that will have to be addressed.
- 100. The methodology employed by ORS is set out in detail in the Essex GTAA Joint Methodology **(EB050B).** The methodology has been refined over the past ten years to ensure it is robust and defensible. Refinements have also taken account of the introduction of new guidance and legislation such as the changes to the PPTS in 2015 and the outcomes of Local Plan examinations and planning appeals.
- 101. In terms of the Chelmsford GTAA Assessment a total of 41 interviews were completed with Gypsies and Travellers living in Chelmsford and a total of 14 interviews were completed with Travelling Showpeople. The fieldwork was carried out over an extended period between November 2015 and September 2016. Details of this are included within the Chelmsford City Council Gypsy, Traveller and Travelling Showpeople Accommodation Assessment Need Summary Report **(EB050A).**
- 102. The outcomes of the interviews were used to assess whether household members met the planning definition within the PPTS (Annex 1) in that it was established whether household members:
  - Travel for work purposes, or for seeking work, and stay away from their usual place of residence when doing so; or
  - Have ceased to travel temporarily due to education, ill health or old age.
- 103. As well as the case law that is set out in the GTAA **(EB050A to C)**, this approach was endorsed by a Planning Inspector in a Decision Notice for an appeal in East Hertfordshire that was issued in December 2016 (Ref: APP/J1915/W/16/3145267):

Case law, including the R v South Hams District Council ex parte Gibb (1994) judgment referred to me at the hearing, despite its reference to 'purposive activities including work' also refers to a connection between the travelling and the means of livelihood, that is, an economic purpose. In this regard, there is no economic purpose... This situation is no different from that of many landlords and property investors or indeed anyone travelling to work in a fixed, pre-arranged location. In this regard there is not an essential connection between wandering and work... Whilst there does appear to be some connection between the travel and the work in this regard, it seems to me that these periods of travel for economic purposes are very short, amounting to an extremely small proportion of his time and income. Furthermore, the work is not carried out in a nomadic manner because it seems likely that it is done by appointment... I conclude, therefore, that XX does not meet the definition of a gypsy and traveller in terms of planning policy because there is insufficient evidence that he is currently a person of a nomadic habit of life.

- 104. This was further reinforced in a more recent Decision Notice for an appeal in Norfolk that was issued in February 2018 (Ref: APP/V2635/W/17/3180533) that stated:
- 105. As discussed during the hearing, although the PPTS does not spell this [the planning definition] out, it has been established in case law (R v South Hams DC 1994) that the nomadism must have an economic purpose. In other words, gypsies and travellers wander of travel for the purposes of making or seeking their livelihood.
- 106. In respect of the methodology used to address the need arising from unknown households, the same ORS methodology being considered as part of the Chelmsford Local Plan **(EB050B)** was supported by the Planning Inspector for a Local Plan examination for another Council that was part of the Essex wide GTAA, Maldon District Council. In his Report that was published on 29th June 2017 he concluded:
  - 150. The Council's stance is that any need arising from 'unknowns' should be a matter left to the planning application process. Modifications to Policy H6 have been put forward by the Council setting out criteria for such a purpose, which I consider further below. To my mind, that is an appropriate approach. While there remains a possibility that up to 10 further pitches may be needed, that cannot be said to represent identified need. It would be unreasonable to demand that the Plan provide for needs that have not been established to exist. That being said, MM242h is nonetheless necessary in this regard. It commits the Council to a review of the Plan if future reviews of the GTAA reveal the necessity for land allocations to provide for presently 'unknown' needs. For effectiveness, I have altered this modification from the version put forward by the Council by replacing the word "may" with "will" in relation to undertaking the review committed to. I have also replaced "the Plan" with "Policy H6" the whole Plan need not be reviewed.
- 107. The GTAA **(EB050A to C)** concludes that there is a need for 6 additional pitches over the period to 2033 for Gypsy and Traveller households that met the planning definition; a need for up to 17 additional pitches for Gypsy and Traveller households that may meet the planning definition; and a need for 18 additional pitches for Gypsy and Traveller households who did not meet the planning definition. It goes on to conclude that there is a need for 16 additional plots over the period to 2033 for Travelling Showpeople that met the planning definition; a need for up to 5 additional plots for unknown Travelling Showpeople; and a need for no additional plots for Travelling Showpeople that did not meet the planning definition.

- 108. The components of need are clearly set out in the GTAA Need Summary Report **(EB050A)** and comprise a combination of:
  - Unauthorised pitches;
  - Concealed or doubled-up households or single adults;
  - Teenagers in need of a pitch of their own in the next 5 years;
  - Temporary pitches; and
  - New household formation.
- 109. New household formation is a matter that is regularly challenged at Local Plan examinations and planning appeals. The ORS rationale for arriving at the new household formation is set out in the "Technical Note: Gypsy and Traveller Household Formation and Growth Rates" (2015). This can be found at Appendix C of the Essex Joint Methodology **(EB050B).** In the Technical Note ORS observe that while household formation rates should be dependent on local demographics, the national rate of new household formation for Gypsies and Travellers is 1.50%. This has been adjusted accordingly based on the local demographics found in Chelmsford. The Technical Note has been accepted as a robust academic evidence base by the Social Research Association and has been accepted as a justified position in a number of planning appeals.
- 110. One of these was in relation to an appeal in Doncaster that was issued in November 2016 (Ref: APP/F4410/W/15/3133490) where the agent acting on behalf of the appellant claimed that a rate closer to 3.00% should be used. The Inspector concluded:

In assessing need account also needs to be taken of likely household growth over the coming years. In determining an annual household growth rate the Council relies on the work of Opinion Research Services (ORS), part of Swansea University. ORS's research considers migration, population profiles, births & fertility rates, death rates, household size data and household dissolution rates to determine average household growth rates for gypsies and travellers. The findings indicate that the average annual growth rate is in the order of 1.5% but that a 2.5% figure could be used if local data suggest a relatively youthful population. As the Council has found a strong correlation between Doncaster's gypsy and traveller population age profile and the national picture, a 1.5% annual household growth rate has been used in its 2016 GTANA. Given the rigour of ORS's research and the Council's application of its findings to the local area I accept that a 1.5% figure is justified in the case of Doncaster.

111. Another more recent decision was in relation to an appeal in Guildford that was issued in March 2018 (Ref: APP/W/16/3165526) where the agent acting on behalf of the appellant again claimed that a rate closer to 3.00% should be used. The Inspector concluded:

There is significant debate about household formation rates and the need to meet future growth in the district. The obvious point to make is that this issue is likely to be debated at the local-plan examination. In my opinion, projecting growth rates is not an exact science and the debate demonstrates some divergence of opinion between the experts. Different methodologies could be applied producing a wide range of data. However, on the available evidence it seems to me that the figures used in the GTAA are probably appropriate given that they are derived by using local demographic evidence. In my opinion, the use of a national growth rate and its adaptation to suit local or regional variation, or the use of local base data to refine the figure, is a reasonable approach.

- 112. Taking the assumptions set out in the GTAA **(EB050A to C)** about likely levels of need from unknown households and the uplift of the need figures from 2033 to 2036 to meet the Local Plan period results in an identified need for 9 additional nomadic Gypsy and Traveller pitches and 24 Travelling Showpeople plots in the period to 2036.
- 113. In conclusion, taking the GTAA and all of the above points into consideration, the housing needs for Gypsies, Travellers and Travelling Showpeople have been robustly assessed through the Chelmsford Gypsy, Travellers and Travelling Showpeople Accommodation Assessment (GTAA) in accordance with national policy and that its conclusions are justified and based on robust evidence, which are reflected in the Local Plan requirements.

#### **APPENDIX A**

EVIDENCE BASE	LIST FOR MATTER 3
EB046	Braintree District Council, Chelmsford City Council, Colchester Borough
	Council, Tendring District Council Objectively Assessed Housing Need Study
	July 2015
EB047	Braintree District Council, Chelmsford City Council, Colchester Borough
	Council, Tendring District Council Strategic Housing Market Assessment
	Update December 2015
EB048	Braintree District Council, Chelmsford City Council, Colchester Borough
	Council, Tendring District Council Objectively Assessed Housing Need Study
	November 2016 update
EB050A	Chelmsford City Council Gypsy, Traveller and Travelling Showpeople
	Accommodation Assessment Need Summary Report June 2017
EB050B	Essex, Southend-on-Sea and Thurrock Gypsy, Traveller and Travelling
	Showpeople Accommodation Assessment Joint Methodology Report January
	2018
EB050C	Essex, Southend-on-Sea and Thurrock Gypsy, Traveller and Travelling
	Showpeople Accommodation Assessment Summary Report January 2018
EB171	EB171 North Essex Section 1 Plan Inspector's Supplementary Post-Hearing
	Letter on Housing Requirements

#### **Appendix B John Hollis Note**

# **Chelmsford: ONS 2016 Household Projections**

#### Version 1: 26 October 2018

#### John Hollis

## 1. Background

This note presents the results of the ONS 2016 household projections for Chelmsford and analyses differences with the DCLG 2014 household projections<sup>10</sup>.

The 2016 household projections released on 20 September were the first to be prepared by ONS using revised methodology following the decision that DCLG would no longer prepare the projections.

The main changes to methodology were:

- Projections would be by gender and age and not consider the relationship status of individuals.
- Age groups were altered a little: 15-19 was dropped in favour of 16-19 and 85+ became 85-89 and 90+. Otherwise ages were in 5-year groups.
- Household representatives are based on (a) the oldest economically active adult, or, if no economically active adults, (b) the oldest non-active individual. This moves away from the DCLG definition which used the oldest male in a couple as the representative of a household containing one or more couples. It shifts representation away from males and towards females in all age groups.
- Updating the prison population to 2016.
- Only projecting representative rates based on the 2001 and 2011 Censuses annually to 2021 and then holding them constant for each local authority. This compares with the DCLG method of using Census data over the period 1971 to 2011 and projecting rates annually to the projection end year.

The projections were prepared by taking the ONS 2016 Subnational Population Projections (SNPP), removing estimates of the communal establishment population by age and gender and then applying the representative rates by age and gender.

The result for England was that the projections showed an annual average increase of 158 thousand compared with 210 thousand in the DCLG 2014 projections. The results encouraged Kit Malthouse, the housing minister, to warn local authorities at the Conservative Party Conference on 1 October not to 'take their foot off the accelerator' following the publication of the new household projections that indicate a much lower level of housing need in many parts of the country. This is the case for Chelmsford.

<sup>&</sup>lt;sup>10</sup> All ONS and DCLG estimates and projections are © Crown Copyright



## 2. Population Estimates and Projections

Figure 1: Chelmsford: Total Population, 2001-41. ONS estimates and projections (thousands)

Figure 1 shows that the ONS 2016 population projection for Chelmsford has a lower trajectory than the ONS 2014 projection. The difference at 2037 is 3.9 thousand. The projection was prepared following a revision to the methods by which migration estimates were calculated for each local authority. The ONS mid-year estimates shown in Figure 1 include the latest updates.

## 3. Net Migration Estimates and Projections



Figure 2: Chelmsford: Net Migration 2001-02 to 2040-41. ONS estimates and projections (thousands)

Figure 2 shows annual net migration. The ONS 2014 based SNPP shows net migration levels that are somewhat higher than those in the ONS 2016 SNPP. Over the period of the current plan (2013-37) the difference is only 1,200. This is mainly a consequnce of the reduced level of net international migration into England assumed in the 2016 projections. The revised lower level of net migration is one reason why the 2016 SNPP for Chelmsford is lower than the earlier projection. It should be noted that net migration has increased substantially in 2016-17 to well above all recent projections and to levels not estimated since 2003-04.

# 4. Natural Change



Figure 3: Chelmsford: Natural Change 2001-02 to 2040-41. ONS estimates and projections (thousands)

A major change in the assumptions for the ONS 2016 projections was that there was a reduction in the future levels of life expectancy, that is mortality rates would not decline as rapidly as previously assumed.. As Figure 3 shows this has resulted in a significant reduction in the levels of natural change, equivalent to 2,600 persons over the life of the local plan.

Figure 4 shows that the impact of this assumption is on persons aged over 70 in 2037 and prominently on persons aged over 90. As will be seen later older persons have the highest overall household representative rates, so reductions in their numbers will have a significant impact on total numbers of future households.



Figure 4: Chelmsford: Age Structure 2013 to 2041. ONS 2014 and 2016 projections

## 5. Household Estimates and Projections



Figure 5: Chelmsford: Total Households, 2001-41. DCLG and ONS estimates and projections (thousands)

Figure 5 shows that the ONS 2016 household projection has significantly lower growth than its predecessor: by 2,500 over the period of the local plan. At 2037 the new projection is 83.4 thousand compared to 86.7 thousand in the DCLG 2014 projection. (Note that the base at 2013 is also lower in the new projection.) The figure also shows the calculation of households by incorporating the ONS 2016 SNPP with the assumptions and rates of the DCLG 2014 household projection. This line falls between the DCLG 2014 projection and the ONS 2016 projection. This artificial projection shows an increase in households of 13.8 thousand compared to 15.7 thousand in the DCLG 2014 projection and 12.9 thousand in the ONS 2016 projection. Hence most (about 70%) of the difference between the two official projections is due to the assumptions about migration and mortality.



Figure 6: Chelmsford: Annual Change in Households, 2001-41. ONS 2016 projection

Figure 6 shows the annual change in the latest projection of households as well as for years back to 2001-02. Growth is quite even throughout. The projected growth 2016-41 is 536 per year and for the plan period (2013-37) is 539 per year.



Figure 7: Chelmsford: Households by Age of Representative, 2013 and 2037. ONS 2016 projection

Growth in the number of households is a combination of the changing size and age/gender structure of the population and the representative rates. Figure 7 shows that over the 24 year plan period 81% (10,500 of 12,900) of the growth in households will be at ages over 70 with some small reductions projected in the younger ages and most of the rest of the growth at ages 45-64. There is expected to be a near tripling of households represented by someone over 90 years old.

# 6. Household Representative Rates

The household representative rates based upon the 2001 and 2011 Censuses and projected to 2021 are shown in Figures 8 and 9. At 2011 male rates are greater than female rates at all intermediate ages but almost identical at the youngest and oldest ages.



Figure 8: Chelmsford: Male Households Representative Rates, 2001, 2011. & 2021 ONS 2016 projection

Figure 9: Chelmsford: Female Households Representative Rates, 2001, 2011. & 2021 ONS 2016 projection



While the rates based upon the 2011Census show smooth trends those based on the 2001 Census look less certain, particularly in the earlier years of retirement. It was expected that, following the work done on representative rates for the DCLG 2014 projections, there would be reduction in rates over the 2001-11 decade at younger ages. This appears to be the case, notably for males. However, the situation at older ages is less clear and there is a hint that the 2001 Census data may not have been adequately allocated between the genders by ONS, whose definition is based initially on the oldest economically active person.

The simple nature of a two-point projection means that possible inaccuracies in the data at older ages may be leading to an unlikely projection of the rates and, hence, the numbers of households as between the genders. The net effects of these potential problems on the total projected households are hard to determine

Figure 10 shows average household size (AHS) from recent projections, including the artificial mixing of the ONS 2016 SNPP with the DCLG 2014 assumptions. All projections show AHS declining although the ONS 2016 projection shows only modest decline up to 2021, the last year of projected household representative rates. The artificial projection shows slightly higher AHS than the DCLG 2014 projection, which is largely due to the assumptions about higher mortality rates and hence fewer small households with older representatives.



Figure 10 Chelmsford: Average Household Size, 2001-41 DCLG and ONS projections

# 7. Conclusions

The reduction in the future number of households projected by ONS for Chelmsford is mainly a consequence of the revised assumptions used in the ONS 2016 SNPP. There is less net migration, mainly from Overseas, as well as the expectation that mortality rates will not improve as rapidly as previously expected, leading to reductions in the projection of persons over 70 and particularly those over 90. Population effects account for 70% of the difference in household growth as between the DCLG 2014 projection and the ONS 2016 projection over the 24 year local plan period.

However the reduced migration levels have not persisted according to the ONS calculations used in creating the 2017 mid-year population estimates. The reasons for the changes in migration levels are not well understood. Such changes are often due to changes in either the housing or economic situations, or both, at local and national levels The Brexit vote may have influenced reduced inflows to the UK from the rest of Europe. All recent projections have been based on averaging a rising historic trend over the previous 5 or 6 years. The key question is will the rising trend persist beyond 2017.

While there are some questions over the new ONS household projection methodology and data, the revised approach does not appear to have been the major driver of the lower household projection in Chelmsford, although they do seem to have had some impact on the amelioration of the previously projected decline in the average household size. The other main impact on trends in AHS is the reduced projection of the elderly.

It is clear that, in spite of the population now projected to have fewer older persons, the major change in households will be those headed by those over 70. Over 80% of total change will be seen in households represented by a person aged over70, notably with a near tripling of representatives aged 90 and over.

ONS is due to publish Stage 2 household projection results in December. These will convert the total households to types of households; that is numbers of adults and dependent children in the households.

## 8. Appendix

An additional population projection has been prepared that looks at the impact of the migration trends seen over 2006-16. It may be compared with earlier projections based on ten-year trends published by Peter Brett Associates. The projection is based on the ONS mid-2017 population estimate of 176,194 and uses the fertility and mortality assumptions of the ONS 2016 national and subnational population projections updated to incorporate birth and death data for 2016-17. The main difference with the ONS 2016 population projection for Chelmsford is less net migration. While ONS projects more net inflows than in its base period (667pa 2016-37) the 2006-16 trends projection projects less annual net migration (446pa 2017-37).

The population has been converted to households using the household representative rates and assumptions of the DCLG 2012 and 2014 household projections. Both projections show a lower household size in 2037 than does the ONS 2016 household projection (2.277 compared to 2.301). The main results are presented for the period 2013 to 2037.

	Population	Households	Households
		CLG 2012	CLG 2014
2013	170,311	71,021	71,026
2037	190,109	82,323	82,269
Change	19,798	11,302	11,243
AHS 2013		2.368	2.368
AHS 2037		2.276	2.277

#### Table A1: Chelmsford: Results of projection based on 2006-16 Trends

#### Population (k)

Net Migration (k)

	ONS MYE	ONS 2012	ONS 2014	ONS 2016	ONS 2014	ONS MYE		ONS MYE	ONS 2012	ONS 2014	ONS 2016	ONS 2014	ONS MYE
2001	157.3					157,269	2002	0.9	)				943
2002	158.7					158,686	2003	1.1					1054
2003	160.4					160,360	2004	1.5	5				1533
2004	162.5					162,505	2005	0.5	5				470
2005	163.6					163570	2006	-0.5	5				-515
2006	163.9					163,879	2007	-0.2	2				-191
2007	164.4					164,381	2008	-0.2	2				-174
2008	165.0					165,047	2009	0.4	ł				378
2009	166.2					166,208	2010	0.5	5				453
2010	167.4					167,441	2011	0.3	3				331
2011	168.5					168,491	2012	0.2	2				231
2012	169.4	169.3	3			169379	2013	0.8	5 0.3	3			495
2013	170.3	170.2	2			170311	2014	0.5	5 0.4	l	_		490
2014	171.6	171.3	3 171.6	6	171,633	171590	2015	0.1	0.4	0.7	7	681	673
2015	172.7	172.4	172.8	3	172,756	172719	2016	0.9	0.5	5 0.6	) 	619	865
2016	174.2	173.5	5 173.9	) 174.2	173,908	174197	2017	1.5	5 0.5	o 0.7	0.7	655	1486
2017	1/6.2	1/4./	1/5.1	1/5.3	1/5,112	1/6194	2018		0.6	5 0. <i>1</i>	0.7	678	
2018		1/5.9	) 1/6.4	4 1/6.4	1/6,353		2019		0.6	5 0. <i>1</i>	0.7	689	
2019		177.2			177,621		2020		0.6	5 0.7	0.7	678	
2020		1/8.4	1/8.9	9 1/8./	178,869		2021		0.6	5 0. <i>1</i>	0.7	670	
2021		1/9.6	b 180.1	1/9.9	180,106		2022		0.6	0.7	0.7	653	
2022		180.8	3 181.3 N 100.0	3 180.9	181,328		2023		0.6	0.7	0.6	666	
2023		182.0	102.0	0 182.0	182,303		2024		0.6	D 0.7	0.0	630	
2024		103.2	2 103.0	D 103.1 D 104.1	103,770		2025		0.0		0.0	649	
2025		104.3		) 104.1	104,907		2020		0.0	o 0.7	0.0 7 0.6	601	
2020		186.6	S 187 /	1 186 1	187 351		2027		0.0	0.7 7 0.7	7 0.0	723	
2021		187.7	7 188 5	5 187 0	188 536		2020		0.7	7 0.7	7 0.0	725	
2020		188.8	1897	7 188.0	189 702		2023		0.7	7 0.7	0.0 ۲ 0.7	763	
2030		189 9	9 190.7	188.9	190,865		2031		0.7	7 0.0	3 07	773	
2031		190.9	) 192 (	189.8	192 001		2032		0.7	7 0.8	3 07	813	
2032		191.9	9 193.1	190.7	193,143		2033		0.7	7 0.8	3 0.7	838	
2033		192.9	9 194.3	3 191.5	194,278		2034		0.7	7 0.9	0.7	855	
2034		193.9	9 195.4	192.4	195.401		2035		0.7	7 0.9	0.7	852	
2035		194.9	9 196.5	5 193.2	196,499		2036		0.7	7 0.8	3 0.7	848	
2036		195.9	9 197.6	6 194.1	197.568		2037		0.8	3 0.9	0.7	850	
2037		196.8	3 198.6	6 194.9	198,622		2038			0.9	0.7	860	
2038			199.7	7 195.7	199,677		2039			0.9	0.7	871	
2039			200.7	7 196.5	200,738		2040				0.7		
2040				197.4			2041				0.7		
2041				198.2									
		26.5	5 28.3	3 24.6			2013-37		15.1	17.2	2 16.0		

2013-37







# ONS MYE ONS 2012
Households (k)

Natural Change (k)

	ONS MYE	ONS 2012	ONS 2014	ONS 2016	ONS 2014	ONS MYE		ONS MYE	CLG 2012	CLG 2014	ONS2016/C	ONS 2016 M	F	
2002	0.3					346	2001	64.2					41908	2228
2003	0.5					507	2002	64.6					42003	2260
2004	0.5					534	2003	65.1					42160	2292
2005	0.5					473	2004	65.7					42413	2333
2006	0.7					738	2005	66.4					42754	2363
2007	0.6					559	2006	66.7					42915	2379
2008	0.8					757	2007	67.1					43011	2410
2009	0.7					682	2008	67.6					43252	2435
2010	0.7					695	2009	68.2					43541	2467
2011	0.6					626	2010	68.9					43856	2502
2012	0.7					664	2011	69.4	69.8	69.8	69.8	69.4	44089	2533
2013	0.5	0.6	5			502	2012	69.9	70.4	70.4	70.4	69.9	44302	2563
2014	0.7	0.7	7			657	2013	70.5	71.0	71.0	71.0	70.5	44547	2590
2015	0.5	0.7	<b>'</b> 0.4	1	442	2 460	2014	70.9	71.7	71.7	71.7	70.9	44712	2623
2016	0.5	0.6	6 0.5	5	533	3 507	2015	71.4	72.3	72.4	72.3	71.4	44907	2650
2017	0.5	0.6	6 0.5	5 0.4	548	3 512	2016	72.0	73.1	73.1	73.1	72.0	45286	2674
2018		0.6	6 0.6	6 0.5	563	}	2017		73.8	73.9	73.8	72.6	45551	2703
2019		0.6	6 0.6	6 0.5	580	)	2018		74.5	74.6	74.4	73.1	45775	2730
2020		0.6	6 0.6	6 0.5	570	)	2019		75.2	75.3	75.0	73.6	46015	2759
2021		0.6	6 0.6	6 0.4	567	7	2020		75.8	76.0	75.6	74.1	46236	2784
2022		0.6	6 0.6	6 0.4	568	3	2021		76.5	76.7	76.2	74.6	46472	2809
2023		0.6	6 0.6	6 0.4	570	)	2022		77.2	77.4	76.8	75.2	46860	2833
2024		0.6	6 0.6	6 0.4	559	)	2023		77.9	78.0	77.4	75.8	47214	2854
2025		0.5	5 0.5	5 0.4	539	)	2024		78.5	78.7	77.9	76.3	47572	2877
2026		0.5	o 0.5	5 0.4	516	5	2025		79.1	79.3	78.5	76.9	47920	2897
2027		0.5	0.5	5 0.4	488	}	2026		79.8	80.0	79.0	77.5	48283	2919
2028		0.4	0.5	5 0.3	462		2027		80.4	80.6	79.6	78.1	48626	2944
2029		0.4	0.4	1 0.3	431	_	2028		81.0	81.2	80.1	78.6	48962	2967
2030		0.4	0.4	1 0.3	400	)	2029		81.6	81.9	80.6	79.2	49298	2988
2031		0.4	0.4	4 0.2	363	}	2030		82.3	82.5	81.2	/9./	49632	3008
2032		0.3	B 0.3	3 0.2	328	}	2031		82.9	83.1	81.7	80.3	49963	3028
2033		0.3	· 0.3	3 0.2	297		2032		83.5	83.7	82.2	80.8	50292	3049
2034		0.3	B 0.3	3 0.2	269	-	2033		84.1	84.4	82.8	81.3	50614	3069
2035		0.2	2 0.2	2 0.1	245		2034		84.7	85.0	83.3	81.8	50945	3088
2036		0.2	2 0.2	2 0.1	222		2035		85.3	85.5	83.7	82.3	51269	3107
2037		0.2	2 0.2	2 0.1	204	-	2036		85.8	86.1	84.3	82.9	51599	3127
2038			0.2	2 0.1	195	)	2037		86.4	86.7	84.7	83.4	51924	3145
2039			0.2	∠ 0.1	190	,	2038			87.3	85.2	83.9	52244	3165
2040				0.1			2039			87.8	85.7	84.4	52565	3183
2041				0.1			2040					84.9	52883	3201
							2041					85.4	53211	3222









13.8

12.9

15.7

15.4



10.9

11.5

F	Р
22280	64187
22606	64609
22928	65088
23332	65745
23632	66386
23791	66705
24101	67112
24355	67607
24677	68218
25022	68878
25330	69420
25631	69933
25907	70454
26232	70945
26501	71407
26743	72030
27033	72585
27307	73082
27594	73609
27848	74083
28098	74571
28331	75191
28545	75760
28770	76342
28975	76895
29192	77475
29444	78070
29675	78637
29885	79183
30081	/9/13
30289	80252
30497	80790
30698	81312
30889	81833
310/5	82345
31270	82869
31456	83379
31050	83894
31835	04400 04000
32016	84899
32220	80432
0.697925	-2.0

### Average Household Size

	ONS MYE	CLG 2012	CLG 2014	ONS2016/C	ONS 2016
2001	2.419				
2002	2.425				
2003	2.432				
2004	2.441				
2005	2.433				
2006	2.426				
2007	2.418				
2008	2.410				
2009	2.405				
2010	2.400				
2011	2.396	2.385	2.385	2.385	2.396
2012	2.391	2.375	2.375	2.375	2.391
2013	2.388	2.368	2.369	2.369	2.388
2014	2.387	2.360	2.363	2.363	2.387
2015	2.388	2.353	2.356	2.359	2.388
2016	2.387	2.345	2.348	2.353	2.387
2017		2.338	2.340	2.346	2.383
2018		2.333	2.335	2.342	2.383
2019		2.327	2.328	2.338	2.381
2020		2.322	2.323	2.335	2.381
2021		2.317	2.318	2.330	2.380
2022		2.312	2.313	2.325	2.374
2023		2.307	2.309	2.322	2.370
2024		2.303	2.304	2.319	2.366
2025		2.298	2.300	2.315	2.361
2026		2.294	2.297	2.312	2.356
2027		2.289	2.293	2.308	2.350
2028		2.285	2.289	2.304	2.345
2029		2.280	2.285	2.300	2.340
2030		2.276	2.282	2.296	2.336
2031		2.271	2.277	2.291	2.331
2032		2.266	2.273	2.286	2.326
2033		2.261	2.270	2.282	2.321
2034		2.256	2.266	2.278	2.316
2035		2.252	2.263	2.275	2.311
2036		2.248	2.260	2.271	2.306
2037		2.243	2.257	2.267	2.301
2038			2.254	2.263	2.296
2039			2.251	2.261	2.292
2040					2.288
2041					2.283

ONS 2012	Natural Cl	hange etc									
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010	Births	Deaths	NC	NM	Males	Females	Persons				
2011									2016 SNP	>	
2012					83322	86013	169335		Births	Deaths	NC
2013	1963	1351	612	2 288	83822	86413	170235				
2014	1974	1296	678	3 361	84383	86891	171274				
2015	1978	131/	661	1 435	84959	8/411	1/23/0				
2016	1980	1334	646	5 508	85553	8/9/1	1/3524	0047	1001000	1 1 70 700	44.4.000
2017	1989	1341	648	3 550 5 570	86163	88558	174721	2017	1894.069	14/9./36	414.333
2018	1987	1338	650	) 579	86793	89157	175950	2018	1919.788	1445.12	474.668
2019	1989	1352	637	<i>695</i>	87429	89753	17/182	2019	1935.472	1457.712	477.76
2020	1990	1368	622	2 608	88069	90344	178412	2020	1939.483	1484.674	454.809
2021	1991	1384	606	626	88709	90936	179645	2021	1940.05	1497.773	442.277
2022	1992	1399	593	605	89329	91514	180843	2022	1947.745	1514.203	433.542
2023	1991	1411	580	) 614	89950	92087	182037	2023	1952.183	1524.129	428.054
2024	1989	1430	555	611	90553	92654	183207	2024	1954.947	1541.659	413.288
2025	1985	1451	534	4 602	91133	93210	184343	2025	1954.049	1558.459	395.59
2026	1979	14/3	506	b 639	91723	93764	185488	2026	1952.28	15/6.83	375.45
2027	1973	1494	4/8	630	92294	94302	186596	2027	1948.77	1597.642	351.128
2028	1965	1516	448	660	92865	94839	18/705	2028	1942.239	1616.691	325.548
2029	1950	1542	410		93420	95365	100/93	2029	1933.04	1640.309	295.331
2030	1952	1500	300		93907	95000	109007	2030	1929.107	16002.439	200.710
2031	1947	1622	200		94527	90300	190907	2031	1923.209	1719 69	234.042
2032	1944	1022	322	2 709	95000	90072	191930	2032	1919.920	1710.00	175.00
2033	1944	1694	290	) 720 1 721	95000	97340	192940	2033	1919.000	1760 955	151 964
2034	1940	1714	20-	731	90127	97013	193942	2034	1029.029	1709.000	122 856
2035	1950	17/4	242	- 735 1 745	90047	30272 08722	194919	2035	1920.930	1825 374	115 2/0
2030	1007	1770	220	740	97102	00165	196838	2030	1955 020	1852 502	102 220
2037	1901	1779	202	- 752	97072	39100	130030	2037	1975 822	1874 074	101.749
								2030	1998 547	1892 214	106 333
								2039	2024 76	1908.078	116 682
								2040	2019 750	1925 972	123 787
								2041	20-3.753	1525.572	120.707

-2.8



2016 SN	PP	
Births	Deaths	NC

ONS 2016 421 479 557 641 319 407 495 611	700 600 500 400 300	— MYE — ONS 2016
542	200	
513 521	100	
491	0 +	
463	) 002 004 005 005 005 005 005 005 005 005 005	
555		

2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041	421 479 657 641 319 407 495 611 660 542 513 521 491 463 622	555 498 527 474 487 620 569 582 553 580 596 567 546 529 539 538 522 521 512 524 510 515 505 499 533	
2012-37	523	536 540	530
2013-3/	525	540	009

MYE

#### 2016-based subnational population projections

Table 5: Components of change (births, deaths and migration) for local authorities and higher administrative areas in England

All ages, persons

Figures in thousands (to one decimal place)

CODE	AREA	COMPONENT	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
0	Chelmsford	Population	174.2	175.3	176.4	177.6	178.7	179.9	180.9	182.0	183.1	184.1	185.1	186.1	187.0	188.0	188.9	189.8	190.7	191.5	192.4	193.2	194.1	194.9	195.7	196.5	197.4	198.2
0	Chelmsford	Natural Change		0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0	Chelmsford	Deaths		1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0
0	Chelmsford	All Migration Net		07	0.7	0.7	07	0.7	07	0.6	0.6	0.0	0.0	0.0	0.6	0.6	0.7	0.6	07	07	07	0.7	07	0.7	07	07	0.7	0.7
0	Chelmsford	Internal Migration In		8.2	8.2	8.3	8.3	8.3	8.4	8.4	8.4	8.4	8.5	8.5	8.6	8.6	87	87	8.8	8.8	8.9	8.9	9.0	9.0	91	91	9.1	9.2
0	Chelmsford	Internal Migration Out		7.8	7.9	7.9	7.9	7.9	7.9	7.9	8.0	8.0	8.1	8.1	8.1	8.2	8.2	8.3	8.3	8.4	8.4	8.4	8.5	8.5	8.6	8.6	8.6	8.7
0	Chelmsford	International Migration In		0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
0	Chelmsford	International Migration Out		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0	Chelmsford	Cross-border Migration In		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0	Chelmsford	Cross-border Migration Out		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0	Chelmsford	Other		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
				8.4	8.4	8.5	8.5	8.5	8.6	8.6	8.6	8.6	8.7	8.7	8.8	8.8	8.9	8.9	9.0	9.0	9.1	9.1	9.2	9.2	9.3	9.3	9.3	9.4
			UK Out	8.0	8.1	8.1	8.1	8.1	8.1	8.1	8.2	8.2	8.3	8.3	8.3	8.4	8.4	8.5	8.5	8.6	8.6	8.6	8.7	8.7	8.8	8.8	8.8	8.9
			UK Net	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
				0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
			Ov In	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
			Ov Out	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
			Ov Net	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			2016	12.0									2014	12.0														
				12.0 -																								
				10.0 -						_				10.0						_								
				8.0 -						_				8.0						_								
				60							UK In			6.0							UK In							
				0.0							UK Out									_	-UK Out							
				4.0 -							UK Net			4.0	1						UK Net							
				2.0 -										2.0														
				0.0 -						_				0.0														
				2	017 2019 202	120232025	2027 2029 20	31 2033 203	5 2037 2039 2	041					2015 2017 2	0192021202	3 2025 2027 2	2029203120	33 2035 2037	7 2039								

2014-based Subnational population projections

Table 5: 2014-based Subnational Population Projections with Components of Change (Births, Deaths and Migration) for Local Authorities and Higher Administrative Areas in England All ages, Persons

-2.0

2017 2019 2021 2023 2025 2027 2029 2031 2033 2035 2037 2039 2041

Figures in thousands (to one decimal place)

CODE	AREA	COMPONENT	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
0	Chelmsford	Population	171.6	172.8	173.9	175.1	176.4	177.6	178.9	180.1	181.3	182.6	183.8	185.0	186.2	187.4	188.5	189.7	190.9	192.0	193.1	194.3	195.4	196.5	197.6	198.6	199.7	200.7
0	Chelmsford	Natural Change		0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
0	Chelmsford	Births		1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1
0	Chelmsford	Deaths		1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.9
0	Chelmsford	All Migration Net		0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9
0	Chelmsford	Internal Migration In		7.9	7.9	8.0	8.1	8.1	8.1	8.2	8.2	8.2	8.3	8.3	8.4	8.4	8.5	8.6	8.6	8.7	8.8	8.8	8.9	8.9	9.0	9.0	9.1	9.1
0	Chelmsford	Internal Migration Out		7.5	7.6	7.5	7.6	7.6	7.6	7.6	7.7	7.7	7.7	7.8	7.8	7.9	7.9	8.0	8.0	8.0	8.1	8.1	8.1	8.2	8.2	8.3	8.4	8.4
0	Chelmsford	International Migration In		1.0	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
0	Chelmsford	International Migration Out		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
0	Chelmsford	Cross-border Migration In		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0	Chelmsford	Cross-border Migration Out		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
				2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
			UK In	8.1	8.1	8.2	8.3	8.3	8.3	8.4	8.4	8.4	8.5	8.5	8.6	8.6	8.7	8.8	8.8	8.9	9.0	9.0	9.1	9.1	9.2	9.2	9.3	9.3
			UK Out	7.7	7.8	7.7	7.8	7.8	7.8	7.8	7.9	7.9	7.9	8.0	8.0	8.1	8.1	8.2	8.2	8.2	8.3	8.3	8.3	8.4	8.4	8.5	8.6	8.6
			UK Net	0.4	0.3	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.7	0.8	0.7	0.7	0.7
				2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
			Ov In	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			Ov Out	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
			OV Net	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

-2.0 🕹

### Chelmsford

	Start Population	Births	Deaths	Natural	Internal	Internal	Internal	International	International	International	Asylum	Prisoners	AF	Other
	Estimate			Change	In	Out	Net	In	Out	Net	Seekers Net			unattributable
2002	157,269	1,615	1,269	346	8,773	7,709	1,064	968	1,059	-91	-30	12	0	116
2003	158,686	1,746	1,239	507	8,671	7,769	902	1,102	963	139	13	8	0	105
2004	160,360	1,821	1,287	534	9,368	7,794	1,574	1,314	1,358	-44	3	-34	0	112
2005	162,505	1,770	1,297	473	8,246	8,026	220	1,131	884	247	3	28	0	95
2006	163,570	1,885	1,147	738	8,231	8,511	-280	1,115	1,352	-237	2	-5	1	92
2007	163,879	1,768	1,209	559	8,656	8,658	-2	985	1,174	-189	0	36	0	100
2008	164,381	1,971	1,214	757	7,657	7,995	-338	789	627	162	2	-16	0	100
2009	165,047	1,908	1,226	682	7,585	7,138	447	797	867	-70	1	26	0	76
2010	166,208	1,940	1,245	695	7,622	7,458	164	815	526	289	0	-51	0	137
2011	167,441	1945	1,319	626	7,709	7,485	224	833	730	103	4	-21	0	114
e														
					8,252	7,854	398	985	954	31	0	-2	0	105
	Start Population Estimate	Births	Deaths	Natural Change	Internal In	Internal Out	Internal Net	International In	International Out	International Net		Special changes		Other changes
2012 2013 2014 2015 2016 2017	168,491 169,379 170,311 171,590 172,719	2,030 1,905 1,923 1,928 1,927 2,016	1,366 1,403 1,266 1,468 1,420	664 502 657 460 507	7,701 7,820 8,217 8,321 8,686	7,777 7,531 8,103 8,284 8,223 9,252	-76 289 114 37 463	851 707 825 1,058 1,012	544 501 449 422 610	307 206 376 636 402 242		-10 -63 137 -2 94		3 -2 -5 -2 12 2
	2002 2003 2004 2005 2006 2007 2008 2010 2011 2011 2011 2011 2012 2012	Start Population           Estimate           2002         157,269           2003         158,686           2004         160,360           2005         162,505           2006         163,570           2007         163,879           2008         164,381           2009         165,047           2010         166,208           2011         167,441           Start         Population           Estimate         2012           2012         168,491           2013         169,379           2014         170,311           2015         171,590           2016         172,719           2017         174,197	Start Population         Births           2002         157,269         1,615           2003         158,686         1,746           2004         160,360         1,821           2005         162,505         1,770           2006         163,570         1,885           2007         163,879         1,768           2008         164,381         1,971           2009         165,047         1,908           2010         166,208         1,940           2011         167,441         1945           2012         168,491         2,030           2013         169,379         1,905           2014         170,311         1,923           2015         171,590         1,928           2016         172,719         1,927           2017         1,74,197         2,016	Start PopulationBirthsDeaths2002157,2691,6151,2692003158,6861,7461,2392004160,3601,8211,2872005162,5051,7701,2972006163,5701,8851,1472007163,8791,7681,2092008164,3811,9711,2142009165,0471,9081,2262010166,2081,9401,2452011167,44119451,3192012168,4912,0301,3662013169,3791,9051,4032014170,3111,9231,2662015171,5901,9281,4682016172,7191,9271,4202017174,1972,0161,504	Start Population         Births         Deaths         Natural           Estimate         Change           2002         157,269         1,615         1,269         346           2003         158,686         1,746         1,239         507           2004         160,360         1,821         1,287         534           2005         162,505         1,770         1,297         473           2006         163,570         1,885         1,147         738           2007         163,879         1,768         1,209         559           2008         164,381         1,971         1,214         757           2009         165,047         1,908         1,226         682           2010         166,208         1,940         1,245         695           2011         167,441         1945         1,319         626           Start         Births         Deaths         Natural           2011         167,441         1945         1,319         626           2013         169,379         1,905         1,403         502           2013         169,379         1,905         1,403         502 <tr< th=""><th>Start Population         Births         Deaths         Natural         Internal           2002         157,269         1,615         1,269         346         8,773           2003         158,686         1,746         1,239         507         8,671           2004         160,360         1,821         1,287         534         9,368           2005         162,505         1,770         1,297         473         8,246           2006         163,570         1,885         1,147         738         8,231           2007         163,879         1,768         1,209         559         8,656           2008         164,381         1,971         1,214         757         7,657           2009         165,047         1,908         1,226         682         7,585           2010         166,208         1,940         1,245         695         7,622           2011         167,441         1945         1,319         626         7,709           2011         167,441         1945         1,319         626         7,709           2013         169,379         1,905         1,403         502         7,820           2</th><th>Start Population         Births         Deaths         Natural         Internal         Internal           Estimate         Change         In         Out           2002         157,269         1,615         1,269         346         8,773         7,709           2003         158,686         1,746         1,239         507         8,671         7,769           2004         160,360         1,821         1,287         534         9,368         7,794           2005         162,505         1,770         1,297         473         8,246         8,026           2006         163,879         1,768         1,209         559         8,656         8,658           2008         164,381         1,971         1,214         757         7,657         7,995           2009         165,047         1,908         1,226         682         7,525         7,138           2010         166,208         1,940         1,245         695         7,622         7,485           2011         167,441         1945         1,319         626         7,709         7,485           2011         167,411         1945         1,319         626         7,701</th><th>Start Population         Births         Deaths         Natural         Internal         Internal         Internal           Estimate         Change         In         Out         Net           2002         157,269         1,615         1,269         346         8,773         7,709         1,064           2003         158,686         1,746         1,239         507         8,671         7,769         902           2004         160,360         1,821         1,287         534         9,368         7,794         1,574           2005         162,505         1,770         1,297         473         8,246         8,026         220           2006         163,570         1,885         1,147         738         8,231         8,511         -280           2007         163,879         1,768         1,209         559         8,656         8,658         -22           2008         164,381         1,971         1,214         757         7,657         7,995         538           2010         166,208         1,940         1,245         695         7,622         7,458         164           2011         167,441         1945         1,319</th><th>Start Population         Births         Deaths         Natural         Internal         Internal</th><th>Start Population         Births         Deaths         Natural         Internal         Internal</th><th>Start Population         Births         Deaths         Natural         Internal         Internal</th><th>Start         Population         Births         Deaths         Natural         Internal         Internal         International         International         International         International         Asyum           2002         157,269         1,615         1,269         346         8,773         7,709         1,064         968         1,059         -91         -30           2003         158,686         1,746         1,239         507         8,671         7,799         1,064         968         1,059         -91         -30           2003         158,686         1,746         1,239         507         8,671         7,794         1,574         1,1102         9633         1,39         133         133           2005         162,505         1,770         1,287         7,38         8,246         8,026         220         1,131         8844         247         33           2007         163,570         1,885         1,147         738         8,251         6,858         -2         985         1,174         189         0           2009         166,047         1,908         1,226         682         7,585         7,858         164         815         5266         <td< th=""><th>Start Population         Births         Deaths         Natural         Internal         Internal         International         International         International         International         Asylum         Prisones           Estimate        </th><th>Start Population         Births         Deaths         Natural         Internal         Internal</th></td<></th></tr<>	Start Population         Births         Deaths         Natural         Internal           2002         157,269         1,615         1,269         346         8,773           2003         158,686         1,746         1,239         507         8,671           2004         160,360         1,821         1,287         534         9,368           2005         162,505         1,770         1,297         473         8,246           2006         163,570         1,885         1,147         738         8,231           2007         163,879         1,768         1,209         559         8,656           2008         164,381         1,971         1,214         757         7,657           2009         165,047         1,908         1,226         682         7,585           2010         166,208         1,940         1,245         695         7,622           2011         167,441         1945         1,319         626         7,709           2011         167,441         1945         1,319         626         7,709           2013         169,379         1,905         1,403         502         7,820           2	Start Population         Births         Deaths         Natural         Internal         Internal           Estimate         Change         In         Out           2002         157,269         1,615         1,269         346         8,773         7,709           2003         158,686         1,746         1,239         507         8,671         7,769           2004         160,360         1,821         1,287         534         9,368         7,794           2005         162,505         1,770         1,297         473         8,246         8,026           2006         163,879         1,768         1,209         559         8,656         8,658           2008         164,381         1,971         1,214         757         7,657         7,995           2009         165,047         1,908         1,226         682         7,525         7,138           2010         166,208         1,940         1,245         695         7,622         7,485           2011         167,441         1945         1,319         626         7,709         7,485           2011         167,411         1945         1,319         626         7,701	Start Population         Births         Deaths         Natural         Internal         Internal         Internal           Estimate         Change         In         Out         Net           2002         157,269         1,615         1,269         346         8,773         7,709         1,064           2003         158,686         1,746         1,239         507         8,671         7,769         902           2004         160,360         1,821         1,287         534         9,368         7,794         1,574           2005         162,505         1,770         1,297         473         8,246         8,026         220           2006         163,570         1,885         1,147         738         8,231         8,511         -280           2007         163,879         1,768         1,209         559         8,656         8,658         -22           2008         164,381         1,971         1,214         757         7,657         7,995         538           2010         166,208         1,940         1,245         695         7,622         7,458         164           2011         167,441         1945         1,319	Start Population         Births         Deaths         Natural         Internal         Internal	Start Population         Births         Deaths         Natural         Internal         Internal	Start Population         Births         Deaths         Natural         Internal         Internal	Start         Population         Births         Deaths         Natural         Internal         Internal         International         International         International         International         Asyum           2002         157,269         1,615         1,269         346         8,773         7,709         1,064         968         1,059         -91         -30           2003         158,686         1,746         1,239         507         8,671         7,799         1,064         968         1,059         -91         -30           2003         158,686         1,746         1,239         507         8,671         7,794         1,574         1,1102         9633         1,39         133         133           2005         162,505         1,770         1,287         7,38         8,246         8,026         220         1,131         8844         247         33           2007         163,570         1,885         1,147         738         8,251         6,858         -2         985         1,174         189         0           2009         166,047         1,908         1,226         682         7,585         7,858         164         815         5266 <td< th=""><th>Start Population         Births         Deaths         Natural         Internal         Internal         International         International         International         International         Asylum         Prisones           Estimate        </th><th>Start Population         Births         Deaths         Natural         Internal         Internal</th></td<>	Start Population         Births         Deaths         Natural         Internal         Internal         International         International         International         International         Asylum         Prisones           Estimate	Start Population         Births         Deaths         Natural         Internal         Internal

Oadby & Wigston	Migration & Other	End Population
adjustment		Estimate
0	1,071	158,686
0	1,167	160,360
0	1,611	162,505
-1	592	163,570
-2	-429	163,879
-2	-57	164,381
-1	-91	165,047
-1	479	166,208
-1	538	167,441
0	424	168,491

-1

531

Migration and other changes	End Population Estimate
224	169,379
430	170,311
622	171,590
669	172,719
971	174,197
1,485	176,194

### Migration Charts

	UK In	UK Out	UK Net	Net 5Yavge
2001-02	8,773	7,709	1,064	-
2002-03	8,671	7,769	902	
2003-04	9,368	7,794	1,574	696
2004-05	8,246	8,026	220	483
2005-06	8,231	8,511	-280	235
2007-08	7,657	7,995	-338	-2
2008-09	7,585	7,138	447	99
2009-10	7,622	7,458	164	84
2010-11	7,709	7,485	224	210
2011-12	7,701	7,777	-76	143
2012-13	7,820	7,531	289	118
2013-14	8,217	8,103	114	165
2014-15	8,321	8,284	37	429
2015-16	8,686	8,223	463	
2016-17	10,596	9,352	1,244	
	Ov In	Ov Out	Ov Net	Net 5Yavge
2001-02	938	1,059	-121	· ·
2002-03	1,115	963	152	
2003-04	1,317	1,358	-41	1
2004-05	1,134	884	250	-13
2005-06	1,117	1,352	-235	-10
2006-07	985	1,174	-189	-16
2007-08	791	627	164	-8
2008-09	798	867	-69	60
2009-10	815	526	289	160
2010-11	837	730	107	168
2011-12	851	544	307	257
2012-13	707	501	206	326
2013-14	825	449	376	385
2014-15	1,058	422	636	372
2015-10	1,012	642	402	
2010-17	000	043	242	
	Total In	Total Out	Total Net	Net 5Yavge
2001-02	9,711	8,768	943	
2002-03	9,786	8,732	1,054	
2003-04	10,685	9,152	1,533	697
2004-05	9,380	8,910	470	470
2005-06	9,348	9,863	-515	225
2000-07	9,641	9,032	-191	-0 10
2007-00	0,440 2 2 2 2	0,022 8 005	-1/4 279	-10
2000-09	0,000 8 197	7 984	370	244
2003-10	0,407 Q 5/6	7,304 8 015	400	244 272
2010-11	8 552	8 321	221	400
2012-13	8 527	8,032	495	444
2013-14	9.042	8,552	490	551
2014-15	9.379	8.706	673	802
2015-16	9.698	8.833	865	
2016-17	11,481	9,995	1,486	







0.94	3
1.05	4
1.53	3
0.4	7
-0.51	5
-0.19	1
-0.17	4
0.37	8
0.45	3
0.33	1
0.23	1
0.49	5
0.4	9
0.67	3
0.86	5
1.48	6

			Start	Births	Deaths	Natural	Migration	Migration Overseas	Other	Migration	Total	End									
			Population			Change	UK Net	Net		& Other	Change	Population			UK			Overseas		Asylum	Total
														In	Out	Net	In	Out	Net	Net	Net
	2001	2002	157,269	1,615	1,269	346	1,064	-121	128	1,071	1,417	158,686	2001-02	8,773	7,709	1,064	968	1,059	-91	-30	943
	2002	2003	158,686	1,746	1,239	507	902	152	113	1,167	1,674	160,360	2002-03	8,671	7,769	902	1,102	963	139	13	1,054
	2003	2004	160,360	1,821	1,287	534	1,574	-41	78	1,611	2,145	162,505	2003-04	9,368	7,794	1,574	1,314	1,358	-44	3	1,533
	2004	2005	162,505	1,770	1,297	473	220	250	122	592	1,065	163,570	2004-05	8,246	8,026	220	1,131	884	247	3	470
	2005	2006	163,570	1,885	1,147	738	-280	-235	86	-429	309	163,879	2005-06	8,231	8,511	-280	1,115	1,352	-237	2	-515
	2006	2007	163,879	1,768	1,209	559	-2	-189	134	-57	502	164,381	2006-07	8,656	8,658	-2	985	1,174	-189	0	-191
	2007	2008	164,381	1,971	1,214	757	-338	164	83	-91	666	165,047	2007-08	7,657	7,995	-338	789	627	162	2	-174
	2008	2009	165,047	1,908	1,226	682	447	-69	101	479	1,161	166,208	2008-09	7,585	7,138	447	797	867	-70	1	378
	2009	2010	166,208	1,940	1,245	695	164	289	85	538	1,233	167,441	2009-10	7,622	7,458	164	815	526	289	0	453
	2010	2011	167,441	1,945	1,319	626	224	107	93	424	1,050	168,491	2010-11	7,709	7,485	224	833	730	103	4	331
	2011	2012	168,491	2,030	1,366	664	-76	307	3	224	888	169,379	2011-12	7,701	7,777	-76	851	544	307	0	231
	2012	2013	169,379	1,905	1,403	502	289	206	-2	430	932	170,311	2012-13	7,820	7,531	289	707	501	206	0	495
	2013	2014	170,311	1,923	1,266	657	114	376	-5	622	1,279	171,590	2013-14	8,217	8,103	114	825	449	376	0	490
	2014	2015	171,590	1,928	1,468	460	37	636	-2	669	1,129	172,719	2014-15	8,321	8,284	37	1,058	422	636	0	673
	2015	2016	172,719	1,927	1,420	507	463	402	12	971	1,478	174,197	2015-16	8,686	8,223	463	1,012	610	402	1	865
	2016	2017	174,197	2,016	1,504	512	1,244	242	-3	1,485	1,997	176,194	2016-17	10,596	9,352	1,244	885	643	242	2	1,486
Annual Averag	jes												Annual Averages								
2001-11							398	31	102	531			2001-11	8,252	7,854	398	985	954	31	0	428
													2005-15	7,952	7,894	58	878	719	158	1	217
2005-15							58	159	58	281			2010-15	7,954	7,836	118	855	529	326	1	444
2010-15							118	326	17	474			2012-17	8,728	8,299	429	897	525	372	1	802
2012-17							429	372	0	835											
2012 SNPP							84	102		186											
2014 SNPP							143	203		346											
2016 SNPP							165	339		504											

### Table KS401EW 2011 Census: Dwellings, household spaces and accommodation type, local authorities in England and Wales

### England and Wales

Constituent Countries; Regions, counties, London boroughs, unitary authorities and districts in England; unitary authorities in Wales

### All dwellings; All household spaces

Area code Area name	ہ categorie Dwelling typ	All Unshared s: dwelling be	Shared dwelling: Two household spaces	Shared dwelling: Three or more household	All categories: Household spaces	Household spaces with at least one usual resident	Household spaces with no usual residents		
	Dwellir	ng Dwelling	Dwelling	Dwelling	Household	Household	Household		
	Numb	er Number	Number	Number	space Number	space Number	space Number	Ratio	Vacancy
E07000070	Chelmsford 71,24	71,240	2	5	71,273	69,667	1,606	1.023053	2.253

		2016 SNPP													
		М	М	М	М	М	М	М	М	М	М	М	М	М	М
Year	Borough	0	1	2	3	4	5	6	7	8	9	10	11	12	13
2001	Chelmsford	813	856	972	955	982	936	955	1,032	1,001	1,100	1,135	1,062	1,027	1,008
2002	Chelmsford	787	813	886	985	971	991	953	971	1,048	1,008	1,110	1,157	1,056	1,033
2003	Chelmsford	915	820	851	919	1,004	976	1,004	969	978	1,045	1,018	1,112	1,182	1,062
2004	Chelmsford	946	939	864	876	945	1,001	969	1,016	977	995	1,064	1,036	1,111	1,185
2005	Chelmsford	919	960	948	870	895	949	1,004	977	1,038	999	1,002	1,080	1,047	1,113
2006	Chelmsford	1,021	952	954	954	887	906	959	1,016	987	1,058	977	1,018	1,076	1,059
2007	Chelmsford	907	1,043	969	973	952	908	922	964	1,029	984	1,060	994	1,026	1,087
2008	Chelmsford	1,023	915	1,055	990	964	962	909	928	969	1,027	986	1,064	997	1,029
2009	Chelmsford	984	1,043	924	1,079	991	960	973	920	944	969	1,028	1,007	1,084	1,010
2010	Chelmsford	1,033	1,002	1,064	950	1,087	1,007	961	992	914	944	968	1,027	1,023	1,101
2011	Chelmsford	994	1,054	1,016	1,084	953	1,086	1,016	946	995	925	951	976	1,025	1,018
2012	Chelmsford	1,050	1,004	1,049	1,036	1,082	977	1,088	1,011	952	1,008	935	968	988	1,025
2013	Chelmsford	965	1,066	1,031	1,068	1,055	1,085	971	1,097	1,029	962	1,014	946	959	997
2014	Chelmsford	1,004	982	1,071	1,034	1,087	1,057	1,088	982	1,109	1,043	973	1,024	960	966
2015	Chelmsford	1,009	1,032	1,002	1,101	1,066	1,098	1,075	1,093	994	1,115	1,060	984	1,031	973
2016	Chelmsford	1,035	1,034	1,065	1,039	1,144	1,087	1,112	1,103	1,115	1,030	1,122	1,073	1,013	1,046
2017	Chelmsford	978	1,046	1,048	1,083	1,060	1,157	1,095	1,125	1,115	1,130	1,043	1,134	1,080	1,023
2018	Chelmsford	992	990	1,060	1,068	1,101	1,074	1,164	1,109	1,137	1,131	1,142	1,057	1,141	1,090
2019	Chelmsford	1,000	1,005	1,005	1,081	1,087	1,113	1,082	1,178	1,122	1,152	1,142	1,155	1,067	1,150
2020	Chelmsford	1,002	1,012	1,020	1,025	1,100	1,100	1,120	1,097	1,191	1,139	1,164	1,156	1,164	1,078
2021	Chelmsford	1,003	1,015	1,027	1,040	1,045	1,113	1,107	1,134	1,111	1,208	1,152	1,176	1,164	1,174
2022	Chelmsford	1,007	1,015	1,029	1,047	1,060	1,057	1,121	1,122	1,147	1,129	1,221	1,166	1,185	1,174
2023	Chelmsford	1,009	1,019	1,030	1,050	1,067	1,073	1,065	1,135	1,135	1,163	1,143	1,235	1,175	1,195
2024	Chelmsford	1,010	1,021	1,033	1,050	1,069	1,080	1,081	1,080	1,149	1,151	1,175	1,158	1,245	1,186
2025	Chelmsford	1,010	1,022	1,035	1,053	1,070	1,082	1,088	1,096	1,093	1,166	1,164	1,189	1,168	1,256
2026	Chelmsford	1,009	1,022	1,037	1,056	1,073	1,083	1,090	1,102	1,109	1,109	1,179	1,179	1,198	1,180
2027	Chelmsford	1,007	1,021	1,036	1,057	1,075	1,086	1,091	1,105	1,115	1,126	1,123	1,194	1,189	1,209
2028	Chelmsford	1,004	1,019	1,035	1,056	1,076	1,088	1,094	1,105	1,118	1,132	1,139	1,137	1,204	1,200
2029	Chelmsford	1,001	1,016	1,033	1,055	1,076	1,089	1,096	1,108	1,119	1,135	1,146	1,154	1,147	1,216
2030	Chelmsford	997	1,012	1,030	1,053	1,075	1,088	1,097	1,110	1,121	1,136	1,149	1,161	1,165	1,159
2031	Chelmsford	994	1,009	1,027	1,050	1,072	1,087	1,096	1,111	1,123	1,138	1,149	1,164	1,171	1,176
2032	Chelmsford	993	1,006	1,023	1,047	1,069	1,085	1,095	1,110	1,124	1,140	1,151	1,164	1,174	1,183
2033	Chelmsford	992	1,005	1,021	1,043	1,066	1,082	1,093	1,109	1,124	1,141	1,154	1,166	1,175	1,186
2034	Chelmsford	994	1,005	1,019	1,041	1,062	1,078	1,089	1,107	1,122	1,140	1,155	1,168	1,177	1,186
2035	Chelmsford	998	1,006	1,019	1,039	1,060	1,075	1,086	1,103	1,120	1,139	1,154	1,169	1,179	1,188
2036	<b>Chelmsford</b>	1,004	1,010	1,021	1,039	1,059	1,072	1,083	1,100	1,116	1,137	1,152	1,169	1,180	1,190
2037	Chelmsford	1,012	1,016	1,025	1,041	1,059	1,071	1,080	1,097	1,113	1,133	1,150	1,167	1,179	1,191
2038	Chelmsford	1,022	1,024	1,032	1,046	1,061	1,072	1,079	1,094	1,110	1,130	1,146	1,165	1,177	1,190
2039	Chelmsford	1,034	1,035	1,040	1,052	1,065	1,074	1,079	1,093	1,107	1,126	1,143	1,161	1,175	1,189
2040	Chelmsford	1,047	1,047	1,050	1,060	1,072	1,078	1,082	1,094	1,106	1,124	1,140	1,158	1,171	1,186
2041	Chelmsford	1,060	1,060	1,062	1,071	1,080	1,085	1,086	1,096	1,107	1,123	1,137	1,154	1,168	1,183

М	М	М	М
14	15	16	17
1,059	1,040	1,070	1,054
1,013	1,066	1,042	1,069
1,036	1,015	1,090	1,071
1,077	1,035	1,016	1,108
1,183	1,079	1,052	1,018
1,102	1,202	1,094	1,058
1,055	1,113	1,223	1,099
1,103	1,067	1,113	1,232
1,037	1,104	1,073	1,111
1,010	1,054	1,106	1,091
1,106	1,019	1,064	1,107
1,009	1,097	1,021	1,055
1,040	996	1,106	1,013
997	1,037	987	1,123
978	1,010	1,052	996
978	987	1,026	1,060
1,051	979	991	1,025
1,029	1,050	983	991
1,094	1,029	1,053	982
1,155	1,093	1,033	1,050
1,084	1,153	1,097	1,032
1,179	1,085	1,156	1,094
1,179	1,178	1,090	1,153
1,200	1,179	1,182	1,089
1,192	1,199	1,183	1,179
1,261	1,192	1,202	1,180
1,187	1,260	1,196	1,200
1,214	1,187	1,264	1,195
1,206	1,214	1,192	1,262
1,222	1,206	1,218	1,191
1,165	1,222	1,210	1,215
1,182	1,165	1,226	1,208
1,189	1,183	1,170	1,224
1,192	1,189	1,188	1,168
1,192	1,192	1,194	1,186
1,194	1,193	1,197	1,192
1,196	1,194	1,197	1,195
1,197	1,196	1,199	1,195
1,196	1,197	1,201	1,197
1,195	1,197	1,202	1,199
1,192	1,195	1,201	1,200

М	М	Μ	М	М	Μ	М	М	М	М	М	М	М	М	М	М
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
1,006	881	885	906	900	905	929	987	1,046	1,054	1,105	1,139	1,156	1,114	1,185	1,198
1,047	981	977	958	958	942	930	937	1,034	1,071	1,060	1,105	1,153	1,193	1,125	1,169
1,074	965	1,029	1,046	1,018	1,020	968	929	963	1,032	1,081	1,052	1,127	1,189	1,222	1,126
1,056	972	1,009	1,096	1,131	1,057	1,083	971	950	997	1,039	1,090	1,064	1,167	1,191	1,238
1,082	919	950	1,067	1,116	1,131	1,091	1,095	1,015	957	1,018	1,056	1,091	1,083	1,174	1,220
1,011	950	921	1,020	1,086	1,070	1,146	1,072	1,091	1,041	971	1,008	1,061	1,080	1,104	1,164
1,031	861	926	981	1,051	1,096	1,037	1,133	1,060	1,086	1,023	1,007	998	1,078	1,104	1,097
1,070	833	818	963	1,017	1,056	1,069	1,010	1,159	1,059	1,091	1,012	1,007	1,022	1,070	1,120
1,216	898	824	867	1,021	1,056	1,045	1,046	1,009	1,150	1,048	1,084	1,021	989	1,031	1,085
1,088	968	873	870	949	1,105	1,100	1,034	1,067	996	1,167	1,075	1,089	1,031	1,004	1,012
1,070	935	936	900	972	1,001	1,120	1,131	1,026	1,051	995	1,169	1,066	1,081	1,006	1,007
1,082	849	856	964	954	1,009	1,023	1,131	1,143	1,034	1,096	1,013	1,192	1,058	1,101	996
1,030	895	861	917	1,024	1,006	1,016	1,043	1,143	1,156	1,042	1,108	1,023	1,214	1,080	1,090
1,025	931	923	924	1,012	1,108	1,009	1,067	1,037	1,137	1,156	1,056	1,132	1,021	1,169	1,086
1,106	869	815	891	950	1,078	1,154	1,045	1,066	1,059	1,142	1,156	1,093	1,135	1,051	1,172
971	924	836	855	954	981	1,091	1,185	1,073	1,084	1,086	1,159	1,150	1,117	1,164	1,075
1,038	780	873	877	925	1,014	1,009	1,113	1,195	1,091	1,102	1,101	1,171	1,165	1,134	1,162
1,004	828	751	911	945	982	1,039	1,035	1,128	1,203	1,109	1,116	1,122	1,184	1,178	1,138
970	801	790	802	978	1,002	1,006	1,063	1,053	1,140	1,213	1,123	1,135	1,143	1,195	1,178
961	775	765	836	879	1,033	1,024	1,030	1,080	1,069	1,153	1,219	1,142	1,155	1,162	1,194
1,026	767	741	810	908	940	1,053	1,046	1,048	1,095	1,086	1,163	1,232	1,163	1,173	1,167
1,010	814	733	785	880	966	966	1,072	1,061	1,063	1,110	1,099	1,178	1,247	1,181	1,177
1,069	806	774	776	855	937	988	989	1,085	1,075	1,079	1,122	1,116	1,195	1,260	1,185
1,126	850	771	815	844	910	959	1,009	1,006	1,096	1,089	1,091	1,139	1,136	1,210	1,258
1,068	895	809	816	881	898	932	979	1,024	1,021	1,109	1,100	1,109	1,158	1,153	1,210
1,154	856	851	852	886	935	919	952	993	1,037	1,037	1,118	1,116	1,128	1,174	1,156
1,155	921	821	896	922	943	955	939	967	1,006	1,051	1,049	1,132	1,135	1,145	1,176
1,174	921	879	873	968	978	965	973	953	980	1,020	1,062	1,067	1,149	1,151	1,147
1,170	936	879	929	951	1,026	999	985	986	966	994	1,030	1,078	1,086	1,164	1,153
1,235	936	893	929	1,007	1,014	1,048	1,019	1,000	998	979	1,004	1,046	1,096	1,103	1,165
1,167	985	896	944	1,007	1,070	1,039	1,068	1,032	1,013	1,010	989	1,020	1,063	1,111	1,106
1,190	934	940	950	1,024	1,070	1,094	1,062	1,081	1,044	1,026	1,020	1,005	1,037	1,078	1,113
1,183	949	895	993	1,033	1,087	1,093	1,115	1,078	1,093	1,056	1,037	1,035	1,021	1,052	1,080
1,198	944	905	949	1,075	1,098	1,111	1,115	1,130	1,092	1,106	1,066	1,053	1,051	1,036	1,055
1,144	956	902	956	1,032	1,141	1,124	1,133	1,130	1,143	1,108	1,116	1,082	1,070	1,065	1,038
1,162	915	912	952	1,035	1,098	1,165	1,147	1,148	1,143	1,157	1,120	1,132	1,099	1,086	1,066
1,167	929	874	963	1,032	1,098	1,123	1,188	1,163	1,161	1,157	1,169	1,137	1,149	1,113	1,088
1,170	933	888	925	1,041	1,095	1,122	1,146	1,203	1,177	1,175	1,168	1,186	1,157	1,165	1,115
1,171	935	891	939	1,004	1,105	1,119	1,144	1,163	1,217	1,192	1,186	1,185	1,205	1,174	1,166
1,172	935	892	942	1,018	1,066	1,128	1,141	1,159	1,177	1,231	1,204	1,203	1,204	1,222	1,177
1,174	936	893	943	1,020	1,081	1,090	1,151	1,156	1,172	1,193	1,243	1,222	1,222	1,221	1,224

М	М	М	М	М
34	35	36	37	38
1,264	1,235	1,287	1,310	1,243
1,200	1,298	1,245	1,293	1,322
1,169	1,218	1,275	1,267	1,305
1,174	1,184	1,244	1,294	1,276
1,256	1,193	1,204	1,259	1,317
1,239	1,275	1,209	1,231	1,258
1,179	1,243	1,280	1,188	1,243
1,111	1,184	1,268	1,301	1,197
1,127	1,116	1,188	1,292	1,313
1,096	1,138	1,112	1,198	1,305
1,015	1,103	1,134	1,133	1,190
1,043	1,024	1,120	1,135	1,143
1,021	1,049	1,028	1,126	1,119
1,094	1,033	1,067	1,029	1,137
1,118	1,110	1,070	1,083	1,049
1,198	1,117	1,154	1,098	1,089
1,095	1,210	1,132	1,161	1,112
1,180	1,113	1,219	1,141	1,174
1,160	1,194	1,127	1,222	1,155
1,197	1,179	1,205	1,135	1,231
1,212	1,214	1,194	1,210	1,148
1,191	1,227	1,226	1,202	1,221
1,199	1,211	1,238	1,233	1,216
1,208	1,218	1,226	1,243	1,244
1,278	1,227	1,233	1,235	1,254
1,230	1,294	1,242	1,241	1,248
1,178	1,247	1,306	1,250	1,254
1,198	1,196	1,259	1,311	1,264
1,169	1,216	1,210	1,265	1,322
1,174	1,187	1,230	1,218	1,276
1,184	1,192	1,200	1,237	1,230
1,127	1,201	1,205	1,208	1,249
1,133	1,145	1,213	1,212	1,220
1,100	1,150	1,158	1,219	1,224
1,074	1,116	1,162	1,165	1,230
1,057	1,090	1,129	1,169	1,178
1,085	1,073	1,103	1,136	1,181
1,108	1,101	1,085	1,109	1,147
1,135	1,125	1,113	1,092	1,121
1,187	1,152	1,138	1,119	1,103
1,199	1,204	1,165	1,144	1,131

М	М	М	М	М	Μ	М	М	М	М	М	М	М	М	М	М
39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
1,250	1,197	1,173	1,147	1,139	1,140	1,123	1,067	1,071	1,071	1,058	1,020	1,067	1,126	1,278	1,321
1,258	1,251	1,191	1,150	1,146	1,128	1,105	1,115	1,053	1,057	1,068	1,050	1,013	1,059	1,097	1,247
1,305	1,243	1,246	1,168	1,153	1,137	1,129	1,107	1,125	1,046	1,047	1,055	1,054	994	1,045	1,091
1,317	1,303	1,228	1,237	1,161	1,167	1,148	1,106	1,116	1,109	1,027	1,035	1,059	1,042	1,000	1,042
1,286	1,318	1,297	1,230	1,250	1,170	1,165	1,145	1,104	1,107	1,112	1,028	1,038	1,055	1,028	997
1,338	1,296	1,309	1,325	1,219	1,250	1,144	1,170	1,164	1,080	1,120	1,106	1,011	1,022	1,049	1,018
1,275	1,321	1,306	1,287	1,327	1,226	1,218	1,138	1,149	1,149	1,073	1,104	1,100	988	1,017	1,033
1,230	1,278	1,298	1,308	1,298	1,314	1,225	1,220	1,142	1,149	1,135	1,080	1,094	1,112	986	1,013
1,177	1,247	1,282	1,294	1,301	1,283	1,315	1,219	1,244	1,152	1,145	1,155	1,080	1,082	1,100	985
1,315	1,187	1,233	1,286	1,286	1,299	1,287	1,319	1,200	1,268	1,142	1,144	1,131	1,081	1,079	1,109
1,316	1,312	1,186	1,232	1,273	1,290	1,286	1,270	1,321	1,214	1,269	1,136	1,136	1,136	1,075	1,075
1,198	1,320	1,316	1,204	1,240	1,276	1,281	1,281	1,252	1,323	1,223	1,253	1,119	1,123	1,132	1,081
1,142	1,206	1,308	1,331	1,209	1,247	1,286	1,281	1,263	1,257	1,313	1,210	1,255	1,114	1,110	1,124
1,117	1,159	1,210	1,315	1,326	1,229	1,245	1,276	1,281	1,251	1,262	1,305	1,202	1,256	1,105	1,109
1,142	1,145	1,162	1,213	1,310	1,328	1,233	1,238	1,287	1,277	1,253	1,254	1,290	1,201	1,246	1,094
1,068	1,165	1,148	1,206	1,218	1,318	1,331	1,249	1,235	1,289	1,295	1,231	1,251	1,269	1,193	1,264
1,099	1,081	1,166	1,163	1,213	1,226	1,319	1,323	1,242	1,233	1,292	1,281	1,228	1,243	1,257	1,192
1,124	1,111	1,087	1,179	1,171	1,220	1,229	1,311	1,314	1,238	1,239	1,277	1,277	1,221	1,234	1,255
1,187	1,139	1,115	1,103	1,185	1,180	1,222	1,224	1,301	1,308	1,243	1,226	1,272	1,269	1,213	1,235
1,169	1,202	1,145	1,130	1,113	1,192	1,183	1,215	1,216	1,296	1,312	1,229	1,222	1,264	1,259	1,214
1,240	1,184	1,208	1,162	1,140	1,122	1,194	1,178	1,206	1,212	1,298	1,296	1,225	1,216	1,252	1,259
1,161	1,252	1,191	1,225	1,173	1,149	1,127	1,188	1,171	1,201	1,216	1,282	1,290	1,218	1,207	1,252
1,232	1,176	1,255	1,209	1,235	1,184	1,152	1,123	1,179	1,167	1,204	1,202	1,276	1,281	1,208	1,208
1,229	1,245	1,182	1,270	1,220	1,246	1,189	1,148	1,117	1,174	1,172	1,190	1,197	1,267	1,270	1,209
1,256	1,245	1,250	1,200	1,279	1,231	1,251	1,186	1,142	1,115	1,178	1,158	1,185	1,190	1,256	1,269
1,265	1,271	1,252	1,266	1,211	1,288	1,237	1,247	1,180	1,139	1,120	1,164	1,154	1,176	1,180	1,255
1,263	1,279	1,277	1,271	1,276	1,222	1,292	1,234	1,241	1,178	1,144	1,109	1,159	1,147	1,166	1,180
1,267	1,279	1,284	1,294	1,282	1,286	1,228	1,286	1,228	1,239	1,184	1,131	1,106	1,151	1,139	1,166
1,278	1,283	1,286	1,301	1,304	1,293	1,290	1,225	1,278	1,226	1,245	1,172	1,128	1,100	1,142	1,139
1,334	1,294	1,290	1,305	1,310	1,315	1,299	1,285	1,219	1,275	1,232	1,232	1,170	1,122	1,092	1,141
1,289	1,349	1,301	1,308	1,316	1,320	1,320	1,296	1,278	1,217	1,279	1,220	1,229	1,164	1,114	1,094
1,244	1,303	1,353	1,320	1,319	1,329	1,325	1,316	1,290	1,275	1,224	1,265	1,217	1,222	1,156	1,115
1,262	1,259	1,308	1,371	1,331	1,331	1,335	1,320	1,309	1,288	1,280	1,212	1,260	1,211	1,214	1,157
1,233	1,277	1,265	1,326	1,380	1,343	1,337	1,331	1,312	1,306	1,294	1,267	1,209	1,253	1,203	1,215
1,237	1,248	1,283	1,283	1,335	1,391	1,349	1,332	1,325	1,309	1,312	1,281	1,263	1,203	1,243	1,205
1,242	1,251	1,254	1,301	1,293	1,346	1,396	1,345	1,326	1,323	1,314	1,298	1,278	1,256	1,195	1,244
1,191	1,257	1,257	1,271	1,311	1,305	1,351	1,391	1,339	1,324	1,329	1,301	1,295	1,272	1,247	1,197
1,193	1,206	1,262	1,274	1,281	1,323	1,310	1,346	1,383	1,337	1,330	1,316	1,296	1,288	1,263	1,248
1,159	1,207	1,211	1,279	1,285	1,293	1,328	1,306	1,339	1,380	1,343	1,316	1,312	1,289	1,279	1,265
1,133	1,173	1,212	1,229	1,288	1,296	1,298	1,324	1,300	1,336	1,385	1,329	1,313	1,306	1,280	1,280
1,115	1,147	1,179	1,229	1,239	1,299	1,301	1,294	1,317	1,298	1,341	1,370	1,326	1,306	1,297	1,281

М	М	М	М	М
55	56	57	58	59
1,088	1,033	1,012	974	768
1,299	1,069	1,008	991	961
1,221	1,284	1,048	992	972
1,079	1,198	1,278	1,042	967
1,045	1,063	1,186	1,269	1,030
979	1,028	1,050	1,176	1,266
1,007	937	1,019	1,028	1,159
1,015	996	915	1,011	1,009
996	1,021	985	904	999
991	1,000	1,005	973	892
1,111	966	993	996	965
1,046	1,087	962	991	979
1,080	1,039	1,071	951	980
1,114	1,079	1,030	1,066	936
1,110	1,083	1,067	1,034	1,043
1,075	1,111	1,069	1,063	1,007
1,250	1,064	1,102	1,061	1,047
1,182	1,235	1,058	1,093	1,045
1,242	1,168	1,223	1,052	1,078
1,224	1,227	1,160	1,213	1,037
1,203	1,210	1,218	1,151	1,193
1,248	1,191	1,202	1,208	1,135
1,240	1,234	1,183	1,194	1,190
1,198	1,225	1,226	1,175	1,177
1,198	1,185	1,216	1,217	1,159
1,257	1,185	1,178	1,207	1,200
1,242	1,242	1,177	1,170	1,190
1,169	1,228	1,234	1,169	1,154
1,155	1,157	1,219	1,224	1,153
1,129	1,142	1,149	1,209	1,207
1,131	1,117	1,134	1,141	1,192
1,085	1,119	1,110	1,126	1,125
1,106	1,074	1,111	1,102	1,110
1,149	1,095	1,068	1,103	1,088
1,206	1,138	1,089	1,062	1,088
1,196	1,195	1,132	1,082	1,049
1,233	1,185	1,188	1,125	1,069
1,188	1,221	1,179	1,181	1,112
1,238	1,177	1,214	1,172	1,167
1,256	1,226	1,171	1,206	1,158
1,270	1,244	1,219	1,165	1,191

М	М	М	М	Μ	Μ	М	Μ	Μ	Μ	М	Μ	Μ	М	М	М
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
715	728	745	753	741	714	688	660	625	629	602	548	492	510	490	443
759	700	718	731	740	721	687	676	645	619	616	593	531	481	486	480
941	745	677	698	716	715	707	678	659	630	606	598	576	513	467	478
954	915	732	663	686	703	688	692	666	652	606	597	584	558	494	442
935	941	897	717	659	657	693	672	688	656	640	592	578	575	539	483
1,009	900	915	874	710	634	636	669	665	671	642	621	572	557	551	528
1,257	981	890	900	861	707	630	630	664	644	655	628	609	553	541	532
1,141	1,245	994	881	882	843	695	624	627	652	636	646	617	602	532	522
995	1,149	1,258	977	875	875	830	687	618	601	637	623	637	606	597	522
993	979	1,134	1,243	978	867	860	819	685	611	583	632	613	627	602	586
892	980	963	1,126	1,220	958	851	849	806	682	598	568	623	603	619	585
945	873	968	943	1,108	1,208	945	834	833	793	667	576	563	611	595	596
974	933	862	951	918	1,091	1,189	936	827	812	778	662	573	549	602	572
965	970	917	836	943	913	1,087	1,178	911	820	802	770	643	564	526	586
931	935	954	894	823	916	899	1,078	1,152	893	803	791	751	627	545	513
1,029	916	932	934	882	816	891	894	1,058	1,122	875	795	771	723	616	544
995	1,007	902	913	921	871	807	879	877	1,040	1,104	860	780	752	706	602
1,035	975	992	885	901	909	860	798	863	864	1,022	1,087	843	762	736	693
1,033	1,014	961	972	874	890	897	849	784	851	853	1,005	1,066	822	745	723
1,065	1,013	1,000	943	959	865	879	885	834	774	840	840	986	1,038	804	732
1,027	1,044	1,000	981	932	949	856	868	869	822	764	827	825	959	1,017	791
1,179	1,008	1,030	982	969	923	937	846	853	857	811	754	812	806	939	999
1,123	1,155	996	1,011	971	960	912	926	832	842	845	800	741	793	790	922
1,177	1,102	1,139	980	1,000	962	949	902	909	821	831	833	786	725	778	778
1,165	1,154	1,088	1,118	971	991	952	939	887	897	811	819	818	768	712	766
1,148	1,143	1,139	1,069	1,105	963	981	942	924	876	886	800	806	800	753	702
1,187	1,127	1,129	1,119	1,058	1,094	955	971	928	912	866	873	787	788	785	742
1,177	1,165	1,114	1,110	1,107	1,049	1,082	946	956	917	901	855	859	770	774	773
1,143	1,155	1,151	1,095	1,099	1,097	1,039	1,070	933	944	906	890	841	840	757	763
1,142	1,123	1,141	1,131	1,085	1,090	1,086	1,029	1,053	923	934	896	876	824	825	747
1,194	1,121	1,110	1,122	1,120	1,077	1,080	1,075	1,014	1,040	914	923	882	858	810	814
1,179	1,172	1,108	1,092	1,110	1,111	1,067	1,071	1,059	1,003	1,028	904	909	865	844	799
1,114	1,157	1,158	1,090	1,082	1,101	1,101	1,058	1,055	1,047	992	1,016	891	891	851	833
1,099	1,094	1,143	1,138	1,079	1,074	1,091	1,092	1,043	1,044	1,036	981	1,000	875	877	840
1,077	1,079	1,082	1,124	1,127	1,071	1,065	1,081	1,076	1,033	1,033	1,024	967	981	861	866
1,078	1,058	1,066	1,064	1,112	1,118	1,062	1,056	1,066	1,065	1,023	1,022	1,009	949	965	852
1,039	1,059	1,047	1,049	1,054	1,104	1,108	1,054	1,042	1,055	1,054	1,012	1,008	990	935	953
1,059	1,022	1,047	1,030	1,039	1,047	1,094	1,099	1,039	1,032	1,044	1,043	998	990	975	924
1,102	1,041	1,011	1,030	1,021	1,032	1,038	1,084	1,083	1,029	1,022	1,033	1,029	981	975	964
1,157	1,084	1,030	996	1,020	1,014	1,023	1,030	1,069	1,072	1,020	1,012	1,019	1,011	966	965
1,148	1,138	1,073	1,014	987	1,014	1,006	1,015	1,017	1,058	1,062	1,009	999	1,001	996	956

М	М	Μ	Μ	Μ
76	77	78	79	80
425	383	367	353	327
423	404	351	342	315
462	401	386	336	325
459	445	387	355	323
425	437	420	364	337
467	417	418	406	338
515	450	394	402	394
517	507	431	376	388
506	504	504	416	353
508	494	486	481	400
583	493	488	470	460
562	573	472	471	459
<b>584</b>	544	560	454	453
561	577	530	538	438
573	539	558	508	520
497	550	525	532	485
530	484	534	504	514
588	516	472	514	488
676	574	502	456	497
704	659	558	483	442
713	688	641	538	467
771	696	669	618	521
975	753	678	646	598
900	953	734	654	626
761	880	928	708	634
749	745	858	897	687
688	734	728	829	871
727	675	717	705	805
757	713	660	694	685
748	743	697	640	675
732	734	726	675	624
798	719	718	704	657
784	783	704	697	685
818	771	766	684	679
825	804	755	744	667
851	812	788	734	725
838	837	796	766	716
936	826	821	774	748
909	921	811	799	756
948	896	904	790	780
949	934	879	879	772

М	М	М	Μ	М	М	М	М	м	М	F	F	F	F	F	F
81	82	83	84	85	86	87	88	89 90+		0	1	2	3	4	5
356	242	165	161	133	136	126	101	72	176	827	860	831	865	869	927
305	331	222	149	136	115	109	97	77	189	829	851	867	834	866	883
293	285	308	202	133	115	97	101	87	196	874	842	860	873	836	875
297	261	259	269	179	111	94	69	85	228	892	879	864	887	892	858
303	281	228	231	251	155	89	77	58	242	846	880	904	874	887	897
310	265	267	206	209	223	136	83	68	227	899	865	908	915	872	897
314	292	254	239	190	197	193	123	77	229	912	926	873	915	923	873
374	296	273	237	228	183	179	153	110	239	958	922	926	880	928	928
372	340	272	261	214	204	165	153	134	297	970	988	931	940	899	937
330	344	317	247	240	202	180	143	132	352	936	951	999	947	956	912
379	309	312	301	225	231	180	161	121	394	967	977	970	1,012	942	960
442	356	286	282	272	196	204	168	133	407	996	991	1,003	962	1,023	941
431	416	341	258	257	244	184	180	149	433	929	991	1,015	1,011	949	1,028
436	397	399	311	238	236	208	157	142	480	916	925	1,006	1,006	1,030	961
417	409	371	374	293	218	203	190	136	480	927	944	944	1,007	1,033	1,042
496	387	379	347	341	274	197	180	168	515	910	943	982	961	1,042	1,048
462	465	366	350	319	310	243	176	155	544	932	925	964	990	978	1,055
490	435	441	340	323	293	276	215	154	565	945	943	947	973	1,004	993
467	461	413	411	315	299	261	245	186	584	952	957	963	958	988	1,017
475	441	437	389	382	293	268	235	214	624	954	964	976	971	974	1,002
424	448	418	410	361	353	264	241	206	686	955	966	983	985	985	989
447	401	426	392	381	335	317	238	211	726	958	966	985	992	999	998
500	423	383	401	366	354	302	285	209	765	961	970	986	994	1,005	1,013
574	473	403	361	374	342	320	273	250	797	962	972	989	994	1,008	1,019
601	544	450	380	339	349	310	289	241	859	961	973	991	997	1,008	1,021
609	569	518	425	355	317	317	281	256	906	961	973	992	999	1,011	1,022
659	578	544	489	398	332	289	288	250	958	959	972	992	1,000	1,013	1,024
837	626	552	514	459	373	302	264	256	999	956	970	991	1,000	1,014	1,026
//4	795	598	522	483	430	340	275	236	1,040	952	967	989	999	1,013	1,027
660	736	761	566	491	453	392	310	246	1,061	949	963	986	997	1,012	1,027
651	629	704	721	532	460	415	358	278	1,086	946	960	982	994	1,010	1,025
602	620	603	667	679	500	422	379	321	1,136	945	958	979	990	1,007	1,023
634	575	595	573	629	639	458	386	341	1,218	945	956	977	987	1,004	1,020
66 I	605	552	566	542	591	587	420	347	1,307	946	956	975	985	1,001	1,017
000	631	581	520	535	511	544 470	539	378	1,390	950	957	975	983	998	1,014
040	627	607	554	499	505 470	472	499	480	1,400	955	901	977	983	997	1,011
701	670	503	578	524	4/2	400	435	451	1,070	963	907	981	985	997	1,010
093	0/0	593	5/5	547	490	437	430	395	1,790	973	975	987	989	1 000	1,010
724	604	045	000	545	517	409	404	390	1,000	984	985	995	995	1,003	1,012
733	694 700	639	010	538	510	479	424	368	1,902	997	996	1,005	1,003	1,009	1,017
750	703	009	011	202	510	4/9	443	300	1,922	1,009	1,009	1,016	1,013	1,017	1,023

F	F	F	F	F
6	7	8	9	10
974	1,013	1,023	1,017	1,034
936	982	1,027	1,037	1,015
881	956	995	1,052	1,042
880	913	987	1,018	1,065
860	886	921	984	1,010
913	856	884	923	986
917	904	873	886	932
870	937	894	882	887
931	876	932	911	890
932	928	870	942	914
918	930	938	876	948
975	919	939	942	891
953	980	926	951	943
1,024	976	991	947	947
974	1,048	999	1,007	943
1,060	983	1,056	1,003	1,032
1,061	1,069	998	1,065	1,011
1,069	1,069	1,082	1,008	1,073
1,008	1,079	1,083	1,091	1,018
1,031	1,019	1,093	1,092	1,098
1,017	1,041	1,035	1,103	1,100
1,004	1,027	1,055	1,046	1,112
1,012	1,015	1,042	1,065	1,057
1,026	1,022	1,031	1,052	1,074
1,032	1,036	1,036	1,042	1,062
1,035	1,042	1,051	1,046	1,053
1,035	1,045	1,057	1,061	1,055
1,038	1,045	1,059	1,067	1,071
1,040	1,048	1,060	1,070	1,077
1,041	1,050	1,062	1,070	1,079
1,040	1,051	1,064	1,072	1,080
1,039	1,050	1,065	1,074	1,082
1,037	1,049	1,064	1,075	1,083
1,033	1,046	1,063	1,074	1,084
1,030	1,043	1,061	1,073	1,084
1,027	1,040	1,057	1,071	1,082
1,025	1,037	1,054	1,067	1,080
1,023	1,034	1,051	1,064	1,077
1,024	1,033	1,049	1,061	1,073
1,026	1,034	1,048	1,059	1,070
1,030	1,036	1,048	1,058	1,068

F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1,034	1,046	1,096	1,000	977	964	965	880	844	877	915	924	867	879	927	965
1,048	1,035	1,063	1,097	993	980	964	984	908	942	961	981	990	887	899	945
1,005	1,051	1,047	1,069	1,099	1,024	1,001	989	999	1,009	1,043	1,040	1,029	1,016	892	941
1,055	1,030	1,057	1,049	1,087	1,106	1,054	1,032	976	1,086	1,076	1,095	1,109	1,054	1,058	960
1,090	1,063	1,030	1,067	1,054	1,087	1,114	1,040	877	1,019	1,162	1,073	1,115	1,141	1,064	1,048
1,016	1,102	1,060	1,017	1,073	1,051	1,090	1,090	884	867	1,051	1,119	1,020	1,087	1,150	1,065
993	1,037	1,124	1,061	1,038	1,076	1,065	1,083	903	888	907	1,020	1,029	989	1,103	1,143
939	989	1,045	1,115	1,063	1,030	1,081	1,041	933	852	946	1,002	1,008	1,009	961	1,086
892	952	992	1,062	1,122	1,070	1,037	1,036	883	937	897	1,017	1,016	1,006	1,021	965
901	887	956	979	1,065	1,133	1,077	1,023	872	832	994	1,008	1,052	1,029	1,027	1,022
912	909	888	972	974	1,072	1,141	1,047	848	837	913	1,044	1,073	1,075	1,034	1,027
941	921	919	899	958	981	1,053	1,113	862	828	896	994	1,081	1,085	1,073	1,063
904	955	934	917	910	953	997	1,031	909	835	866	982	1,060	1,076	1,077	1,085
951	913	969	926	926	919	933	988	900	948	889	959	1,042	1,043	1,076	1,112
968	967	905	986	942	935	927	909	813	862	935	954	994	1,068	1,058	1,072
962	983	973	910	986	964	928	889	767	793	873	1,011	983	988	1,103	1,033
1,041	975	992	976	915	991	957	907	729	767	835	967	1,062	992	1,003	1,112
1,021	1,053	984	995	980	921	983	932	738	731	817	933	1,014	1,059	1,003	1,021
1,083	1,034	1,061	989	999	985	914	954	747	737	786	923	984	1,013	1,062	1,019
1,029	1,096	1,044	1,064	995	1,004	976	890	760	740	790	896	977	986	1,016	1,071
1,108	1,044	1,106	1,048	1,069	1,000	995	948	714	749	787	896	951	981	993	1,025
1,110	1,121	1,054	1,110	1,053	1,073	993	967	755	708	792	888	950	955	989	1,005
1,123	1,123	1,130	1,060	1,115	1,059	1,063	967	773	744	753	890	938	952	962	1,002
1,069	1,137	1,132	1,134	1,066	1,120	1,050	1,032	777	763	787	850	937	938	958	974
1,085	1,084	1,147	1,136	1,138	1,072	1,110	1,022	824	769	808	883	897	935	942	969
1,073	1,099	1,095	1,152	1,141	1,143	1,064	1,080	823	812	817	909	930	898	938	952
1,065	1,088	1,109	1,101	1,157	1,146	1,133	1,038	866	815	861	921	958	929	902	946
1,066	1,080	1,099	1,114	1,108	1,163	1,136	1,101	839	856	867	967	971	956	932	912
1,082	1,080	1,091	1,104	1,120	1,115	1,153	1,105	883	835	908	978	1,018	971	960	940
1,088	1,096	1,091	1,097	1,110	1,126	1,107	1,123	888	872	890	1,022	1,031	1,016	975	968
1,090	1,102	1,107	1,096	1,104	1,117	1,116	1,080	904	879	925	1,006	1,076	1,031	1,019	985
1,091	1,105	1,112	1,112	1,101	1,111	1,108	1,087	874	896	933	1,040	1,062	1,074	1,035	1,027
1,093	1,105	1,115	1,118	1,118	1,107	1,102	1,080	875	868	953	1,051	1,095	1,062	1,077	1,045
1,094	1,107	1,116	1,120	1,123	1,124	1,098	1,075	871	866	925	1,075	1,108	1,093	1,067	1,087
1,095	1,109	1,117	1,121	1,126	1,129	1,115	1,070	869	863	920	1,044	1,132	1,106	1,095	1,077
1,095	1,110	1,119	1,123	1,127	1,132	1,120	1,086	861	863	917	1,036	1,102	1,131	1,109	1,105
1,093	1,109	1,120	1,124	1,128	1,133	1,123	1,091	874	852	918	1,033	1,091	1,101	1,134	1,119
1,091	1,108	1,119	1,125	1,130	1,134	1,123	1,093	876	864	905	1,035	1,089	1,090	1,106	1,145
1,087	1,105	1,118	1,124	1,131	1,136	1,125	1,094	878	866	917	1,018	1,091	1,088	1,094	1,118
1,084	1,102	1,115	1,123	1,130	1,137	1,126	1,095	878	868	919	1,031	1,073	1,090	1,092	1,104
1,081	1,098	1,112	1,120	1,128	1,136	1,127	1,096	879	867	920	1,033	1,086	1,071	1,095	1,103

F	F	F	F	F
27	28	29	30	31
1,019	1,047	1,045	1,142	1,129
976	1,041	1,075	1,073	1,161
928	1,024	1,054	1,101	1,119
985	974	1,073	1,095	1,111
995	1,017	1,012	1,070	1,111
1,030	990	1,004	1,025	1,085
1,045	1,043	984	1,005	1,041
1,128	1,069	1,018	991	1,003
1,114	1,130	1,044	1,013	1,012
999	1,119	1,151	1,046	1,025
1,030	1,006	1,140	1,165	1,085
1,054	1,051	1,029	1,154	1,189
1,064	1,044	1,055	1,032	1,180
1,088	1,052	1,032	1,057	1,029
1,108	1,106	1,091	1,006	1,105
1,092	1,140	1,115	1,099	1,064
1,050	1,103	1,153	1,125	1,126
1,121	1,065	1,119	1,163	1,153
1,038	1,130	1,083	1,131	1,190
1,033	1,054	1,143	1,097	1,160
1,080	1,046	1,072	1,152	1,127
1,035	1,088	1,063	1,087	1,179
1,017	1,043	1,100	1,076	1,117
1,015	1,028	1,056	1,109	1,104
987	1,027	1,043	1,067	1,135
981	998	1,042	1,054	1,092
962	992	1,013	1,054	1,081
956	971	1,006	1,025	1,081
922	964	984	1,018	1,052
949	931	977	995	1,044
978	958	944	987	1,020
995	987	971	955	1,011
1,038	1,005	1,000	981	979
1,056	1,047	1,019	1,011	1,005
1,098	1,066	1,060	1,029	1,036
1,089	1,108	1,080	1,071	1,055
1,115	1,100	1,122	1,091	1,097
1,130	1,125	1,114	1,133	1,118
1,156	1,140	1,139	1,127	1,161
1,130	1,167	1,154	1,150	1,154
1,116	1,141	1,182	1,166	1,178

F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
1,201	1,254	1,249	1,270	1,297	1,332	1,301	1,232	1,249	1,136	1,102	1,192	1,139	1,118	1,043	1,003
1,146	1,232	1,271	1,254	1,289	1,314	1,349	1,293	1,247	1,249	1,130	1,109	1,187	1,128	1,101	1,054
1,161	1,177	1,248	1,285	1,260	1,289	1,313	1,338	1,289	1,238	1,268	1,133	1,116	1,190	1,126	1,100
1,156	1,229	1,192	1,264	1,304	1,297	1,296	1,326	1,352	1,286	1,241	1,277	1,136	1,114	1,166	1,128
1,155	1,178	1,250	1,214	1,286	1,311	1,311	1,292	1,332	1,367	1,290	1,255	1,283	1,131	1,091	1,149
1,111	1,146	1,186	1,272	1,227	1,300	1,334	1,318	1,302	1,328	1,360	1,282	1,239	1,267	1,125	1,077
1,087	1,139	1,165	1,202	1,275	1,242	1,325	1,366	1,308	1,293	1,330	1,359	1,281	1,242	1,268	1,127
1,052	1,093	1,159	1,177	1,208	1,280	1,240	1,337	1,366	1,322	1,303	1,314	1,364	1,280	1,249	1,273
1,016	1,050	1,111	1,143	1,187	1,223	1,297	1,241	1,321	1,371	1,321	1,315	1,303	1,376	1,278	1,263
1,030	1,029	1,064	1,122	1,166	1,203	1,238	1,281	1,258	1,307	1,388	1,321	1,328	1,290	1,386	1,268
1,069	1,036	1,037	1,053	1,133	1,167	1,203	1,230	1,297	1,260	1,301	1,384	1,322	1,317	1,290	1,378
1,113	1,081	1,043	1,056	1,051	1,145	1,166	1,198	1,218	1,304	1,254	1,301	1,370	1,329	1,303	1,283
1,187	1,101	1,089	1,056	1,077	1,079	1,157	1,185	1,221	1,228	1,320	1,249	1,289	1,371	1,318	1,319
1,202	1,185	1,107	1,069	1,103	1,084	1,081	1,161	1,189	1,224	1,232	1,321	1,251	1,288	1,364	1,317
1,059	1,243	1,214	1,132	1,110	1,131	1,108	1,081	1,171	1,204	1,234	1,221	1,329	1,247	1,307	1,353
1,112	1,098	1,233	1,231	1,158	1,124	1,149	1,136	1,088	1,179	1,220	1,256	1,234	1,338	1,232	1,307
1,082	1,126	1,111	1,245	1,250	1,178	1,141	1,158	1,136	1,099	1,185	1,222	1,258	1,239	1,332	1,231
1,140	1,102	1,137	1,130	1,261	1,267	1,196	1,155	1,157	1,144	1,107	1,188	1,224	1,261	1,234	1,329
1,166	1,156	1,117	1,154	1,153	1,276	1,282	1,210	1,159	1,166	1,150	1,112	1,191	1,227	1,255	1,233
1,203	1,181	1,167	1,138	1,175	1,173	1,289	1,293	1,213	1,171	1,171	1,153	1,116	1,195	1,221	1,252
1,174	1,218	1,192	1,185	1,162	1,193	1,191	1,299	1,294	1,225	1,179	1,174	1,156	1,121	1,190	1,218
1,143	1,190	1,229	1,209	1,206	1,184	1,210	1,204	1,298	1,303	1,233	1,185	1,177	1,159	1,118	1,188
1,191	1,160	1,201	1,246	1,230	1,226	1,202	1,222	1,208	1,306	1,310	1,239	1,190	1,180	1,154	1,117
1,132	1,206	1,172	1,219	1,267	1,249	1,243	1,217	1,224	1,219	1,312	1,314	1,244	1,196	1,175	1,152
1,118	1,149	1,216	1,191	1,241	1,286	1,266	1,256	1,221	1,235	1,228	1,315	1,318	1,250	1,193	1,173
1,147	1,134	1,162	1,233	1,213	1,260	1,304	1,278	1,258	1,234	1,243	1,234	1,318	1,322	1,246	1,193
1,105	1,161	1,145	1,180	1,254	1,233	1,277	1,316	1,281	1,270	1,243	1,248	1,239	1,321	1,317	1,246
1,094	1,119	1,170	1,162	1,203	1,273	1,251	1,290	1,319	1,292	1,278	1,250	1,253	1,245	1,316	1,315
1,095	1,109	1,129	1,187	1,184	1,222	1,290	1,264	1,293	1,330	1,300	1,284	1,255	1,258	1,242	1,313
1,065	1,110	1,120	1,145	1,207	1,203	1,240	1,302	1,267	1,304	1,338	1,306	1,289	1,262	1,254	1,242
1,057	1,080	1,121	1,136	1,165	1,225	1,220	1,253	1,305	1,279	1,313	1,344	1,310	1,294	1,259	1,253
1,032	1,071	1,091	1,138	1,157	1,183	1,241	1,232	1,256	1,316	1,288	1,318	1,348	1,316	1,290	1,259
1,023	1,046	1,082	1,107	1,159	1,175	1,199	1,252	1,235	1,268	1,324	1,293	1,323	1,353	1,311	1,290
991	1,036	1,056	1,098	1,128	1,177	1,191	1,210	1,254	1,246	1,277	1,329	1,298	1,328	1,349	1,310
1,017	1,005	1,046	1,072	1,118	1,146	1,193	1,203	1,213	1,265	1,255	1,283	1,334	1,304	1,324	1,348
1,048	1,030	1,015	1,061	1,091	1,136	1,162	1,206	1,206	1,223	1,273	1,260	1,288	1,339	1,300	1,323
1,068	1,062	1,040	1,030	1,080	1,109	1,152	1,174	1,208	1,217	1,231	1,278	1,265	1,293	1,334	1,300
1,110	1,082	1,072	1,055	1,049	1,097	1,124	1,164	1,176	1,219	1,225	1,236	1,282	1,271	1,290	1,333
1,132	1,125	1,092	1,088	1,075	1,066	1,112	1,135	1,166	1,187	1,227	1,230	1,241	1,287	1,267	1,289
1,175	1,148	1,136	1,109	1,107	1,092	1,081	1,123	1,137	1,177	1,195	1,233	1,234	1,246	1,283	1,266
1,169	1,191	1,159	1,152	1,129	1,125	1,107	1,092	1,125	1,148	1,185	1,201	1,237	1,239	1,242	1,282

F	F	F	F	F
48	49	50	51	52
1,027	1,041	1,009	1,060	1,169
999	1,031	1,041	1,020	1,053
1,051	994	1,034	1,023	1,017
1,107	1,064	997	1,038	1,014
1,128	1,119	1,052	990	1,043
1,149	1,112	1,119	1,050	983
1,081	1,145	1,102	1,105	1,049
1,127	1,068	1,149	1,096	1,103
1,260	1,120	1,073	1,158	1,090
1,282	1,244	1,110	1,070	1,159
1,258	1,276	1,235	1,105	1,068
1,377	1,260	1,257	1,229	1,097
1,286	1,362	1,250	1,241	1,222
1,324	1,278	1,348	1,239	1,252
1,314	1,342	1,255	1,328	1,253
1,358	1,307	1,345	1,249	1,309
1,308	1,352	1,299	1,336	1,247
1,234	1,303	1,343	1,291	1,332
1,330	1,231	1,294	1,333	1,289
1,235	1,325	1,224	1,285	1,329
1,253	1,231	1,316	1,217	1,282
1,219	1,248	1,224	1,306	1,215
1,190	1,214	1,239	1,216	1,303
1,120	1,186	1,206	1,230	1,214
1,154	1,118	1,178	1,197	1,227
1,174	1,150	1,111	1,170	1,193
1,197	1,170	1,143	1,105	1,168
1,249	1,194	1,162	1,135	1,104
1,317	1,247	1,188	1,154	1,133
1,315	1,313	1,240	1,182	1,152
1,245	1,310	1,304	1,233	1,181
1,256	1,242	1,301	1,296	1,231
1,263	1,253	1,236	1,293	1,293
1,293	1,261	1,246	1,229	1,290
1,313	1,290	1,254	1,239	1,228
1,351	1,310	1,283	1,248	1,237
1,326	1,348	1,303	1,276	1,247
1,303	1,323	1,340	1,295	1,274
1,336	1,300	1,316	1,332	1,294
1,293	1,333	1,293	1,308	1,331
1,269	1,290	1,325	1,286	1,307

F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
1,283	1,425	1,102	1,033	998	913	837	735	777	770	777	745	752	706	655	608
1,165	1,265	1,414	1,092	1,019	986	905	837	729	768	760	762	738	745	697	650
1,033	1,168	1,253	1,403	1,086	995	974	887	831	718	756	760	757	733	749	691
1,022	1,023	1,158	1,247	1,398	1,064	979	973	856	821	715	754	752	752	730	742
1,015	1,012	1,003	1,157	1,234	1,385	1,049	972	961	855	819	700	745	740	746	725
1,026	1,008	1,002	987	1,144	1,214	1,383	1,039	951	954	849	812	684	736	715	722
979	1,021	993	1,010	981	1,142	1,209	1,370	1,022	935	946	837	807	673	725	715
1,057	979	1,004	982	993	974	1,138	1,213	1,363	1,015	915	939	825	790	671	719
1,107	1,057	980	1,000	982	997	968	1,141	1,219	1,377	1,014	906	927	818	779	661
1,082	1,098	1,050	983	998	973	994	954	1,133	1,214	1,376	1,003	885	918	813	764
1,163	1,083	1,099	1,047	972	981	961	997	944	1,127	1,205	1,370	1,000	879	905	820
1,064	1,167	1,069	1,082	1,038	956	975	939	989	931	1,117	1,193	1,367	980	868	900
1,096	1,057	1,162	1,053	1,073	1,030	959	960	928	994	924	1,102	1,175	1,361	978	878
1,221	1,085	1,061	1,140	1,056	1,066	1,024	943	950	934	999	923	1,068	1,163	1,345	958
1,250	1,205	1,063	1,059	1,140	1,036	1,059	1,027	933	934	919	999	897	1,064	1,155	1,350
1,230	1,247	1,194	1,041	1,053	1,132	1,012	1,044	1,022	929	935	907	985	884	1,044	1,137
1,299	1,222	1,233	1,180	1,038	1,042	1,122	1,001	1,035	1,014	924	928	897	972	878	1,037
1,239	1,289	1,210	1,218	1,175	1,029	1,035	1,109	995	1,028	1,007	918	917	887	964	875
1,322	1,232	1,275	1,197	1,213	1,163	1,023	1,026	1,100	990	1,022	998	908	907	881	959
1,281	1,313	1,220	1,262	1,193	1,200	1,154	1,014	1,019	1,092	985	1,013	985	899	901	877
1,320	1,273	1,300	1,208	1,256	1,182	1,190	1,143	1,009	1,014	1,086	978	1,001	974	893	897
1,273	1,310	1,261	1,286	1,204	1,244	1,174	1,178	1,135	1,005	1,010	1,076	968	989	966	890
1,208	1,264	1,296	1,248	1,281	1,193	1,234	1,164	1,170	1,129	1,002	1,003	1,063	958	982	961
1,293	1,201	1,252	1,282	1,244	1,268	1,186	1,223	1,157	1,163	1,124	995	993	1,052	952	977
1,206	1,284	1,190	1,239	1,277	1,232	1,259	1,176	1,215	1,152	1,157	1,116	986	983	1,044	949
1,218	1,198	1,272	1,179	1,234	1,264	1,224	1,247	1,170	1,209	1,148	1,149	1,104	977	978	1,039
1,185	1,210	1,187	1,258	1,176	1,222	1,255	1,214	1,239	1,165	1,204	1,140	1,137	1,093	972	974
1,160	1,176	1,198	1,176	1,254	1,165	1,214	1,243	1,208	1,233	1,161	1,196	1,129	1,125	1,086	970
1,098	1,153	1,165	1,185	1,172	1,242	1,159	1,204	1,236	1,203	1,228	1,154	1,184	1,119	1,118	1,082
1,125	1,091	1,142	1,153	1,181	1,162	1,233	1,150	1,197	1,229	1,198	1,220	1,144	1,172	1,113	1,113
1,144	1,118	1,082	1,131	1,149	1,170	1,155	1,222	1,144	1,192	1,224	1,191	1,208	1,134	1,165	1,110
1,175	1,137	1,108	1,073	1,128	1,139	1,162	1,145	1,215	1,140	1,187	1,216	1,180	1,196	1,128	1,161
1,225	1,168	1,126	1,097	1,071	1,118	1,131	1,152	1,140	1,210	1,137	1,180	1,204	1,169	1,189	1,125
1,285	1,218	1,159	1,116	1,095	1,063	1,111	1,122	1,146	1,135	1,205	1,130	1,169	1,193	1,163	1,185
1,281	1,277	1,208	1,149	1,113	1,086	1,058	1,103	1,115	1,141	1,132	1,197	1,120	1,158	1,186	1,160
1,221	1,273	1,266	1,198	1,148	1,103	1,080	1,050	1,097	1,111	1,137	1,125	1,186	1,111	1,152	1,182
1,230	1,214	1,261	1,254	1,196	1,139	1,097	1,072	1,046	1,093	1,107	1,129	1,116	1,175	1,106	1,149
1,240	1,223	1,205	1,249	1,251	1,187	1,134	1,089	1,067	1,043	1,090	1,100	1,119	1,106	1,169	1,104
1,267	1,234	1,213	1,195	1,246	1,241	1,181	1,127	1,084	1,063	1,041	1,084	1,090	1,109	1,101	1,166
1,286	1,260	1,225	1,203	1,193	1,236	1,234	1,174	1,122	1,081	1,061	1,036	1,075	1,081	1,104	1,099
1,323	1,279	1,250	1,215	1,201	1,184	1,229	1,225	1,169	1,120	1,078	1,055	1,028	1,066	1,076	1,101

F	F	F	F	F
69	70	71	72	73
645	675	681	614	591
604	642	676	667	606
645	586	634	671	664
692	630	579	633	662
734	679	622	569	615
719	719	661	612	556
721	719	706	644	605
710	712	705	696	631
706	699	707	693	695
656	691	700	700	680
759	651	693	695	696
815	743	653	690	692
895	795	742	647	680
868	884	790	749	632
964	866	881	773	741
1,328	960	854	878	768
1,127	1,315	955	847	866
1,029	1,118	1,305	946	837
869	1,021	1,111	1,294	934
952	865	1,015	1,101	1,277
872	946	862	1,007	1,088
891	867	941	857	994
885	886	864	934	848
955	881	883	859	923
971	949	878	877	850
944	965	944	873	868
1,032	939	961	938	865
970	1,026	936	955	928
965	965	1,022	932	945
1,077	962	963	1,016	923
1,108	1,072	960	959	1,006
1,105	1,103	1,069	956	950
1,156	1,101	1,099	1,064	949
1,121	1,151	1,098	1,094	1,054
1,180	1,117	1,148	1,094	1,085
1,155	1,176	1,115	1,144	1,085
1,177	1,151	1,173	1,111	1,134
1,144	1,172	1,149	1,168	1,103
1,100	1,141	1,170	1,145	1,159
1,161	1,097	1,139	1,165	1,137
1,095	1,158	1,096	1,135	1,156

F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	Births	Deaths	Net	Total
74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89 90-	+			<b>Migration Pr</b>	opulation
545	552	569	535	499	508	522	525	370	316	301	303	297	250	235	219	674				157,269
581	538	537	560	517	477	487	498	504	348	293	282	279	272	213	203	722	1,615	1,269	1,071	158,686
601	575	527	521	549	498	462	459	476	472	328	262	250	247	242	189	757	1,746	1,239	1,167	160,360
656	579	563	503	507	529	489	438	436	433	441	307	237	227	225	213	742	1,821	1,287	1,611	162,505
653	641	563	548	492	490	498	473	414	402	406	416	295	207	195	192	753	1,770	1,297	592	163,570
601	634	609	547	524	471	465	472	462	396	387	383	382	275	184	173	738	1,885	1,147	-429	163,879
545	589	620	596	525	515	470	450	451	433	374	360	352	349	248	157	769	1,768	1,209	-57	164,381
595	534	582	610	574	514	496	450	433	444	408	349	327	321	300	231	739	1,971	1,214	-91	165,047
621	583	525	561	593	558	498	480	432	416	420	392	324	283	297	263	774	1,908	1,226	479	166,208
680	616	570	511	544	584	533	480	467	419	397	390	360	316	246	262	867	1,940	1,245	538	167,441
679	668	604	567	495	531	564	509	464	437	393	388	357	329	293	234	919	1,945	1,319	424	168,491
693	663	658	596	561	481	518	549	494	457	408	368	351	326	303	247	968	2,030	1,366	224	169,379
676	673	660	641	576	553	472	517	523	479	428	375	341	323	291	257	1,003	1,905	1,403	430	170,311
669	664	655	661	629	578	535	460	501	503	450	404	352	320	295	264	1,062	1,923	1,266	622	171,590
625	655	658	635	646	604	554	520	434	476	471	413	377	327	278	261	1,070	1,928	1,468	669	172,719
723	605	638	639	622	635	583	530	503	405	451	437	380	347	304	245	1,071	1,927	1,420	971	174,197
756	708	594	629	626	608	616	570	508	483	383	420	404	352	314	266	1,071	1,894	1,480	669	175,280
852	742	695	585	616	612	591	602	546	489	456	359	390	376	319	279	1,091	1,920	1,445	666	176,421
824	837	728	684	574	603	596	577	578	524	462	426	335	365	341	284	1,116	1,935	1,458	680	177,579
918	810	820	717	671	561	588	582	557	556	495	431	396	314	332	303	1,140	1,939	1,485	688	178,721
1,256	901	793	807	704	657	546	574	562	536	526	463	401	370	289	295	1,171	1,940	1,498	693	179,857
1,071	1,232	884	782	792	690	639	535	554	542	508	492	431	375	337	259	1,199	1,948	1,514	657	180,948
979	1,052	1,207	870	768	775	673	625	516	534	514	476	458	404	342	301	1,194	1,952	1,524	640	182,016
837	962	1,031	1,188	854	752	755	659	603	497	507	483	444	428	369	306	1,225	1,955	1,542	631	183,061
910	824	944	1,016	1,165	836	734	738	637	581	472	476	451	417	392	330	1,257	1,954	1,558	611	184,067
839	895	810	930	998	1,140	814	718	713	615	552	444	445	424	383	350	1,307	1,952	1,577	637	185,080
857	826	879	801	914	977	1,110	797	694	687	585	519	416	419	389	343	1,368	1,949	1,598	625	186,056
854	844	813	867	789	895	953	1,086	769	670	653	551	485	392	385	350	1,416	1,942	1,617	646	187,027
915	842	830	803	853	775	874	933	1,048	743	638	615	517	456	361	347	1,465	1,936	1,641	645	187,968
933	901	829	820	791	836	758	856	902	1,012	706	602	576	487	420	325	1,506	1,929	1,662	656	188,890
912	919	886	819	808	777	817	745	828	872	962	666	565	543	450	379	1,523	1,923	1,689	654	189,778
993	899	904	875	808	794	761	801	722	801	830	906	624	533	501	407	1,585	1,920	1,719	686	190,666
939	979	886	893	862	794	777	747	776	701	764	784	850	589	493	452	1,665	1,919	1,744	694	191,534
938	927	963	876	880	846	778	764	725	752	671	722	736	801	544	446	1,774	1,922	1,770	707	192,393
1,042	927	913	952	864	865	828	765	741	704	718	636	679	695	739	492	1,864	1,929	1,796	704	193,230
1,072	1,028	914	904	938	850	847	813	744	720	674	680	601	642	643	668	1,982	1,941	1,825	714	194,059
1,074	1,058	1,013	905	892	922	834	832	789	723	689	640	641	570	594	583	2,237	1,956	1,853	711	194,874
1,121	1,060	1,043	1,003	894	878	904	821	808	766	693	655	604	607	530	540	2,385	1,976	1,874	713	195,689
1,091	1,108	1,046	1,032	990	881	862	889	798	785	734	659	619	574	564	484	2,474	1,999	1,892	719	196,514
1,147	1,079	1,092	1,036	1,019	974	865	850	864	777	752	697	624	588	535	514	2,504	2,025	1,908	726	197,357
1,125	1,133	1,064	1,082	1,024	1,004	957	853	827	840	746	716	659	594	548	488	2,553	2,050	1,926	734	198,214

24,563

Ch	Natural ange
	346
	507
	534
	473
	738
	559
	757
	682
	695
	626
	664
	502
	502
	007
	400
	507
	414
	475
	478
	455
	442
	434
	428
	413
	396
	375
	351
	326
	295
	267
	234
	204
	175
	1/5
	152
	133
	115
	103
	102
	106
	117
	124

Chelmsford																													
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
2013 MYE	1,894	2,057	2,046	2,079	2,004	2,113	1,924	2,077	1,955	1,913	1,957	1,850	1,914	1,931	1,957	1,906	2,059	2,010	2,061	1,804	1,696	1,783	2,006	2,066	2,092	2,120	2,228	2,220	2,086
2037 SNPP 2016	1,975	1,984	2,006	2,027	2,056	2,081	2,105	2,134	2,167	2,200	2,230	2,260	2,288	2,311	2,320	2,323	2,330	2,317	2,258	1,802	1,726	1,881	2,065	2,189	2,224	2,322	2,282	2,276	2,257
2037 SNPP 2014	2,076	2,084	2,100	2,116	2,133	2,153	2,167	2,186	2,209	2,235	2,258	2,280	2,303	2,320	2,329	2,324	2,317	2,299	2,241	1,789	1,743	1,884	2,098	2,233	2,268	2,332	2,446	2,411	2,408



<b>Cohort Progression</b>																													
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
2013 MYE	1,894	2,057	2,046	2,079	2,004	2,113	1,924	2,077	1,955	1,913	1,957	1,850	1,914	1,931	1,957	1,906	2,059	2,010	2,061	1,804	1,696	1,783	2,006	2,066	2,092	2,120	2,228	2,220	2,086
2037 SNPP 2016 (+:	2,224	2,322	2,282	2,276	2,257	2,291	2,229	2,246	2,181	2,150	2,125	2,103	2,183	2,244	2,333	2,365	2,465	2,474	2,502	2,589	2,570	2,644	2,725	2,638	2,650	2,677	2,603	2,570	2,518
Difference	330	265	236	197	253	178	305	169	226	237	168	253	269	313	376	459	406	464	441	785	874	861	719	572	558	557	375	350	432
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
% Difference	17.4	12.9	11.5	9.5	12.6	8.4	15.8	8.1	11.6	12.4	8.6	13.7	14.1	16.2	19.2	24.1	19.7	23.1	21.4	43.5	51.5	48.3	35.8	27.7	26.7	26.3	16.8	15.8	20.7

33 34 2,163 2,055 2,394 2,267 2,191 2,110 2,105 2,105 2,205 2,276 2,327 2,427 2,536 2,651 2,458 2,536 2,657 2,599 2,582 2,543 2,675 2,460 2,496 2,336 2,206 2,291 2,229 2,246 2,181 2,150 2,125 2,103 2,183 2,244 2,333 2,365 2,465 2,474 2,502 2,589 2,570 2,644 2,725 2,638 2,650 2,677 2,603 2,570 2,518 2,477 2,395 2,427 2,364 2,369 2,281 2,255 2,225 2,194 2,263 2,318 2,401 2,428 2,496 2,513 2,568 2,668 2,619 2,633 2,649 2,570 2,565 2,546 2,496 2,472 2,407



2,163 2,055 2,394 2,267 2,191 2,110 2,105 2,105 2,205 2,276 2,327 2,427 2,536 2,651 2,458 2,536 2,657 2,599 2,582 2,543 2,675 2,460 2,496 2,336 2,206 2,477 2,411 2,495 2,439 2,384 2,264 2,166 2,111 2,104 2,140 2,156 2,183 2,219 2,283 2,159 2,191 2,231 2,206 2,185 2,120 2,124 2,009 2,011 1,851 1,742 -101 -136 -171 -244 -317 -368 -299 -345 -426 -393 -397 -423 -551 -451 -485 -485 -464 14.5 17.3 4.2 7.6 8.8 7.3 2.9 0.3 -4.6 -6.0 -7.4 -10.0 -12.5 -13.9 -12.1 -13.6 -16.0 -15.1 -15.4 -16.7 -20.6 -18.4 -19.4 -20.8 -21.0 -22.6

54	55	56	57	58	59	60
2,181	2,242	2,092	2,144	1,981	1,939	1,934
2,411	2,495	2,439	2,384	2,264	2,166	2,111
2,370	2,301	2,403	2,370	2,311	2,187	2,106

60	59	58	57	56	55	54
1,934	1,939	1,981	2,144	2,092	2,242	2,181
1,267	1,325	1,406	1,533	1,550	1,688	1,689
-667	-614	-575	-611	-542	-554	-492
60	59	58	57	56	55	54
-34.5	-31.7	-29.0	-28.5	-25.9	-24.7	-22.6

61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
1,861	1,856	1,875	2,020	2,266	2,550	1,914	1,705	1,707	1,573	1,404	1,220	1,229	1,278	1,245	1,244	1,185	1,136	1,007	925	948	939	820	686	632
2,104	2,140	2,156	2,183	2,219	2,283	2,159	2,191	2,231	2,206	2,185	2,120	2,124	2,009	2,011	1,851	1,742	1,689	1,688	1,550	1,533	1,406	1,325	1,267	1,164
2,051	2,078	2,115	2,124	2,179	2,238	2,306	2,185	2,222	2,261	2,247	2,210	2,166	2,190	2,044	2,043	1,918	1,791	1,733	1,722	1,607	1,566	1,426	1,347	1,289

61	62	63	64	65
1,861	1,856	1,875	2,020	2,266
1,164	1,113	1,036	1,029	1,034
-697	-743	-839	-991	-1,232
61	62	63	64	65
-37.5	-40.0	-44.7	-49.0	-54.4

87	88	89	90
507	471	406	1,436
1,036	1,029	1,034	3,907
1,130	1,072	1,034	5,280
	<b>87</b> 507 1,036 1,130	87885074711,0361,0291,1301,072	8788895074714061,0361,0291,0341,1301,0721,034

# 2016-based Household projections Household projections stage 1: household representative rate mid-2001 to mid-2041 England, Regions, Local authorities Males by age groups

MERGED	AGE GROUP	SEX	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		2001	2011	2021	
E4100010: Chelmsford	16-19	Male	0.017	0.016	0.015	0.015	0.014	0.013	0.012	0.012	0.011	0.011	0.010	0.010	0.009	0.009	0.008	800.0	0.007	0.007	0.007	0.006	0.006	16-19	0.017	0.010	0.006	
E4100010: Chelmsford	20-24	Male	0.255	0.249	0.244	0.238	0.233	0.228	0.223	0.218	0.213	0.208	0.204	0.199	0.195	0.190	0.186	0.182	0.178	0.174	0.170	0.166	0.162	20-24	0.255	0.204	0.162	1 000
E4100010: Chelmsford	25-29	Male	0.507	0.499	0.491	0.483	0.475	0.468	0.460	0.453	0.446	0.438	0.431	0.425	0.418	0.411	0.405	0.398	0.392	0.385	0.379	0.373	0.367	25-29	0.507	0.431	0.367	0.000
E4100010: Chelmsford	30-34	Male	0.727	0.717	0.708	0.699	0.690	0.682	0.673	0.664	0.656	0.648	0.639	0.631	0.623	0.615	0.608	0.600	0.592	0.585	0.577	0.570	0.563	30-34	0.727	0.639	0.563	0.900
E4100010: Chelmsford	35-39	Male	0.825	0.818	0.811	0.804	0.798	0.791	0.784	0.778	0.771	0.765	0.758	0.752	0.745	0.739	0.733	0.727	0.721	0.715	0.709	0.703	0.697	35-39	0.825	0.758	0.697	0.800
E4100010: Chelmsford	40-44	Male	0.857	0.851	0.845	0.840	0.834	0.828	0.823	0.817	0.812	0.807	0.801	0.796	0.790	0.785	0.780	0.775	0.770	0.764	0.759	0.754	0.749	40-44	0.857	0.801	0.749	0.700
E4100010: Chelmsford	45-49	Male	0.859	0.855	0.851	0.847	0.844	0.840	0.836	0.832	0.829	0.825	0.821	0.817	0.814	0.810	0.806	0.803	0.799	0.796	0.792	0.789	0.785	45-49	0.859	0.821	0.785	0.600
E4100010: Chelmsford	50-54	Male	0.853	0.850	0.848	0.845	0.843	0.840	0.838	0.835	0.833	0.830	0.828	0.825	0.823	0.820	0.818	0.815	0.813	0.811	808.0	0.806	0.803	50-54	0.853	0.828	0.803	0.000
E4100010: Chelmsford	55-59	Male	0.826	0.824	0.823	0.822	0.821	0.819	0.818	0.817	0.815	0.814	0.813	0.812	0.810	0.809	0.808	0.807	0.805	0.804	0.803	0.802	0.800	55-59	0.826	0.813	0.800	0.500
E4100010: Chelmsford	60-64	Male	0.794	0.793	0.792	0.791	0.790	0.789	0.788	0.787	0.786	0.785	0.784	0.783	0.782	0.781	0.780	0.779	0.778	0.777	0.776	0.775	0.774	60-64	0.794	0.784	0.774	0.400
E4100010: Chelmsford	65-69	Male	0.799	0.796	0.794	0.791	0.789	0.786	0.784	0.781	0.779	0.776	0.774	0.771	0.769	0.766	0.764	0.761	0.759	0.756	0.754	0.752	0.749	65-69	0.799	0.774	0.749	0.300
E4100010: Chelmsford	70-74	Male	0.699	0.710	0.720	0.730	0.740	0.749	0.758	0.767	0.775	0.783	0.791	0.798	0.805	0.812	0.819	0.825	0.831	0.837	0.843	0.849	0.854	70-74	0.699	0.791	0.854	0.200
E4100010: Chelmsford	75-79	Male	0.702	0.717	0.731	0.745	0.758	0.770	0.782	0.793	0.804	0.814	0.824	0.833	0.841	0.849	0.857	0.864	0.871	0.878	0.884	0.890	0.896	75-79	0.702	0.824	0.896	0.200
E4100010: Chelmsford	80-84	Male	0.701	0.721	0.740	0.758	0.775	0.790	0.804	0.818	0.830	0.842	0.852	0.862	0.872	0.881	0.889	0.896	0.903	0.910	0.916	0.922	0.927	80-84	0.701	0.852	0.927	0.100
E4100010: Chelmsford	85-89	Male	0.828	0.833	0.839	0.844	0.850	0.855	0.860	0.864	0.869	0.873	0.877	0.882	0.886	0.889	0.893	0.897	0.900	0.904	0.907	0.910	0.913	85-89	0.828	0.877	0.913	0.000
E4100010: Chelmsford	90+	Male	0.867	0.871	0.875	0.879	0.883	0.887	0.891	0.894	0.898	0.901	0.904	0.907	0.910	0.913	0.916	0.919	0.921	0.924	0.926	0.929	0.931	90+	0.867	0.904	0.931	-19
																												ف ف

2016-based Household projections Household projections stage 1: household representative rate mid-2001 to mid-2041 England, Regions, Local authorities Females by age groups

MERGED	AGE GROUP	SEX	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		2001	2011	2021		
E4100010: Chelmsford	16-19	Female	0.021	0.021	0.020	0.019	0.019	0.018	0.018	0.017	0.016	0.016	0.015	0.015	0.014	0.014	0.014	0.013	0.013	0.012	0.012	0.011	0.011	16-19	0.021	0.015	0.011	1.000 _	
E4100010: Chelmsford	20-24	Female	0.162	0.161	0.160	0.160	0.159	0.158	0.157	0.156	0.155	0.154	0.153	0.152	0.151	0.150	0.149	0.148	0.148	0.147	0.146	0.145	0.144	20-24	0.162	0.153	0.144	0.900 +	
E4100010: Chelmsford	25-29	Female	0.258	0.258	0.258	0.257	0.257	0.257	0.257	0.256	0.256	0.256	0.255	0.255	0.255	0.255	0.254	0.254	0.254	0.253	0.253	0.253	0.253	25-29	0.258	0.255	0.253	0.800	
E4100010: Chelmsford	30-34	Female	0.294	0.296	0.297	0.299	0.301	0.302	0.304	0.306	0.307	0.309	0.311	0.312	0.314	0.316	0.317	0.319	0.320	0.322	0.324	0.325	0.327	30-34	0.294	0.311	0.327	0.000	
E4100010: Chelmsford	35-39	Female	0.289	0.293	0.298	0.302	0.306	0.310	0.314	0.317	0.321	0.325	0.329	0.333	0.337	0.341	0.345	0.348	0.352	0.356	0.359	0.363	0.367	35-39	0.289	0.329	0.367	0.700 +	
E4100010: Chelmsford	40-44	Female	0.285	0.291	0.297	0.304	0.310	0.316	0.322	0.328	0.334	0.340	0.346	0.352	0.357	0.363	0.369	0.374	0.380	0.385	0.391	0.396	0.402	40-44	0.285	0.346	0.402	0.600 +	
E4100010: Chelmsford	45-49	Female	0.296	0.303	0.311	0.319	0.326	0.333	0.341	0.348	0.355	0.362	0.369	0.376	0.383	0.390	0.397	0.403	0.410	0.416	0.423	0.429	0.435	45-49	0.296	0.369	0.435	0.500 +	
E4100010: Chelmsford	50-54	Female	0.324	0.331	0.338	0.345	0.352	0.358	0.365	0.372	0.378	0.384	0.391	0.397	0.403	0.409	0.415	0.421	0.427	0.433	0.439	0.445	0.451	50-54	0.324	0.391	0.451	0.400	
E4100010: Chelmsford	55-59	Female	0.351	0.356	0.361	0.366	0.371	0.376	0.381	0.386	0.391	0.395	0.400	0.405	0.410	0.414	0.419	0.423	0.428	0.432	0.437	0.441	0.446	55-59	0.351	0.400	0.446	0.400	
E4100010: Chelmsford	60-64	Female	0.400	0.401	0.402	0.403	0.404	0.404	0.405	0.406	0.407	0.407	0.408	0.409	0.410	0.410	0.411	0.412	0.413	0.413	0.414	0.415	0.416	60-64	0.400	0.408	0.416	0.300 +	
E4100010: Chelmsford	65-69	Female	0.522	0.511	0.500	0.490	0.480	0.470	0.461	0.451	0.442	0.433	0.424	0.415	0.407	0.398	0.390	0.382	0.374	0.367	0.359	0.352	0.344	65-69	0.522	0.424	0.344	0.200 +	
E4100010: Chelmsford	70-74	Female	0.593	0.581	0.568	0.556	0.544	0.533	0.522	0.510	0.500	0.489	0.479	0.468	0.458	0.449	0.439	0.430	0.421	0.412	0.403	0.394	0.386	70-74	0.593	0.479	0.386	0.100 +	
E4100010: Chelmsford	75-79	Female	0.698	0.685	0.672	0.659	0.646	0.634	0.622	0.610	0.599	0.587	0.576	0.565	0.554	0.544	0.533	0.523	0.513	0.504	0.494	0.485	0.475	75-79	0.698	0.576	0.475	0.000	
E4100010: Chelmsford	80-84	Female	0.735	0.731	0.728	0.724	0.721	0.717	0.713	0.710	0.706	0.703	0.699	0.696	0.692	0.689	0.686	0.682	0.679	0.675	0.672	0.669	0.665	80-84	0.735	0.699	0.665	0.000	൭഻
E4100010: Chelmsford	85-89	Female	0.824	0.823	0.821	0.819	0.817	0.816	0.814	0.812	0.810	0.808	0.807	0.805	0.803	0.801	0.800	0.798	0.796	0.795	0.793	0.791	0.789	85-89	0.824	0.807	0.789		6-1
E4100010: Chelmsford	90+	Female	0.858	0.861	0.864	0.867	0.870	0.873	0.876	0.879	0.882	0.884	0.887	0.890	0.892	0.895	0.897	0.899	0.902	0.904	0.906	0.908	0.910	90+	0.858	0.887	0.910		

2016-based Household projections Household projections stage 1: household representative rate mid-2001 to mid-2041 England, Regions, Local authorities Persons by age groups

			2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		2001	2011	2021	
Chelmsford	16-19	Persons	0.019	0.018	0.018	0.017	0.016	0.016	0.015	0.015	0.014	0.013	0.013	0.012	0.012	0.011	0.011	0.010	0.009	0.009	0.009	0.008	0.008	16-19	0.019	0.013	0.008	1.000
Chelmsford	20-24	Persons	0.207	0.204	0.199	0.196	0.191	0.189	0.187	0.184	0.181	0.179	0.176	0.173	0.170	0.167	0.164	0.162	0.159	0.157	0.154	0.151	0.149	20-24	0.207	0.176	0.149	0 900
Chelmsford	25-29	Persons	0.387	0.382	0.377	0.370	0.366	0.361	0.358	0.354	0.351	0.346	0.344	0.341	0.338	0.334	0.330	0.327	0.324	0.321	0.317	0.314	0.311	25-29	0.387	0.344	0.311	0.800
Chelmsford	30-34	Persons	0.509	0.505	0.502	0.499	0.496	0.493	0.488	0.485	0.482	0.478	0.471	0.468	0.466	0.464	0.461	0.461	0.459	0.455	0.452	0.449	0.446	30-34	0.509	0.471	0.446	0.800
Chelmsford	35-39	Persons	0.554	0.553	0.551	0.549	0.548	0.547	0.545	0.546	0.545	0.545	0.544	0.541	0.539	0.537	0.536	0.532	0.532	0.531	0.531	0.531	0.532	35-39	0.554	0.544	0.532	0.700
Chelmsford	40-44	Persons	0.570	0.569	0.569	0.567	0.566	0.570	0.570	0.570	0.569	0.567	0.568	0.571	0.573	0.574	0.574	0.575	0.573	0.573	0.573	0.574	0.572	40-44	0.570	0.568	0.572	0.600
Chelmsford	45-49	Persons	0.581	0.581	0.581	0.581	0.585	0.585	0.585	0.587	0.587	0.589	0.592	0.593	0.594	0.596	0.597	0.601	0.604	0.605	0.608	0.609	0.611	45-49	0.581	0.592	0.611	0.500
Chelmsford	50-54	Persons	0.586	0.589	0.592	0.597	0.598	0.599	0.601	0.601	0.603	0.607	0.607	0.609	0.612	0.611	0.613	0.615	0.617	0.618	0.620	0.622	0.625	50-54	0.586	0.607	0.625	0.400
Chelmsford	55-59	Persons	0.588	0.588	0.588	0.589	0.592	0.593	0.596	0.598	0.602	0.601	0.605	0.606	0.606	0.608	0.612	0.612	0.614	0.616	0.617	0.618	0.620	55-59	0.588	0.605	0.620	0.300
Chelmsford	60-64	Persons	0.594	0.592	0.593	0.593	0.594	0.593	0.593	0.592	0.590	0.590	0.588	0.589	0.590	0.592	0.589	0.591	0.590	0.588	0.588	0.590	0.588	60-64	0.594	0.588	0.588	0.200
Chelmsford	65-69	Persons	0.659	0.652	0.643	0.635	0.627	0.621	0.614	0.610	0.604	0.601	0.595	0.588	0.580	0.574	0.568	0.560	0.557	0.552	0.550	0.542	0.539	65-69	0.659	0.595	0.539	0.100
Chelmsford	70-74	Persons	0.642	0.640	0.639	0.638	0.638	0.637	0.635	0.632	0.630	0.627	0.625	0.621	0.622	0.620	0.620	0.618	0.614	0.611	0.608	0.606	0.601	70-74	0.642	0.625	0.601	0.000
Chelmsford	75-79	Persons	0.699	0.698	0.697	0.696	0.695	0.695	0.694	0.694	0.694	0.695	0.695	0.692	0.689	0.687	0.682	0.680	0.677	0.677	0.675	0.675	0.672	75-79	0.699	0.695	0.672	19
Chelmsford	80-84	Persons	0.722	0.727	0.733	0.737	0.742	0.745	0.751	0.755	0.758	0.761	0.766	0.768	0.772	0.776	0.780	0.782	0.783	0.782	0.784	0.782	0.782	80-84	0.722	0.766	0.782	16-
Chelmsford	85-89	Persons	0.826	0.826	0.827	0.827	0.828	0.829	0.830	0.831	0.832	0.833	0.833	0.835	0.836	0.836	0.837	0.839	0.840	0.842	0.843	0.845	0.845	85-89	0.826	0.833	0.845	L
Chelmsford	90+	Persons	0.860	0.863	0.866	0.870	0.873	0.876	0.879	0.883	0.886	0.890	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.914	0.917	0.920	0.923	90+	0.860	0.893	0.923	







# 2016-based household projections Household projections stage 1: household population, mid-2001 to mid-2041 England, Regions, Local authorities Males by age groups

CODE         AREA         AGE GROUP         SE           E0700007C Chelmsford         0-15         Mt           E0700007C Chelmsford         16-19         Mt           E0700007C Chelmsford         29-24         Mt           E0700007C Chelmsford         25-29         Mt           E0700007C Chelmsford         30-34         Mt           E0700007C Chelmsford         35-39         Mt           E0700007C Chelmsford         45-49         Mt           E0700007C Chelmsford         45-59         Mt           E0700007C Chelmsford         55-59         Mt           E0700007C Chelmsford         65-69         Mt           E0700007C Chelmsford         70-74         Mt           E0700007C Chelmsford         70-79         Mt           E0700007C Chelmsford         78-79         Mt           E0700007C Chelmsford         80-84         Mt           E0700007C Chelmsford         85-89         Mt           E0700007C Chelmsford         80-84         Mt           E0700007C Chelmsford         78-79         Mt           E0700007C Chelmsford         80-84         Mt           E0700007C Chelmsford         80-84         Mt           E0700007C Chel	EX 2 ale 15, ale 3, ale 4, ale 5, ale 6, ale 5, ale 5, ale 5, ale 4, ale 3, ale 2, ale 1, ale 1, ale 1, ale 1, ale 1, ale 3, ale 3, ale 3, ale 3, ale 3, ale 4, ale 5, ale	2001         2002           921         15,836           8,844         3,972           2,005         4,445           2,247         5,123           8,44         5,767           2,616         6,352           7,755         5,825           3,684         5,376           6,790         5,444           8,54         5,307           6,674         3,640           3,052         3,637           6,611         2,686           9,477         1,976           2,322         1,302           5,411         508           156         167	2003 15,894 4,033 4,761 4,973 5,760 6,306 5,906 5,432 5,217 5,496 3,769 3,378 2,038 2,038 1,391 507 173	2004 16,024 3,985 5,056 4,963 5,761 6,251 6,251 6,255 5,484 5,156 5,543 3,990 2,818 2,062 1,387 512 201	2005 16,051 3,904 5,035 5,057 5,751 6,195 6,224 5,672 4,141 3,355 2,903 2,103 1,359 600 214	2006 16,116 3,946 4,923 5,575 6,247 6,358 5,656 5,184 5,478 4,400 3,264 2,922 2,209 1,365 685 201	2007 15,974 4,047 4,771 5,225 5,383 6,165 6,426 5,705 5,220 5,129 4,881 3,264 2,265 2,265 2,265 1,470 743 202	2008 15,976 4,081 4,603 5,247 5,257 6,116 6,455 5,849 5,263 4,925 5,135 3,430 3,012 2,324 1,544 812 2,11	2009 16,045 4,131 4,493 5,253 5,180 6,022 6,366 6,053 5,380 4,884 5,246 3,600 3,079 2,422 1,573 828 262	2010 16,125 4,086 4,577 5,255 5,159 6,004 6,250 6,194 5,522 4,840 5,319 3,831 3,036 2,524 1,613 854 311	2011 16,117 1 3,987 4,746 5,306 5,819 6,329 6,329 6,329 5,526 5,014 5,161 5,526 5,014 2,590 4,133 2,994 2,599 1,725 866 349	2012 16,232 3,820 4,625 5,346 5,322 5,564 6,298 6,328 5,675 5,047 4,817 4,600 2,995 2,644 1,787 917 359	2013 16,235 3,866 4,666 5,437 5,370 5,370 5,418 6,251 6,376 5,782 5,105 4,618 4,842 3,147 2,684 1,860 955 382	2014 16,368 1 3,886 4,802 5,374 5,426 5,319 6,179 6,281 5,940 5,203 4,609 4,894 3,287 1,940 924 423	2015 16,575 3,846 4,721 5,393 5,493 5,493 5,390 6,099 6,255 6,047 5,314 4,515 4,923 3,499 2,661 2,048 980 423	2016 16,937 3,804 4,552 5,506 5,625 5,457 5,993 6,363 6,168 5,300 4,670 4,670 4,670 4,670 4,670 4,670 4,670 4,670 4,670 4,670 4,670 4,679 4,649 2,619,	2017 17,101 3,658 4,533 5,521 5,645 5,645 5,645 5,645 5,499 4,714 4,458 4,184 4,184 4,184 4,184 4,184 4,80	2018 17,289 3,628 4,463 5,510 5,702 5,706 6,295 6,295 6,295 6,295 6,295 6,224 5,588 4,764 4,278 4,432 2,752 2,148 1,190 498	2019 17,418 3,628 4,413 5,511 5,731 5,816 5,660 6,262 6,174 4,831 4,255 4,472 2,897 2,203 1,231 514	2020 7,570 1 3,642 4,371 5,472 5,770 6,185 6,147 5,836 4,957 4,221 4,489 3,101 2,138 1,311 550	2021         7,661         17           3,744         3         4,287         4           5,356         5         5,356         5           5,356         5         5,356         5           5,356         5         5,356         5           5,937         5         5,5754         5           6,053         5         5,951         5           6,029         6         5         4,368         4           4,373         4         3,333         2         2,122         2,122         2,122         1,344         1           604	2022 (7,698 1) 3,897 (4,165) 5,325 (5,892) 5,968 (5,927) 5,866 (5,928) 5,959 (5,959) 5,145 (4,399) 4,103 (4,103) 4,103 (4,103) 5,959 (4,103) 5,971 (4,103) 5,711 (4,103) 5	2023 7,804 1 3,940 4,165 5,268 5,874 6,059 5,997 5,790 6,135 5,233 4,455 3,951 4,455 3,950 2,256 1,429 674	2024 (7,821 4,070 4,132 5,211 5,869 6,092 6,102 5,764 6,092 6,092 5,976 5,976 5,976 5,976 5,373 4,528 3,937 4,528 3,974 2,386 1,468 703	2025 17,837 4,148 4,170 5,152 5,826 6,136 6,143 5,835 6,017 5,950 5,950 5,950 5,950 5,950 5,957 4,650 3,909 2,554 1,439 757	2026 17,833 4,215 4,278 5,057 5,723 6,221 6,221 6,226 5,888 5,889 5,889 4,670 4,026 4,070 4,028 2,750 1,438 798	2027 17,835 4,294 4,371 4,932 5,685 6,250 6,252 6,255 6,262 6,052 5,721 5,996 5,597 4,843 4,080 3,680 3,680 3,680 3,680 3,680	2028 17,765 4,376 4,376 4,498 4,907 5,631 6,229 6,363 6,129 5,653 5,929 5,650 4,933 4,140 4,940 4,940 4,940 4,940 4,940 4,940 4,940 4,940 4,940 4,976 4,976 4,976 4,976 4,978 4,978 4,978 4,978 4,978 4,978 5,651 5,929 5,955 5,929 5,955 4,936 4,936 4,978 5,957 5,959	2029 17,764 4,383 4,619 4,881 5,569 6,222 6,406 6,228 5,640 6,228 5,640 5,067 4,216 5,882 5,620 5,067 4,216 3,547 3,547 3,547	2030 17,734 4,403 4,726 4,919 5,501 6,176 6,453 6,275 5,717 5,810 5,598 5,165 4,336 3,554 3,554 3,527 1,783 935	2031 17,709 4,401 5,031 5,403 6,533 6,355 5,779 5,689 5,643 5,270 4,368 3,640 3,259 1,925 957	2032 17,667 4,381 4,912 5,152 5,279 6,037 6,562 6,393 5,637 5,539 5,539 5,539 5,537 5,295 4,531 3,696 3,085 2,168 1,001	2033 17,681 4,348 4,935 5,299 5,240 5,982 6,538 6,496 6,014 5,478 5,576 5,478 5,576 5,478 5,576 5,478 2,999 2,311 1,073	2034 17,678 4,321 4,973 5,429 5,213 5,914 6,529 6,544 6,107 5,478 5,530 5,327 4,750 5,327 4,750 3,836 3,000 2,344 1,152	2035 17,674 4,303 4,988 5,549 5,248 5,842 6,478 6,591 6,155 5,558 5,464 5,510 4,848 5,310 4,848 2,998 2,362 1,225	2036 17,673 4,287 4,997 5,634 5,358 5,739 6,383 6,668 6,231 5,628 5,355 5,355 5,355 5,355 4,949 3,991 3,091 2,319 1,311	2037 17,680 4,311 4,924 5,757 5,492 5,613 6,339 6,637 6,270 5,775 5,223 5,346 4,980 4,144 4,144 4,147 2,212 1,471	2038 17,695 4,320 4,905 5,789 5,567 6,284 6,670 6,371 5,856 5,856 5,856 5,856 5,856 5,876 4,234 4,234 4,234 4,234 3,210 2,171 1,582	2039 17,721 4,326 4,891 5,821 5,784 6,6212 6,659 6,421 5,943 5,943 5,181 5,262 5,022 4,355 3,285 2,182 1,635	2040 17,760 4,330 4,881 5,832 5,912 5,576 6,136 6,606 6,468 5,992 5,263 5,192 5,263 5,192 5,269 5,269 5,269 5,209 4,451 3,389 2,190 1,676	2041 17,814 4,333 5,834 6,007 5,689 6,031 6,514 6,540 6,064 5,337 5,049 4,547 3,437 2,264 1,694
Females by age groups           E0700007C Chelmsford         0-15         Fe           E0700007C Chelmsford         16-19         Fe           E0700007C Chelmsford         20-24         Fe           E0700007C Chelmsford         20-24         Fe           E0700007C Chelmsford         30-34         Fe           E0700007C Chelmsford         30-39         Fe           E0700007C Chelmsford         35-39         Fe           E0700007C Chelmsford         45-49         Fe           E0700007C Chelmsford         55-59         Fe           E0700007C Chelmsford         55-59         Fe           E0700007C Chelmsford         60-64         Fe           E0700007C Chelmsford         60-64         Fe           E0700007C Chelmsford         70-74         Fe           E0700007C Chelmsford         75-79         Fe           E0700007C Chelmsford         88-89         Fe           E0700007C Chelmsford         88-89         Fe           E0700007C Chelmsford         88-89         Fe           E0700007C Chelmsford         89-84         Fe           E0700007C Chelmsford         89-89         Fe           E0700007C Chelmsford         89-89         Fe <th>2 amale 15,5 amale 3,3 amale 4, amale 4, amale 4, amale 5, amale 5, amale 5, amale 5, amale 5, amale 3, amale 3, amale 3, amale 1, amale 1</th> <th>2001         2002           3,556         15,326           4,36         3,619           1,187         4,486           9,968         4,901           9,53         5,861           4,417         6,484           8,00         5,994           9,34         5,532           9,34         5,532           8,71         5,404           7,93         3,845           3,52         3,420           0,87         3,153           6,17         2,584           968         2,060           1,87         1,138           540         576</th> <th>2003 15,320 3,796 4,862 4,804 5,784 6,026 5,447 5,263 5,699 3,941 3,561 3,137 2,624 2,125 1,084 604</th> <th>2004 15,376 3,951 5,1015 5,761 6,472 6,274 5,565 5,082 5,834 4,108 3,654 3,141 2,635 2,164 1,102 592</th> <th>2005 15,216 3,901 5,235 5,101 5,742 6,399 6,509 5,604 5,100 5,816 4,296 3,676 3,119 2,687 2,121 1,189 600</th> <th>2006 15,149 3,888 4,869 5,204 5,531 6,436 6,493 5,716 5,717 4,5718 4,594 3,562 3,130 2,737 2,110 1,273 588</th> <th>2007 15,150 3,910 4,558 5,283 5,415 6,553 5,849 5,244 5,323 5,699 3,627 3,200 2,796 2,107 1,336 613</th> <th>2008 15,126 3,868 4,542 5,227 5,276 6,651 5,983 5,372 5,079 5,434 3,701 3,320 2,766 2,158 1,392 5,89</th> <th>2009 15,188 3,809 5,239 5,180 6,076 6,613 6,283 4,915 5,646 5,473 4,915 5,646 3,877 3,396 2,771 3,396 2,771 1,420 617</th> <th>2010 15,038 3,888 4,640 5,283 5,172 5,995 6,584 6,456 5,507 4,986 4,022 3,432 2,776 4,221 1,434 691</th> <th>2011 15,041 4,738 5,200 5,372 5,5774 6,549 6,509 5,644 5,654 5,664 5,664 5,651 5,664 4,357 3,396 2,815 2,260 1,426 720</th> <th>2012 15,168 3,781 4,680 5,233 5,560 5,604 6,432 6,542 5,804 5,111 5,158 4,924 3,453 2,907 2,316 1,420 753</th> <th>2013         1           15,244         1           3,662         4,615           5,288         5,569           5,542         6,292           6,646         5,856           5,268         3,522           3,048         2,309           1,413         781</th> <th>2014 5,362 3,512 4,677 5,323 5,560 5,486 6,202 6,561 6,135 5,338 5,338 5,396 3,706 3,131 2,338 1,456 827</th> <th>2015 15,584 3,356 4,609 5,398 5,607 5,550 6,144 6,553 6,281 5,348 3,142 3,868 3,142 3,868 3,142 2,344 1,474 833</th> <th><b>2016</b> 15,782 3,320 4,444 5,546 5,586 5,962 6,532 6,532 6,532 6,532 6,532 4,826 5,372 4,165 3,084 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,370 5,372 4,826 5,370 5,370 5,372 4,826 5,370 5,372 4,826 5,376 5,370 5,372 4,826 5,370 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380</th> <th>2017 15,893 3,356 4,419 5,383 5,551 5,961 5,884 6,452 6,392 5,606 4,489 4,892 4,905 4,721 3,109 4,721 3,109 4,221 4,444 1,563 834</th> <th>2018 16,088 3,345 4,351 5,292 5,674 5,995 6,351 6,484 5,658 5,046 4,666 5,040 3,194 2,562 1,533 849</th> <th>2019 16,229 3,373 4,239 5,294 5,739 6,063 5,762 6,265 6,460 5,862 5,124 4,518 5,165 3,367 2,613 1,560 869</th> <th>2020 6,353 1 3,402 4,185 5,279 5,788 6,056 6,020 6,217 6,423 6,020 6,217 4,608 5,113 4,608 5,158 3,515 2,652 1,582 887</th> <th>2021         2021           6,481         16           3,430         3           4,160         4           5,183         5           5,183         5           6,012         6           6,012         6           6,127         6           6,127         6           6,127         6           5,140         4           3,794         4           2,620         2           1,618         1           912         1</th> <th>2022 5,541 1 3,560 4,089 5,143 5,807 5,922 5,318 5,159 5,394 4,698 4,712 4,302 2,651 1,686 933</th> <th>2023 6,617 1 3,633 4,072 5,088 5,725 6,114 6,239 5,845 6,220 6,243 5,456 4,843 4,493 4,589 2,731 1,763 929</th> <th>2024 6,635 3,752 4,070 4,995 5,704 6,183 6,300 5,819 6,134 6,222 5,652 4,922 4,364 4,702 2,883 1,808 953</th> <th>2025 16,700 3,801 4,089 4,931 5,665 6,227 6,082 6,303 5,877 6,082 6,188 5,805 4,927 4,446 4,700 3,018 1,840 979</th> <th>2026 16,693 3,882 4,163 5,569 6,273 6,273 6,075 5,882 6,164 6,075 5,882 6,164 4,472 4,689 3,257 1,822 1,017</th> <th>2027 16,682 3,955 4,279 5,526 6,247 6,267 6,241 5,800 6,029 5,952 5,952 5,952 5,952 5,952 5,952 3,698 1,858 1,065</th> <th>2028 16,651 4,012 4,414 4,739 5,470 6,167 6,377 6,309 5,728 5,997 5,728 5,997 4,681 4,134 4,134 4,134 1,926 1,103</th> <th>2029 16,666 4,028 4,506 4,733 5,383 6,135 6,447 6,667 5,715 5,914 4,762 4,060 4,064 4,064 4,044 2,044 1,141</th> <th>2030 16,665 4,015 4,627 4,764 5,314 6,085 6,489 6,375 5,780 5,862 5,983 5,614 4,778 4,104 2,147 1,172</th> <th>2031 16,671 3,989 4,713 4,847 5,245 5,987 6,535 6,535 6,535 5,970 5,678 4,890 4,135 5,962 5,718 4,890 4,032 2,317 1,186</th> <th>2032 16,681 3,951 4,802 5,140 5,939 6,511 6,353 6,130 5,601 5,683 5,765 5,053 4,204 2,738 2,645 1,234</th> <th>2033 16,693 3,936 4,825 5,128 5,5128 5,880 6,428 6,420 5,583 6,420 5,5837 5,838 5,133 4,335 2,820 1,296</th> <th>2034 16,689 3,940 4,862 5,238 5,079 5,793 6,390 6,531 6,258 5,535 5,727 5,825 5,727 5,825 5,318 4,413 3,522 2,892 1,381</th> <th>2035 16,684 3,955 5,359 5,113 5,721 6,334 6,569 6,269 6,269 5,604 5,677 5,798 5,468 4,441 3,586 2,885 1,451</th> <th>2036 16,683 3,971 4,844 5,453 5,199 5,644 6,235 6,613 6,252 5,780 5,574 4,553 3,625 2,879 1,542</th> <th>2037 16,688 3,992 5,553 5,553 5,533 6,184 6,591 6,260 5,939 5,436 5,436 5,436 5,436 5,436 5,436 2,696 1,741</th> <th>2038 16,703 3,999 4,778 5,583 5,496 5,478 6,123 6,510 6,363 6,017 5,378 5,378 5,378 5,637 4,793 3,811 2,615 1,856</th> <th>2039 16,727 4,004 4,776 5,609 5,617 5,664 6,036 6,469 6,433 6,067 5,388 5,560 5,589 4,967 5,589 4,967 2,582 1,926</th> <th>2040 16,764 4,008 4,777 5,610 5,743 5,500 5,962 6,410 6,468 6,081 5,463 5,514 5,666 5,109 3,922 2,633 1,949</th> <th>2041 16,815 4,010 4,774 5,598 5,842 5,593 5,881 6,312 6,510 6,070 5,636 5,360 5,652 5,213 4,031 2,675 1,987</th>	2 amale 15,5 amale 3,3 amale 4, amale 4, amale 4, amale 5, amale 5, amale 5, amale 5, amale 5, amale 3, amale 3, amale 3, amale 1, amale 1	2001         2002           3,556         15,326           4,36         3,619           1,187         4,486           9,968         4,901           9,53         5,861           4,417         6,484           8,00         5,994           9,34         5,532           9,34         5,532           8,71         5,404           7,93         3,845           3,52         3,420           0,87         3,153           6,17         2,584           968         2,060           1,87         1,138           540         576	2003 15,320 3,796 4,862 4,804 5,784 6,026 5,447 5,263 5,699 3,941 3,561 3,137 2,624 2,125 1,084 604	2004 15,376 3,951 5,1015 5,761 6,472 6,274 5,565 5,082 5,834 4,108 3,654 3,141 2,635 2,164 1,102 592	2005 15,216 3,901 5,235 5,101 5,742 6,399 6,509 5,604 5,100 5,816 4,296 3,676 3,119 2,687 2,121 1,189 600	2006 15,149 3,888 4,869 5,204 5,531 6,436 6,493 5,716 5,717 4,5718 4,594 3,562 3,130 2,737 2,110 1,273 588	2007 15,150 3,910 4,558 5,283 5,415 6,553 5,849 5,244 5,323 5,699 3,627 3,200 2,796 2,107 1,336 613	2008 15,126 3,868 4,542 5,227 5,276 6,651 5,983 5,372 5,079 5,434 3,701 3,320 2,766 2,158 1,392 5,89	2009 15,188 3,809 5,239 5,180 6,076 6,613 6,283 4,915 5,646 5,473 4,915 5,646 3,877 3,396 2,771 3,396 2,771 1,420 617	2010 15,038 3,888 4,640 5,283 5,172 5,995 6,584 6,456 5,507 4,986 4,022 3,432 2,776 4,221 1,434 691	2011 15,041 4,738 5,200 5,372 5,5774 6,549 6,509 5,644 5,654 5,664 5,664 5,651 5,664 4,357 3,396 2,815 2,260 1,426 720	2012 15,168 3,781 4,680 5,233 5,560 5,604 6,432 6,542 5,804 5,111 5,158 4,924 3,453 2,907 2,316 1,420 753	2013         1           15,244         1           3,662         4,615           5,288         5,569           5,542         6,292           6,646         5,856           5,268         3,522           3,048         2,309           1,413         781	2014 5,362 3,512 4,677 5,323 5,560 5,486 6,202 6,561 6,135 5,338 5,338 5,396 3,706 3,131 2,338 1,456 827	2015 15,584 3,356 4,609 5,398 5,607 5,550 6,144 6,553 6,281 5,348 3,142 3,868 3,142 3,868 3,142 2,344 1,474 833	<b>2016</b> 15,782 3,320 4,444 5,546 5,586 5,962 6,532 6,532 6,532 6,532 6,532 4,826 5,372 4,165 3,084 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,376 5,370 5,372 4,826 5,370 5,370 5,372 4,826 5,370 5,372 4,826 5,376 5,370 5,372 4,826 5,370 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 4,826 5,372 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380 1,525 8,380	2017 15,893 3,356 4,419 5,383 5,551 5,961 5,884 6,452 6,392 5,606 4,489 4,892 4,905 4,721 3,109 4,721 3,109 4,221 4,444 1,563 834	2018 16,088 3,345 4,351 5,292 5,674 5,995 6,351 6,484 5,658 5,046 4,666 5,040 3,194 2,562 1,533 849	2019 16,229 3,373 4,239 5,294 5,739 6,063 5,762 6,265 6,460 5,862 5,124 4,518 5,165 3,367 2,613 1,560 869	2020 6,353 1 3,402 4,185 5,279 5,788 6,056 6,020 6,217 6,423 6,020 6,217 4,608 5,113 4,608 5,158 3,515 2,652 1,582 887	2021         2021           6,481         16           3,430         3           4,160         4           5,183         5           5,183         5           6,012         6           6,012         6           6,127         6           6,127         6           6,127         6           5,140         4           3,794         4           2,620         2           1,618         1           912         1	2022 5,541 1 3,560 4,089 5,143 5,807 5,922 5,318 5,159 5,394 4,698 4,712 4,302 2,651 1,686 933	2023 6,617 1 3,633 4,072 5,088 5,725 6,114 6,239 5,845 6,220 6,243 5,456 4,843 4,493 4,589 2,731 1,763 929	2024 6,635 3,752 4,070 4,995 5,704 6,183 6,300 5,819 6,134 6,222 5,652 4,922 4,364 4,702 2,883 1,808 953	2025 16,700 3,801 4,089 4,931 5,665 6,227 6,082 6,303 5,877 6,082 6,188 5,805 4,927 4,446 4,700 3,018 1,840 979	2026 16,693 3,882 4,163 5,569 6,273 6,273 6,075 5,882 6,164 6,075 5,882 6,164 4,472 4,689 3,257 1,822 1,017	2027 16,682 3,955 4,279 5,526 6,247 6,267 6,241 5,800 6,029 5,952 5,952 5,952 5,952 5,952 5,952 3,698 1,858 1,065	2028 16,651 4,012 4,414 4,739 5,470 6,167 6,377 6,309 5,728 5,997 5,728 5,997 4,681 4,134 4,134 4,134 1,926 1,103	2029 16,666 4,028 4,506 4,733 5,383 6,135 6,447 6,667 5,715 5,914 4,762 4,060 4,064 4,064 4,044 2,044 1,141	2030 16,665 4,015 4,627 4,764 5,314 6,085 6,489 6,375 5,780 5,862 5,983 5,614 4,778 4,104 2,147 1,172	2031 16,671 3,989 4,713 4,847 5,245 5,987 6,535 6,535 6,535 5,970 5,678 4,890 4,135 5,962 5,718 4,890 4,032 2,317 1,186	2032 16,681 3,951 4,802 5,140 5,939 6,511 6,353 6,130 5,601 5,683 5,765 5,053 4,204 2,738 2,645 1,234	2033 16,693 3,936 4,825 5,128 5,5128 5,880 6,428 6,420 5,583 6,420 5,5837 5,838 5,133 4,335 2,820 1,296	2034 16,689 3,940 4,862 5,238 5,079 5,793 6,390 6,531 6,258 5,535 5,727 5,825 5,727 5,825 5,318 4,413 3,522 2,892 1,381	2035 16,684 3,955 5,359 5,113 5,721 6,334 6,569 6,269 6,269 5,604 5,677 5,798 5,468 4,441 3,586 2,885 1,451	2036 16,683 3,971 4,844 5,453 5,199 5,644 6,235 6,613 6,252 5,780 5,574 4,553 3,625 2,879 1,542	2037 16,688 3,992 5,553 5,553 5,533 6,184 6,591 6,260 5,939 5,436 5,436 5,436 5,436 5,436 5,436 2,696 1,741	2038 16,703 3,999 4,778 5,583 5,496 5,478 6,123 6,510 6,363 6,017 5,378 5,378 5,378 5,637 4,793 3,811 2,615 1,856	2039 16,727 4,004 4,776 5,609 5,617 5,664 6,036 6,469 6,433 6,067 5,388 5,560 5,589 4,967 5,589 4,967 2,582 1,926	2040 16,764 4,008 4,777 5,610 5,743 5,500 5,962 6,410 6,468 6,081 5,463 5,514 5,666 5,109 3,922 2,633 1,949	2041 16,815 4,010 4,774 5,598 5,842 5,593 5,881 6,312 6,510 6,070 5,636 5,360 5,652 5,213 4,031 2,675 1,987
Persons by age groups Cheimsford 0-15 Pe Cheimsford 20-24 Pe Cheimsford 20-24 Pe Cheimsford 25-29 Pe Cheimsford 30-34 Pe Cheimsford 30-34 Pe Cheimsford 40-44 Pe Cheimsford 45-49 Pe Cheimsford 45-59 Pe Cheimsford 55-59 Pe Cheimsford 55-59 Pe Cheimsford 55-59 Pe Cheimsford 66-69 Pe Cheimsford 75-79 Pe Cheimsford 75-79 Pe Cheimsford 80-84 Pe Cheimsford 85-89 Pe Cheimsford 85-89 Pe Cheimsford 85-89 Pe Cheimsford 85-89 Pe	2 arsons 31, arsons 77, arsons 10, arsons 11, arsons 5, arsons 5, arsons 5, arsons 4, arsons 3, arsons 1, arsons 1, arsons 1, arsons 5, ars	2001         2002           2,77         31,162           2,280         7,591           3,92         8,931           ,215         10,024           ,797         11,628           ,678         12,836           ,555         11,729           ,586         10,675           ,724         10,976           ,657         6,757           ,708         5,839           ,264         4,559           ,200         3,362           ,728         1,646           ,696         743	2003 31,214 7,829 9,623 9,777 11,544 12,776 11,932 10,879 10,480 11,195 7,710 6,939 5,876 4,662 3,516 1,525 7,77	2004 31,400 7,936 10,201 9,978 11,522 12,723 12,329 11,049 10,238 11,377 8,050 7,044 5,959 4,697 3,551 1,614 793	2005 31,267 7,805 10,270 10,158 11,493 12,594 12,733 11,215 10,224 11,388 8,437 7,031 6,022 4,790 3,480 1,789 814	2006 31,265 7,844 9,792 10,303 11,106 12,683 12,851 11,372 10,358 11,196 8,994 6,826 6,052 4,946 3,475 1,957 789	2007 31,124 7,957 9,329 10,508 10,798 12,560 12,979 11,554 10,464 10,452 9,980 6,891 6,165 5,061 3,577 2,078 815	2008 31,102 7,949 9,145 10,474 10,533 12,343 13,106 11,832 10,635 10,004 10,569 7,131 6,332 5,090 3,702 2,204 800	2009 31,233 7,940 9,091 10,492 10,360 12,098 12,938 12,939 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,794 10,853 9,794 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 9,799 10,853 10,853 10,853 10,855	2010 31,163 7,974 9,217 10,538 10,331 11,999 12,834 12,650 11,029 9,826 10,988 7,853 6,468 5,300 3,834 2,288 1,002	2011 31,158 5 7,867 9,484 10,501 2 10,478 2 11,593 2 12,785 2 11,170 2 11,593 2 11,170 2 10,065 2 11,170 2 10,065 2 1,0793 8,490 5,405 3,985 2,292 1,069	2012           31,400         7,601           9,305         10,579           10,579         10,082           11,168         12,2870           11,479         10,158           9,975         9,524           6,448         5,551           4,103         2,337           1,112         112	2013           31,479         3           7,528         9,281           10,725         1           10,939         1           12,543         1           13,022         1           11,638         1           10,373         1           9,515         1           10,123         1           6,669         5,732           4,169         2,368           1,162         1	2014           31,730         3           9,479         0           10,0697         1           10,805         1           12,381         1           12,381         1           12,384         1           12,075         1           0,541         1           9,347         1           10,290         1           6,993         5,892           4,278         2,380           1,250         1	<b>2015</b> 32,159 7,202 9,330 10,791 11,100 10,940 12,243 12,808 12,328 10,662 9,316 10,347 7,367 5,803 4,391 2,454 1,256	2016 32,719 7,124 8,996 10,952 11,209 11,243 11,955 12,538 10,723 9,496 10,137 7,926 5,702 4,410 2,618 1,288	2017 32,993 7,013 8,952 10,904 11,197 11,605 11,671 12,826 12,553 11,105 9,606 9,363 8,905 5,733 4,556 2,697 1,313	2018           33,377         :           6,973         :           10,802         :           11,394         :           11,394         :           12,646         :           12,708         :           11,2646         :           9,810         :           9,810         :           9,9472         :           5,946         :           4,709         :           1,347	2019           33,646         3           7,001         8           8,652         1           10,806         1           11,470         1           11,470         1           12,528         1           12,635         1           9,955         1           8,773         9,637           6,264         4,816           2,791         1,383	2020           33,923         3           7,044         8,556           00,751         1           11,558         1           11,558         1           12,570         1           12,570         1           14,855         1           0,069         1           8,829         9,647           6,616         4,790           2,892         1,437	2021         34           44,143         34           7,173         7           8,447         8           0,0536         10           1,054         11           1,954         11           2,056         11           2,066         12           2,077         12           2,0179         10           8,978         9           9,513         8           4,742         4           2,961         3           1,516         1	2022           4,238         3           7,457         3           3,253         0,467           1,699         1           1,969         1           2,109         1           2,177         1           2,527         1           2,117         1           3,053         1           3,053         1,794           3,013         1,793           4,794         3,082           1,573         1	2023           44,422         3           7,573         8,236           0,356         1           1,598         1           2,173         1           2,235         1           1,635         1           2,259         1           0,689         1           9,298         8,444           8,519         4,987           3,192         1,603	2024           34,455         3           7,822         8,202           10,205         2           11,572         2           12,274         2           12,274         2           12,274         2           12,274         2           12,274         2           12,274         2           12,274         2           12,274         2           12,274         2           11,584         2           9,450         3           8,298         8,677           5,269         3,276           1,656         3	2025 34,537 7,949 8,259 10,082 11,491 12,363 12,446 11,712 12,099 12,138 11,277 9,577 8,355 8,355 8,355 8,357 3,279 1,736	2026 34,526 8,097 8,441 9,930 11,292 12,497 12,499 11,963 11,771 12,165 11,491 9,705 8,497 8,597 6,006 3,260 1,816	2027 34,516 8,250 9,710 11,211 12,499 12,529 11,521 12,086 11,521 12,086 11,549 10,045 8,622 7,999 6,773 3,324 1,909	2028 34,416 8,388 8,911 9,647 11,102 12,335 12,739 12,739 12,438 11,380 11,926 11,680 10,207 8,822 7,690 7,208 3,484 1,983	2029 34,430 8,411 9,125 9,614 10,951 12,357 12,853 12,594 11,356 11,796 11,634 10,529 8,977 7,577 7,348 3,706 2,058	2030 34,399 8,418 9,553 9,683 10,815 12,260 12,941 12,649 11,497 11,672 11,581 10,779 9,114 7,638 7,369 3,929 2,107	2031 34,380 8,389 9,504 9,878 10,648 12,066 13,068 12,706 11,750 11,368 11,605 10,988 9,258 7,775 7,291 4,242 2,143	2032 34,347 8,332 9,713 10,130 10,419 11,976 13,073 11,2746 12,746 12,746 12,746 11,530 9,584 7,900 6,823 4,813 2,235	2033 34,373 8,284 9,760 10,427 10,331 11,863 12,966 12,956 12,219 11,014 11,383 11,184 9,756 8,094 6,594 5,130 2,369	2034 34,368 8,261 9,835 10,666 10,292 11,707 12,919 13,075 12,365 11,012 11,256 11,012 11,256 11,152 10,068 8,248 6,522 5,235 2,533	2035 34,358 8,258 9,850 10,908 10,360 11,563 12,812 13,161 12,424 11,162 11,141 11,109 10,316 8,391 6,584 5,247 2,676	2036 34,356 8,258 9,841 11,087 10,557 11,383 12,618 13,282 12,482 11,413 10,864 11,131 10,523 8,544 6,716 5,198 2,854	2037 34,368 8,302 9,716 11,309 10,831 11,146 12,523 11,714 10,660 11,062 10,666 8,850 6,838 4,909 3,213	2038 34,398 8,319 9,684 11,372 11,145 11,044 12,407 12,733 11,873 10,550 10,930 10,728 9,027 7,021 4,785 3,439	2039           34,448         3           9,667         11,430           11,401         2           11,401         2           12,248         2           12,248         2           12,248         2           12,248         2           10,569         2           10,810         2           7,169         4,763           3,561         3	2040 34,524 8,338 9,658 11,441 11,655 11,076 12,098 13,016 12,936 12,073 10,726 10,756	2041 34,629 8,343 9,635 11,433 11,849 11,282 11,912 12,826 13,050 12,133 10,974 10,454 10,700 9,760 7,469 4,939 3,681
Total Pe Hc AF	ersons 155, puseholds 64, HS 2.	,249 156,654 ,187 64,609 .419 2.425	158,320 65,088 2.432	160,461 65,745 2.441	161,510 66,386 2.433	161,809 66,705 2.426	162,292 67,112 2.418	162,951 : 67,607 2.410	164,093 1 68,218 2.405	65,294 1 68,878 2.400	166,363 16 69,420 6 2.396	57,222 10 59,933 5 2.391	58,227 16 70,454 7 2.388	59,366 17 70,945 7 2.387	70,497 1 71,407 2.388	71,929 1 72,030 2.387	72,996 1 72,585 2.383	74,121 1 73,082 1 2.383	75,256 17 73,609 7 2.381	76,376 17 74,083 7 2.381	7,485 178 4,571 75 2.380 2	3,538 17 5,191 7 2.374	9,577 18 5,760 7 2.370	30,591 18 76,342 7 2.366	81,570 1 76,895 2.361	82,554 1 77,475 2.356	83,486 1 78,070 2.350	84,417 1; 78,637 - 2.345	35,317 1 79,183 2.340	86,207 1 79,713 2.336	87,058 1 80,252 2.331	87,886 1 80,790 3 2.326	88,703 1 81,312 2.321	189,517 1 81,833 2.316	190,319 1 82,345 2.311	191,108 : 82,869 2.306	L91,865 1 83,379 2.301	92,635 1 83,894 2.296	93,427 19 84,400 8 2.292	94,243 1 34,899 2.288	.95,068 85,432 2.283

2016-based Household projections Household projections stage1: househ England, Regions, Local authorities Males by age groups olds, mid-2001 to mid-2041

CODE MERGED (AREA AGE GR	ROISEX	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
E0700007( E41000102 Chelmsfor( 16-19	Male	66	65	63	59	55	53	52	50	47	43	41	37	35	33	31	28	25	23	22	20	20	20	20	21	21	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
E0700007( E41000102 Chelmsfor( 20-24	Male	1,069	1,103	1,152	1,193	1,157	1,105	1,048	989	945	941	954	904	889	893	856	806	783	752	725	700	669	650	650	645	651	668	683	702	722	738	749	768	772	778	781	783	772	769	767	766	763
E0700007(E41000102Chelmsforc25-29	Male	2.671	2.570	2.454	2.410	2,412	2.391	2.410	2.380	2.343	2.305	2.289	2.271	2.273	2.210	2.179	2.186	2.153	2.111	2.075	2.025	1.949	1.938	1.918	1.896	1.874	1.840	1.794	1.786	1.777	1.791	1.832	1.876	1.930	1.978	2.022	2.053	2.098	2.110	2.122	2.127	2.129
E0700007( E41000102 Chelmsforc 30-34	Male	4,250	4,140	4,081	4,030	3,972	3,804	3,628	3,500	3,407	3,349	3,273	3,367	3,354	3,345	3,342	3.378	3,348	3,347	3,309	3,287	3,295	3,306	3,294	3,290	3,265	3,207	3,186	3,156	3,121	3,083	3,029	2,959	2,938	2,923	2,943	3.005	3,080	3,168	3,244	3,315	3,369
E0700007( E41000102 Chelmsfor( 35-39	Male	5,164	5,195	5,113	5.025	4,938	4,937	4,830	4,750	4,638	4,585	4,408	4,180	4,038	3,932	3,952	3,967	4,069	4,076	4,122	4,110	4,137	4,159	4,222	4,244	4,273	4,331	4,349	4,333	4,328	4,294	4,227	4,198	4,160	4,113	4,063	3,992	3,905	3,872	3,855	3,879	3,958
E0700007( E41000102 Chelmsfor( 40-44	Male	4,930	4,956	4,991	5,083	5,190	5,266	5,287	5,275	5,168	5,040	4,994	5,010	4,939	4,850	4,755	4,642	4,454	4,363	4,301	4,318	4,316	4,446	4,499	4,578	4,610	4,673	4,701	4,776	4,808	4,842	4,901	4,922	4,903	4,896	4,857	4,786	4,753	4,711	4,658	4,601	4,522
E0700007(E41000102Chelmsforc45-49	Male	4.612	4.597	4.624	4.648	4,734	4,750	4,770	4.868	5.015	5,108	5,196	5.172	5,187	5.088	5.044	5,108	5.094	5,008	4.960	4.878	4,753	4.607	4.549	4.530	4.586	4.628	4,758	4.819	4.897	4,934	4,998	5.028	5,108	5,146	5,183	5.242	5.264	5.242	5.234	5,191	5,119
E0700007( E41000102 Chelmsforc 50-54	Male	4,937	4,628	4,422	4,358	4,318	4,355	4,372	4,395	4,480	4,584	4,574	4,683	4,758	4,873	4,946	5.029	5,009	5,046	4,990	4,954	4,989	4,989	4,930	4,896	4,836	4,734	4,600	4,546	4,537	4,599	4,650	4,775	4,839	4,914	4,953	5,014	5,046	5,127	5,167	5,204	5,262
E0700007( E41000102 Chelmsfor( 55-59	Male	4,006	4,374	4,523	4,554	4,571	4,487	4,195	4,022	3,982	3,940	4,075	4,096	4,137	4,210	4,293	4,275	4,429	4,493	4,607	4,678	4,763	4,770	4,815	4,784	4,764	4,805	4,801	4,747	4,710	4,653	4,557	4,438	4,390	4,389	4,454	4,510	4,628	4,693	4,763	4,802	4,860
E0700007( E41000102 Chelmsforc 60-64	Male	2,917	2,886	2,984	3,116	3,269	3,469	3,843	4,038	4,120	4,172	4,043	3,769	3,610	3,598	3,520	3.637	3,667	3,701	3,749	3,842	3,840	3,983	4,051	4,160	4,236	4,320	4,333	4,374	4,352	4,335	4,370	4,366	4,319	4,283	4,233	4,149	4,048	4,009	4,016	4,080	4,138
E0700007(E41000102Chelmsforc65-69	Male	2,641	2,658	2,682	2,683	2,647	2,567	2,559	2,680	2,803	2,974	3,198	3,547	3,722	3,750	3,760	3,628	3,384	3,237	3,210	3,175	3,260	3,299	3,341	3,396	3,488	3,503	3,633	3,701	3,801	3,875	3,954	3,973	4,012	3,998	3,986	4,017	4,013	3,975	3,943	3,900	3,827
E0700007(E41000102Chelmsforc70-74	Male	1,832	1,907	1,973	2,057	2,147	2,189	2,247	2,309	2,386	2,377	2,367	2,390	2,534	2,669	2,863	3,102	3,477	3,710	3,769	3,809	3,734	3,505	3,375	3,361	3,341	3,441	3,488	3,539	3,604	3,707	3,735	3,874	3,953	4,062	4,146	4,233	4,260	4,304	4,296	4,286	4,320
E0700007( E41000102 Chelmsfor( 75-79	Male	1,365	1,416	1,490	1,536	1,594	1,701	1,771	1,844	1,947	2,054	2,133	2,202	2,258	2,345	2,281	2,263	2,287	2,415	2,561	2,759	2,984	3,322	3,518	3,558	3,580	3,499	3,295	3,185	3,177	3,166	3,262	3,312	3,369	3,438	3,540	3,578	3,714	3,796	3,904	3,990	4,076
E0700007( E41000102 Chelmsfor( 80-84	Male	863	939	1,029	1,051	1,052	1,078	1,182	1,262	1,306	1,357	1,470	1,541	1,621	1,709	1,820	1,839	1,909	1,955	2,019	1,972	1,968	1,987	2,092	2,212	2,368	2,550	2,851	3,026	3,063	3.085	3,022	2,861	2,781	2,782	2,781	2,867	2,919	2,978	3,048	3,145	3,189
E0700007(E41000102Chelmsforc85-89	Male	448	424	426	433	510	585	638	702	720	746	760	808	846	823	876	981	1,022	1,076	1,118	1,195	1,228	1,277	1,306	1,342	1,316	1,315	1,341	1,424	1,518	1,629	1,759	1,980	2,111	2,140	2,157	2,118	2,021	1,983	1,993	2,002	2,069
E0700007(E41000102Chelmsforc90+	Male	135	145	152	177	189	178	180	189	236	280	316	326	348	387	388	418	444	462	479	514	567	600	632	659	710	749	792	826	860	877	898	939	1,007	1,080	1,149	1,230	1,379	1,483	1,533	1,571	1,588
E0700007(E41000102Chelmsforc16-19	Female	74	75	76	77	74	72	70	67	63	62	61	57	54	50	45	43	41	39	38	37	35	37	37	38	38	39	40	40	40	40	40	40	40	40	40	40	40	41	41	41	41
E0700007(E41000102Chelmsforc20-24	Female	673	715	767	803	810	749	699	694	702	704	718	704	689	693	678	649	642	627	606	594	586	576	574	573	576	585	602	620	633	651	663	675	679	684	684	682	675	673	673	673	672
E0700007(E41000102Chelmsforc25-29	Female	1,278	1,259	1,232	1,283	1,301	1,327	1,347	1,332	1,335	1,346	1,326	1,336	1,352	1,364	1,384	1,396	1,378	1,353	1,354	1,350	1,325	1,317	1,303	1,279	1,262	1,247	1,223	1,213	1,212	1,220	1,241	1,275	1,313	1,341	1,373	1,397	1,422	1,430	1,437	1,437	1,435
E0700007(E41000102Chelmsforc30-34	Female	1,749	1,732	1,720	1,722	1,723	1,667	1,640	1,605	1,583	1,590	1,662	1,731	1,745	1,754	1,780	1,785	1,786	1,839	1,872	1,899	1,929	1,916	1,888	1,881	1,868	1,837	1,824	1,806	1,777	1,754	1,731	1,697	1,681	1,677	1,688	1,717	1,763	1,815	1,855	1,897	1,930
E0700007(E41000102Chelmsforc35-39	Female	1,860	1,906	1,931	1,958	1,961	2,000	2,013	1,984	1,957	1,953	1,901	1,866	1,866	1,867	1,911	2,016	2,101	2,139	2,186	2,207	2,217	2,211	2,254	2,280	2,296	2,315	2,304	2,274	2,263	2,245	2,209	2,192	2,171	2,138	2,112	2,083	2,042	2,022	2,017	2,030	2,064
E0700007( E41000102 Chelmsfor( 40-44	Female	1,654	1,721	1,794	1,908	2,020	2,056	2,116	2,189	2,215	2,243	2,269	2,265	2,252	2,255	2,268	2,232	2,234	2,235	2,248	2,298	2,412	2,479	2,501	2,524	2,524	2,511	2,509	2,554	2,584	2,602	2,621	2,612	2,579	2,564	2,542	2,503	2,483	2,459	2,423	2,393	2,361
E0700007( E41000102 Chelmsforc 45-49	Female	1,541	1,606	1,692	1,771	1,825	1,905	1,993	2,082	2,232	2,341	2,405	2,464	2,549	2,561	2,601	2,637	2,647	2,647	2,652	2,670	2,614	2,576	2,541	2,527	2,551	2,637	2,708	2,737	2,761	2,764	2,753	2,754	2,802	2,834	2,851	2,871	2,862	2,827	2,810	2,785	2,743
E0700007(E41000102Chelmsforc50-54	Female	1,928	1,835	1,781	1,754	1,793	1,853	1,913	1,994	2,067	2,115	2,203	2,302	2,360	2,511	2,610	2,686	2,734	2,813	2,840	2,861	2,887	2,851	2,805	2,766	2,741	2,648	2,609	2,574	2,566	2,594	2,679	2,751	2,784	2,808	2,813	2,805	2,809	2,856	2,888	2,905	2,925
E0700007(E41000102Chelmsforc55-59	Female	1,712	1,929	2,065	2,144	2,166	2,157	2,032	1,962	1,920	1,970	2,017	2,064	2,152	2,204	2,232	2,288	2,391	2,438	2,552	2,648	2,722	2,736	2,774	2,764	2,748	2,738	2,703	2,661	2,622	2,597	2,513	2,476	2,444	2,442	2,472	2,552	2,620	2,655	2,677	2,683	2,678
E0700007( E41000102 Chelmsfor( 60-64	Female	1,518	1,543	1,586	1,658	1,739	1,864	2,074	2,214	2,303	2,315	2,302	2,109	2,003	1,939	1,965	1,976	2,005	2,070	2,103	2,100	2,147	2,218	2,244	2,324	2,388	2,431	2,448	2,480	2,473	2,460	2,451	2,421	2,384	2,349	2,326	2,254	2,221	2,195	2,197	2,226	2,297
E0700007( E41000102 Chelmsfor( 65-69	Female	1,749	1,747	1,782	1,791	1,764	1,675	1,671	1,671	1,715	1,744	1,850	2,048	2,151	2,152	2,117	2,052	1,832	1,703	1,613	1,608	1,581	1,603	1,652	1,678	1,679	1,716	1,773	1,797	1,862	1,914	1,949	1,965	1,990	1,985	1,976	1,969	1,946	1,918	1,890	1,873	1,818
E0700007(E41000102Chelmsforc70-74	Female	1,831	1,830	1,782	1,746	1,697	1,667	1,668	1,694	1,696	1,677	1,625	1,617	1,615	1,665	1,701	1,794	1,991	2,080	2,085	2,038	1,986	1,819	1,733	1,682	1,712	1,721	1,748	1,801	1,831	1,838	1,881	1,943	1,974	2,046	2,104	2,144	2,164	2,192	2,188	2,179	2,174
E0700007( E41000102 Chelmsforc 75-79	Female	1,826	1,768	1,762	1,735	1,736	1,735	1,739	1,687	1,658	1,629	1,621	1,642	1,689	1,702	1,676	1,614	1,596	1,609	1,665	1,706	1,807	2,050	2,187	2,241	2,240	2,234	2,057	1,968	1,917	1,952	1,967	1,999	2,061	2,098	2,111	2,164	2,238	2,279	2,362	2,430	2,479
E0700007( E41000102 Chelmsfor( 80-84	Female	1,447	1,507	1,547	1,567	1,529	1,513	1,503	1,532	1,534	1,561	1,580	1,612	1,599	1,610	1,606	1,609	1,658	1,729	1,755	1,772	1,742	1,763	1,816	1,918	2,008	2,167	2,461	2,625	2,691	2,690	2,683	2,487	2,391	2,343	2,385	2,411	2,456	2,535	2,583	2,609	2,682
E0700007(E41000102Chelmsforc85-89	Female	979	937	890	903	972	1,038	1,087	1,131	1,151	1,160	1,150	1,143	1,135	1,166	1,179	1,216	1,244	1,217	1,235	1,249	1,275	1,328	1,389	1,425	1,449	1,436	1,464	1,518	1,611	1,692	1,826	2,085	2,222	2,279	2,274	2,269	2,125	2,061	2,035	2,075	2,109
E0700007( E41000102 Chelmsfor( 90+	Female	463	496	521	513	522	514	537	518	544	611	639	670	697	740	748	751	753	769	789	808	833	852	848	871	894	929	972	1,007	1,041	1,070	1,082	1,126	1,183	1,261	1,325	1,408	1,589	1,695	1,758	1,779	1,814





70,454 83,379

16-19 20-24 25-29 30-34 35-39 40-44 55-59 60-64 65-69 70-74 75-79 80-84 85-89 90+

	70+ 10.525 81.42683																																
												70	)+	10,525 8	31.42683																		
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	20
Chelmsforc 16-19	Persons	140	140	139	136	129	125	122	117	110	105	102	94	89	83	76	71	66	62	60	57	55	57	57	59	60	61	62	63	63	63	62	
Chelmsforc 20-24	Persons	1,741	1,818	1,919	1,996	1,966	1,855	1,747	1,683	1,646	1,645	1,671	1,608	1,578	1,586	1,533	1,455	1,425	1,380	1,331	1,294	1,255	1,226	1,224	1,219	1,227	1,254	1,284	1,323	1,355	1,389	1,411	1,4
Chelmsforc 25-29	Persons	3,950	3,829	3,686	3,693	3,714	3,719	3,757	3,712	3,678	3,651	3,615	3,607	3,625	3,573	3,563	3,582	3,531	3,464	3,428	3,375	3,275	3,255	3,221	3,175	3,136	3,087	3,017	2,999	2,989	3,011	3,073	3,1
Chelmsforc 30-34	Persons	5,999	5,872	5,801	5,752	5,695	5,470	5,268	5,105	4,990	4,939	4,934	5,098	5,099	5,099	5,122	5,163	5,134	5,186	5,181	5,186	5,224	5,222	5,182	5,170	5,133	5,044	5,010	4,962	4,898	4,837	4,760	4,6
Chelmsfore 35-39	30-34 Persons 5,999 5,872 5,801 5,752 5,695 5,470 5,268 5,105 4,990 4,939 4,934 5,098 5,099 5,099 5,122 5,163 5,134 5,186 5,181 5,186 5,224 5,222 5,182 5,170 5,133 5,044 5,010 4,962 4,898 4,837 4,760 4,6 35-39 Persons 7,024 7,101 7,044 6,983 6,899 6,937 6,843 6,734 6,595 6,539 6,309 6,046 5,904 5,799 5,863 5,984 6,170 6,214 6,308 6,318 6,354 6,370 6,476 6,524 6,570 6,646 6,654 6,607 6,590 6,599 6,599 6,543 6,570 6,44 0+44 Persons 6,583 6,677 6,785 6,990 7,210 7,322 7,402 7,464 7,383 7,283 7,264 7,275 7,191 7,105 7,023 6,875 6,688 6,549 6,617 6,728 6,925 7,000 7,103 7,134 7,185 7,210 7,30 7,391 7,444 7,522 7,5																																
Chelmsforc 40-44	30-34 Persons 5,999 5,872 5,801 5,752 5,695 5,470 5,268 5,105 4,990 4,939 4,934 5,098 5,099 5,122 5,163 5,134 5,186 5,181 5,186 5,224 5,222 5,182 5,170 5,133 5,044 5,010 4,962 4,898 4,837 4,760 4,6 35-39 Persons 7,024 7,101 7,044 6,983 6,899 6,937 6,843 6,734 6,595 6,539 6,309 6,046 5,904 5,799 5,863 5,984 6,170 6,214 6,308 6,318 6,354 6,370 6,476 6,524 6,570 6,646 6,654 6,607 6,590 6,539 6,439 6,438 40-44 Persons 6,583 6,677 6,785 6,990 7,210 7,322 7,402 7,464 7,383 7,283 7,283 7,264 7,275 7,191 7,105 7,023 6,875 6,688 6,598 6,598 6,598 6,578 6,625 7,000 7,103 7,134 7,135 7,210 7,391 7,341 7,212 7,740 7,512 7,																																
Chelmsforc 45-49	Persons	6,152	6,203	6,317	6,419	6,559	6,655	6,762	6,950	7,247	7,449	7,601	7,636	7,736	7,648	7,645	7,746	7,740	7,655	7,612	7,548	7,367	7,184	7,089	7,056	7,137	7,265	7,466	7,556	7,658	7,698	7,751	7,7
Chelmsforc 50-54	Persons	6,864	6,463	6,203	6,111	6,111	6,208	6,285	6,389	6,546	6,699	6,777	6,985	7,117	7,384	7,556	7,715	7,743	7,858	7,831	7,816	7,877	7,840	7,736	7,662	7,577	7,382	7,209	7,120	7,103	7,193	7,329	7,5
Chelmsforc 55-59	Persons	5,718	6,302	6,588	6,698	6,737	6,644	6,227	5,984	5,902	5,910	6,093	6,160	6,289	6,414	6,525	6,563	6,820	6,931	7,159	7,326	7,485	7,506	7,589	7,548	7,512	7,543	7,504	7,408	7,333	7,251	7,070	6,9
Chelmsforc 60-64	Persons	4,435	4,429	4,570	4,775	5,008	5,333	5,917	6,252	6,424	6,488	6,346	5,878	5,613	5,537	5,485	5,613	5,671	5,770	5,852	5,942	5,986	6,201	6,295	6,484	6,624	6,751	6,781	6,854	6,825	6,795	6,821	6,7
Chelmsforc 65-69	Persons	4,390	4,405	4,464	4,474	4,412	4,242	4,230	4,351	4,519	4,717	5,048	5,595	5,874	5,902	5,877	5,679	5,216	4,941	4,823	4,783	4,841	4,902	4,992	5,074	5,167	5,219	5,406	5,498	5,663	5,789	5,903	5,9
Chelmsforc 70-74	Persons	3,664	3,737	3,754	3,804	3,845	3,855	3,915	4,003	4,081	4,054	3,991	4,007	4,149	4,333	4,565	4,896	5,467	5,790	5,855	5,846	5,720	5,324	5,108	5,043	5,053	5,162	5,235	5,340	5,436	5,545	5,615	5,8
Chelmsforc 75-79	Persons	3,191	3,184	3,251	3,272	3,330	3,436	3,510	3,530	3,605	3,684	3,754	3,844	3,947	4,047	3,956	3,877	3,883	4,025	4,226	4,465	4,791	5,372	5,705	5,799	5,819	5,732	5,352	5,153	5,095	5,118	5,228	5,3
Chelmsforc 80-84	Persons	2,310	2,445	2,576	2,618	2,580	2,591	2,684	2,794	2,840	2,918	3,051	3,153	3,220	3,319	3,426	3,448	3,567	3,684	3,774	3,744	3,710	3,750	3,909	4,130	4,376	4,717	5,312	5,650	5,754	5,774	5,704	5,3
Chelmsforc 85-89	Persons	1,427	1,361	1,316	1,335	1,482	1,623	1,726	1,833	1,871	1,906	1,910	1,951	1,981	1,989	2,054	2,197	2,265	2,293	2,353	2,444	2,504	2,605	2,696	2,767	2,765	2,750	2,804	2,942	3,130	3,321	3,585	4,0
Chelmsforc 90+	Persons	598	641	673	690	711	691	717	706	779	892	954	996	1,045	1,127	1,136	1,169	1,197	1,231	1,268	1,322	1,400	1,452	1,481	1,530	1,604	1,678	1,764	1,832	1,902	1,947	1,981	2,0

-29.6 -8.3 -2.9 -5.0 0.7 0.6 5.0 10.4 15.3 11.7 1.5 54.8 50.8 66.9 109.3 184.2

12,925

2	2033	2034	2035	2036	2037	2038	2039	2040	2041
2	62	62	62	62	62	63	63	63	63
3	1,450	1,462	1,466	1,466	1,447	1,442	1,440	1,438	1,435
1	3,243	3,319	3,394	3,449	3,520	3,540	3,559	3,564	3,564
7	4,619	4,601	4,632	4,722	4,843	4,983	5,099	5,212	5,298
0	6,331	6,251	6,174	6,075	5,947	5,894	5,872	5,909	6,022
4	7,482	7,460	7,399	7,289	7,235	7,170	7,081	6,994	6,883
3	7,910	7,980	8,034	8,114	8,126	8,069	8,044	7,976	7,862
6	7,624	7,722	7,766	7,819	7,855	7,983	8,056	8,109	8,186
3	6,834	6,832	6,926	7,062	7,248	7,348	7,440	7,486	7,539
7	6,703	6,633	6,559	6,403	6,269	6,204	6,213	6,307	6,435
7	6,002	5,983	5,961	5,986	5,960	5,893	5,833	5,773	5,645
8	5,927	6,108	6,250	6,377	6,424	6,496	6,484	6,466	6,494
1	5,430	5,536	5,651	5,742	5,952	6,074	6,266	6,420	6,556
8	5,173	5,125	5,166	5,278	5,375	5,513	5,631	5,753	5,871
5	4,333	4,420	4,431	4,387	4,146	4,044	4,029	4,077	4,178
6	2,190	2,341	2,473	2,638	2,969	3,178	3,291	3,350	3,402

202

										2	2006-16 Tre	nds on 201	7 MYE Base	2							
		Μ	М	Μ	M M	М	N	1 N	1 N	/ r	M N	<b>/</b>	М	Μ	M N	Л М	M	I N	1 N	I M	I
Yea	ar Borough		0 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	2001 Chelmsford	81	L <mark>3 856</mark>	972	955	982	936	955	1,032	1,001	1,100	1,135	1,062	1,027	1,008	1,059	1,040	1,070	1,054	1,006	881
	2002 Chelmsford	78	87 813	886	985	971	991	953	971	1,048	1,008	1,110	1,157	1,056	1,033	1,013	1,066	1,042	1,069	1,047	981
	2003 Chelmsford	<b>9</b> 1	l <mark>5 820</mark>	851	919	1,004	976	1,004	969	978	1,045	1,018	1,112	1,182	1,062	1,036	1,015	1,090	1,071	1,074	965
	2004 Chelmsford	94	<mark>16 939</mark>	864	876	945	1,001	969	1,016	977	995	1,064	1,036	1,111	1,185	1,077	1,035	1,016	1,108	1,056	972
	2005 Chelmsford	<b>9</b> 1	. <mark>9 960</mark>	948	870	895	949	1,004	977	1,038	999	1,002	1,080	1,047	1,113	1,183	1,079	1,052	1,018	1,082	919
	2006 Chelmsford	1,02	2 <mark>1 952</mark>	954	954	887	906	959	1,016	987	1,058	977	1,018	1,076	1,059	1,102	1,202	1,094	1,058	1,011	950
	2007 Chelmsford	90	07 1,043	969	973	952	908	922	964	1,029	984	1,060	994	1,026	1,087	1,055	1,113	1,223	1,099	1,031	861
	2008 Chelmsford	1,02	2 <mark>3 915</mark>	1,055	990	964	962	909	928	969	1,027	986	1,064	997	1,029	1,103	1,067	1,113	1,232	1,070	833
	2009 Chelmsford	98	3 <mark>4 1,043</mark>	924	1,079	991	960	973	920	944	969	1,028	1,007	1,084	1,010	1,037	1,104	1,073	1,111	1,216	898
	2010 Chelmsford	1,03	<mark>3 1,002</mark>	1,064	950	1,087	1,007	961	992	914	944	968	1,027	1,023	1,101	1,010	1,054	1,106	1,091	1,088	968
	2011 Chelmsford	99	<mark>)4 1,054</mark>	1,016	1,084	953	1 <b>,08</b> 6	1,016	946	995	925	951	976	1,025	1,018	1,106	1,019	1,064	1,107	1,070	935
	2012 Chelmsford	1,05	<mark>60 1,004</mark>	1,049	1,036	1,082	977	1,088	1,011	952	1,008	935	968	988	1,025	1,009	1,097	1,021	1,055	1,082	849
	2013 Chelmsford	90	5 1,066	1,031	1,068	1,055	1,085	971	1,097	1,029	962	1,014	946	959	997	1,040	996	1,106	1,013	1,030	895
	2014 Chelmsford	1,00	<mark>)4 982</mark>	1,071	1,034	1,087	1,057	1,088	982	1,109	1,043	973	1,024	960	966	997	1,037	987	1,123	1,025	931
	2015 Chelmsford	1,00	<mark>)9 1,032</mark>	1,002	1,101	1,066	1 <i>,</i> 098	1,075	1,093	994	1,115	1,060	984	1,031	973	978	1,010	1,052	996	1,106	869
	2016 Chelmsford	1,03	<mark>5 1,034</mark>	1,065	1,039	1,144	1 <i>,</i> 087	1,11 <mark>2</mark>	1,103	1,115	1,030	1,122	1,073	1,013	1,046	978	987	1,026	1,060	971	924
	2017 Chelmsford	1,06	5 <mark>7 1,103</mark>	1,056	1,085	1,066	1,158	1,106	1,145	1,128	1,131	1,056	1,140	1 <i>,</i> 093	1,020	1,055	984	1,007	1,042	1,013	771
	2018 Chelmsford	1,06	64 1,087	1,120	1,079	1,096	1,077	1,166	1,114	1,156	1,138	1,138	1,068	1,151	1,102	1,025	1,060	990	1,011	1,023	847
	2019 Chelmsford	1,06	50 1,084	1,103	1,144	1,090	1,108	1,085	1,174	1,125	1,166	1,145	1,151	1,078	1,161	1,107	1,029	1,067	995	993	856
	2020 Chelmsford	1,05	5 1,080	1,101	1,127	1,156	1,102	1,115	1,092	1,186	1,135	1,174	1,158	1,162	1,087	1,166	1,112	1,036	1,072	977	831
	2021 Chelmsford	1,04	i9 1,074	1,096	1,125	1,139	1,168	1,109	1,124	1,103	1,196	1,142	1,187	1,169	1,172	1,092	1,171	1,119	1,041	1,052	817
	2022 Chelmsford	1,04	l <mark>3 1,0</mark> 68	1,091	1,120	1,136	1,151	1,176	1,117	1,135	1,113	1,204	1,155	1,198	1,179	1,177	1,097	1,179	1,124	1,022	880
	2023 Chelmsford	1,03	<b>1,062</b>	1,084	1,115	1,132	1,148	1,159	1,185	1,128	1,145	1,120	1,217	1,166	1,208	1,184	1,183	1,105	1,184	1,104	855
	2024 Chelmsford	1,03	1,056	1,078	1,108	1,126	1,143	1,156	1,167	1,197	1,138	1,152	1,132	1,229	1,176	1,214	1,190	1,190	1,109	1,163	923
	2025 Chelmsford	1,02	1,050	1,072	1,102	1,120	1,138	1,151	1,165	1,179	1,207	1,145	1,165	1,143	1,239	1,181	1,219	1,197	1,196	1,090	973
	2026 Chelmsford	1,01	1,042	1,066	1,096	1,113	1,131	1,146	1,160	1,176	1,189	1,214	1,158	1,176	1,153	1,245	1,187	1,228	1,203	1,174	911
	2027 Chelmsford	1,00	9 1,035	1,058	1,089	1,107	1,125	1,139	1,154	1,171	1,186	1,196	1,228	1,169	1,186	1,158	1,251	1,194	1,233	1,181	982
	2028 Chelmsford	1,00	)2 1,028	1,051	1,081	1,100	1,119	1,133	1,147	1,166	1,181	1,194	1,210	1,240	1,179	1,191	1,164	1,259	1,200	1,211	988
	2029 Chelmsford	99	5 1,020	1,043	1,074	1,093	1,112	1,126	1,141	1,159	1,176	1,189	1,207	1,222	1,250	1,185	1,197	1,171	1,265	1,178	1,013
	2030 Chelmsford	99	0 1,014	1,036	1,066	1,085	1,104	1,119	1,135	1,152	1,169	1,183	1,202	1,219	1,232	1,256	1,190	1,205	1,176	1,242	985
	2031 Chelmsford	98	37 1,009	1,029	1,058	1,077	1,096	1,112	1,128	1,146	1,162	1,176	1,196	1,214	1,229	1,238	1,262	1,198	1,210	1,155	1,039
	2032 Chelmsford	98	37 1,006	1,024	1,052	1,069	1,089	1,104	1,120	1,139	1,156	1,169	1,189	1,208	1,224	1,235	1,243	1,270	1,203	1,188	966
	2033 Chelmsford	98	1,005	1,021	1,047	1,063	1,081	1,096	1,112	1,131	1,149	1,163	1,183	1,201	1,218	1,229	1,240	1,252	1,276	1,182	994
	2034 Chelmsford	99	0 1.006	1.020	1.043	1.057	1.074	1.088	1.104	1.123	1.141	1.156	1.176	1.194	1.211	1.224	1.235	1.249	1.257	1.253	988
	2035 Chelmsford	99	1.009	1.021	1.042	1.054	1.069	1.081	1.096	1.115	1.133	1.148	1.169	1.188	1.204	1.217	1.229	1.243	1.254	1.235	1.048
	2036 Chelmsford	1.00	1.014	1.024	1.044	1.053	1.065	1.076	1.089	1.107	1.125	1.140	1.161	1.180	1.197	1.210	1.222	1.238	1.249	1.232	1.033
	2037 Chelmsford	1.00	1.020	1.029	1.047	1.055	1.065	1.073	1.084	1.100	1.117	1.132	1.153	1.172	1.190	1.203	1.215	1.230	1.243	1.227	1.030
	2038 Chelmsford	1.01	8 1.028	1.036	1.052	1.058	1.066	1.072	1.081	1.095	1,109	1.123	1.145	1.164	1.182	1,196	1.209	1.223	1,236	1.221	1.026
	2039 Chelmsford	1.02	1.037	1.044	1.058	1.063	1.069	1.073	1.080	1.091	1,104	1.116	1.136	1.156	1.174	1,187	1.201	1.217	1.229	1.214	1.021
	2040 Chelmsford	1.0	1.047	1.053	1.066	1,069	1.074	1.076	1.081	1.090	1.101	1.111	1.129	1.147	1.165	1,179	1,193	1.209	1.222	1.207	1.015
	2041 Chelmsford	1.04	1.058	1.063	1.076	1.077	1.081	1.081	1.084	1,092	1,100	1.108	1.124	1.140	1,157	1,171	1,185	1.201	1,215	1,200	1.009
		1,0-	1,000	1,005	1,070	1,077	1,001	1,001	1,004	1,052	1,100	1,100	-,	1,140	1,137	-,-,-	1,105	1,201	1,213	1,200	1,005

	Population	Households CLG 2012	Households CLG 2014	
2013	170,311	71,021	71,026	
2037	190,109	82,323	82,269	
Change	19,798	11,302	11,243	
AHS 2013		2.368	2.368	
AHS 2037		2.276	2.277	

М	м	N	/ I	м м	Μ	Μ	М	Μ	N	1 М	М	Μ	ז ו	M N	M I	M N	и м	Μ	М	М	М	М	
	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
	885	906	900	905	929	987	1,046	1,054	1,105	1,139	1,156	1,114	1,185	1,198	1,264	1,235	1,287	1,310	1,243	1,250	1,197	1,173	1,147
	977	958	958	942	930	937	1,034	1,071	1,060	1,105	1,153	1,193	1,125	1,169	1,200	1 <mark>,2</mark> 98	1,245	1,293	1,322	1,258	1,251	1,191	1,150
1	1,029	1,046	1,018	1,020	968	929	963	1,032	1,081	1,052	1,127	1,189	1,222	1,126	1,169	1,218	1,275	1,267	1,305	1,305	1,243	1,246	1,168
1	1,009	1,096	1,131	1,057	1,083	971	950	997	1,039	1,090	1,064	1,167	1,191	1,238	1,174	1,184	1,244	1,294	1,276	1,317	1,303	1,228	1,237
	950	1,067	1,116	1,131	1,091	1,095	1,015	957	1,018	1,056	1,091	1,083	1,174	1,220	1,256	1,193	1,204	1,259	1,317	1,286	1,318	1,297	1,230
	921	1,020	1,086	1,070	1,146	1,072	1 <b>,0</b> 91	1,041	971	1,008	1,061	1,080	1,104	1,164	1,239	1,275	1,209	1,231	1,258	1,338	1,296	1 <b>,30</b> 9	1,325
	926	981	1,051	1,096	1,037	1,133	1,060	1,086	1,023	1,007	998	1,078	1,104	1,097	1,179	1,243	1,280	1,188	1,243	1,275	1,321	1 <b>,30</b> 6	1,287
	818	963	1,017	1,056	1,069	1,010	1,159	1,059	1,091	1,012	1,007	1,022	1,070	1,120	1,111	1,184	1,268	1,301	1,197	1,230	1,278	1,298	1,308
	824	867	1,021	1,056	1,045	1,046	1,009	1,150	1,048	1,084	1,021	989	1,031	1,085	1,127	1,116	1,188	1,292	1,313	1,177	1,247	1,282	1,294
	873	870	949	1,105	1,100	1,034	1,067	996	1,167	1,075	1,089	1,031	1,004	1,012	1,096	1,138	1,112	1,198	1,305	1,315	1,187	1,233	1,286
	936	900	972	1,001	1,120	1,131	1,026	1,051	995	1,169	1,066	1,081	1,006	1,007	1,015	1,103	1,134	1,133	1,190	1,316	1,312	1,186	1,232
	856	964	954	1,009	1,023	1,131	1,143	1,034	1,096	1,013	1,192	1,058	1,101	996	1,043	1,024	1,120	1,135	1,143	1,198	1,320	1,316	1,204
	861	917	1,024	1,006	1,016	1,043	1,143	1,156	1,042	1,108	1,023	1,214	1,080	1,090	1,021	1,049	1,028	1,126	1,119	1,142	1,206	1,308	1,331
	923	924	1,012	1,108	1,009	1,067	1,037	1,137	1,156	1,056	1,132	1,021	1,169	1,086	1,094	1,033	1,067	1,029	1,137	1,117	1,159	1,210	1,315
	815	891	950	1,078	1,154	1,045	1,066	1,059	1,142	1,156	1,093	1,135	1,051	1,172	1,118	1,110	1,070	1,083	1,049	1,142	1,145	1,162	1,213
	836	855	954	981	1,091	1,185	1,073	1,084	1,086	1,159	1,150	1,117	1,164	1,075	1,198	1,117	1,154	1,098	1,089	1,068	1,165	1,148	1,206
	912	883	923	1,032	978	1,147	1,151	1,068	1,111	1,101	1,210	1,181	1,145	1,190	1,098	1,210	1,151	1,163	1,154	1,132	1,084	1,179	1,163
	744	952	944	966	1,040	988	1,154	1,152	1,076	1,123	1,109	1,217	1,189	1,147	1,209	1,106	1,226	1,162	1,170	1,157	1,141	1,082	1,186
	818	777	1,013	987	973	1,050	994	1,156	1,161	1,087	1,131	1,116	1,226	1,192	1,166	1,218	1,120	1,238	1,169	1,173	1,166	1,139	1,088
	826	854	838	1,060	995	983	1,057	995	1,164	1,173	1,095	1,138	1,124	1,228	1,211	1,174	1,234	1,131	1,245	1,1/1	1,182	1,164	1,146
	802	862	914	876	1,068	1,005	989	1,058	1,003	1,176	1,182	1,102	1,146	1,120	1,248	1,219	1,189	1,245	1,138	1,248	1,181	1,180	1,1/1
	789	837	923	957	883	1,079	1,011	990	1,066	1,013	1,185	1,189	1,110	1,148	1,144	1,257	1,235	1,200	1,253	1,140	1,258	1,179	1,187
	849	823	898	966	964	892	1,086	1,013	997	1,077	1,021	1,192	1,197	1,112	1,167	1,152	1,273	1,247	1,208	1,250	1,149	1,250	1,180
	025 901	007 961	004 040	959	975	002	020	1,007	1,020	1,000	1,005	1,027	1,201	1,200	1,150	1,175	1,100	1,205	1,200	1,211	1,200	1,140	1,205
	020	001	077	925	022	905	000	095	1,095	1,051	1,010	1,092	1,054	1,205	1,219	1,130	1,151	1,175	1,295	1,250	1,220	1,204	1,154
	959	921	922	951	000	950 0/1	963	901 001	088	015	1,039	1,022	1,100	1 102	1,225	1,227	1,155	1,202	1,100	1,290	1,200	1,219	1,271
	9/9 9/18	900	1 041	1 037	972	1 009	902	963	900	000	922	1 1 2 1	1,029	1 031	1 1 2 0	1,231	1,244	1,104	1 171	1 212	1 198	1 305	1,220
	953	990	979	1 089	1 045	982	1 016	949	970	1 008	1 006	927	1 130	1 054	1 048	1 128	1 075	1 260	1 263	1 174	1 222	1 197	1 313
	977	996	1.050	1.024	1.097	1.056	989	1.017	956	981	1.016	1.012	934	1,132	1.072	1.055	1,143	1.085	1.267	1,267	1,183	1.220	1.204
	951	1.021	1.056	1.099	1.032	1.109	1.063	990	1.024	966	988	1.022	1.020	936	1.150	1.079	1.069	1.154	1.092	1.271	1.277	1.182	1.228
	1.003	993	1.081	1.105	1.107	1.043	1.116	1.064	997	1.035	973	994	1.030	1.022	951	1.158	1.094	1.080	1.161	1.094	1.281	1.275	1.189
	933	1,047	1,054	1,132	1,114	1,119	1,050	1,117	1,072	1,008	1,043	979	1,002	1,032	1,039	958	1,174	1,104	1,086	1,164	1,103	1,279	1,283
	959	974	1.108	1.103	1.140	1.125	1.126	1.051	1.126	1.083	1.015	1.050	986	1.004	1.049	1.046	971	1.185	1.111	1.089	1.173	1.102	1.287
	954	1,002	1,035	1,159	1,111	1,152	1,133	1,128	1,059	1,138	1,092	1,022	1,057	988	1,020	1,056	1,060	980	1,193	1,114	1,098	1,172	1,109
1	1,012	996	1,063	1,083	1,168	1,123	1,160	1,134	1,136	1,070	1,146	1,098	1,029	1,060	1,005	1,027	1,070	1,070	986	1,196	1,123	1,097	1,179
	997	1,057	1,057	1,112	1,091	1,180	1,130	1,161	1,142	1,148	1,078	1,153	1,107	1,031	1,077	1,012	1,041	1,081	1,077	989	1,206	1,121	1,103
	995	1,041	1,117	1,106	1,120	1,102	1,188	1,132	1,170	1,155	1,157	1,085	1,162	1,109	1,048	1,085	1,025	1,051	1,087	1,080	997	1,204	1,128
	990	1,039	1,102	1,169	1,115	1,132	1,110	1,189	1,140	1,182	1,164	1,164	1,093	1,164	1,127	1,056	1,099	1,035	1,058	1,090	1,089	996	1,211
	986	1,034	1,099	1,153	1,178	1,126	1,139	1,111	1,198	1,152	1,191	1,171	1,173	1,095	1,183	1,135	1,070	1,110	1,042	1,061	1,099	1,087	1,002
	980	1,029	1,095	1,150	1,162	1,190	1,134	1,141	1,119	1,211	1,161	1,199	1,179	1,175	1,113	1,192	1,150	1,080	1,117	1,045	1,069	1,098	1,094

M	М	Μ	1 N	1 M	Μ	Μ	М	Μ	М	М	Μ	Μ	N	יז ו	M I	M N	M N	Μ	М	М	Μ	М	
	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
	1,139	1,140	1,123	1,067	1,071	1,071	1,058	1,020	1,067	1,126	1,278	1,321	1,088	1,033	1,012	974	768	715	728	745	753	741	714
	1,146	1,128	1,105	1,115	1,053	1,057	1,068	1,050	1,013	1,059	1,097	1,247	1,299	1,069	1,008	991	961	759	700	718	731	740	721
	1,153	1,137	1,129	1,107	1,125	1,046	1,047	1,055	1,054	994	1,045	1,091	1,221	1,284	1,048	992	972	941	745	677	698	716	715
	1,161	1,167	1,148	1,106	1,116	1,109	1,027	1,035	1,059	1,042	1,000	1,042	1,079	1,198	1,278	1,042	967	954	915	732	663	686	703
	1,250	1,170	1,165	1,145	1,104	1,107	1,112	1,028	1,038	1,055	1,028	997	1,045	1,063	1,186	1,269	1,030	935	941	897	717	659	657
	1,219	1,250	1,144	1,170	1,164	1,080	1,120	1,106	1,011	1,022	1,049	1,018	979	1,028	1,050	1,176	1,266	1,009	900	915	874	710	634
	1,327	1,226	1,218	1,138	1,149	1,149	1,073	1,104	1,100	988	1,017	1,033	1,007	937	1,019	1,028	1,159	1,257	981	890	900	861	707
	1,298	1,314	1,225	1,220	1,142	1,149	1,135	1,080	1,094	1,112	986	1,013	1,015	996	915	1,011	1,009	1,141	1,245	994	881	882	843
	1,301	1,283	1,315	1,219	1,244	1,152	1,145	1,155	1,080	1,082	1,100	985	996	1,021	985	904	999	995	1,149	1,258	977	875	875
	1,286	1,299	1,287	1,319	1,200	1,268	1,142	1,144	1,131	1,081	1,079	1,109	991	1,000	1,005	973	892	993	979	1,134	1,243	978	867
	1,273	1,290	1,286	1,270	1,321	1,214	1,269	1,136	1,136	1,136	1,075	1,075	1,111	966	993	996	965	892	980	963	1,126	1,220	958
	1,240	1,276	1,281	1,281	1,252	1,323	1,223	1,253	1,119	1,123	1,132	1,081	1,046	1,087	962	991	979	945	873	968	943	1,108	1,208
	1,209	1,247	1,286	1,281	1,263	1,257	1,313	1,210	1,255	1,114	1,110	1,124	1,080	1,039	1,071	951	980	974	933	862	951	918	1,091
	1,326	1,229	1,245	1,276	1,281	1,251	1,262	1,305	1,202	1,256	1,105	1,109	1,114	1,079	1,030	1,066	936	965	970	917	836	943	913
	1,310	1,328	1,233	1,238	1,287	1,277	1,253	1,254	1,290	1,201	1,246	1,094	1,110	1,083	1,067	1,034	1,043	931	935	954	894	823	916
	1,218	1,318	1,331	1,249	1,235	1,289	1,295	1,231	1,251	1,269	1,193	1,264	1,075	1,111	1,069	1,063	1,007	1,029	916	932	934	882	816
	1,216	1,217	1,328	1,354	1,260	1,241	1,265	1,322	1,234	1,228	1,261	1,190	1,257	1,080	1,101	1,054	1,051	984	1,008	915	921	922	867
	1,163	1,218	1,214	1,325	1,350	1,263	1,240	1,259	1,312	1,228	1,220	1,259	1,179	1,241	1,067	1,092	1,038	1,040	970	1,000	899	908	910
	1,185	1,165	1,215	1,211	1,321	1,353	1,262	1,234	1,249	1,306	1,220	1,219	1,248	1,165	1,227	1,059	1,075	1,027	1,026	963	983	887	897
	1,088	1,187	1,162	1,212	1,207	1,324	1,352	1,256	1,225	1,243	1,298	1,219	1,208	1,233	1,152	1,218	1,043	1,065	1,013	1,018	946	970	876
	1,145	1,090	1,184	1,159	1,209	1,210	1,323	1,345	1,246	1,219	1,236	1,296	1,208	1,193	1,219	1,143	1,199	1,033	1,050	1,005	1,001	934	958
	1,170	1,148	1,087	1,182	1,156	1,212	1,209	1,317	1,335	1,240	1,211	1,235	1,285	1,194	1,180	1,210	1,125	1,187	1,018	1,042	988	988	922
	1,187	1,173	1,145	1,085	1,178	1,158	1,211	1,203	1,307	1,329	1,233	1,210	1,224	1,270	1,180	1,1/1	1,191	1,115	1,171	1,011	1,025	976	976
	1,186	1,189	1,170	1,142	1,082	1,181	1,157	1,205	1,195	1,301	1,321	1,232	1,200	1,209	1,255	1,172	1,153	1,180	1,099	1,163	994	1,012	964
	1,203	1,100	1,100	1,107	1,139	1,084	1,180	1,152	1,190	1,189	1,295	1,320	1,221	1,180	1,190	1,240	1,154	1,145	1,104	1,092	1,144	982	1,000
	1,154	1,205	1,105	1,103	1,104	1,142	1,084	1,175	1,144	1,191	1,182	1,292	1,309	1,207	1,173	1,187	1,228	1,145	1,127	1,157	1,074	1,129	970
	1,271	1,150	1,202	1,102	1,100	1,107	1,141	1,079	1,100	1,159	1,104	1,101	1,201	1,294	1,194	1,104	1,170	1,210	1,120	1,120	1,150	1 1 2 4	1,117
	1,225	1,274	1,155	1,200	1,175	1 1 2 2	1 1 9 2	1,150	1 1 2 2	1,101	1,152	1 1 2 2	1,172	1,200	1,200	1,105	1,147	1,135	1,200	1,121	1,102	1,124	1 1 1 1 1
	1 212	1,220	1 225	1 269	1 1 / 9	1,102	1 1 9 2	1 1 7 7	1,120	1 1 2 2	1,155	1,152	1 1 2 2	1,150	1 1 1 1 6	1 2/1	1 252	1,157	1 1 2 2	1 127	1,103	1,005	1 077
	1 203	1 315	1 273	1 223	1 265	1 151	1 259	1 176	1 169	1 1 1 4 8	1 117	1,154	1 1 1 4 5	1 109	1 1 4 7	1 138	1 226	1 241	1 143	1 115	1 119	1 160	1 078
	1 227	1 206	1 312	1 270	1 219	1 268	1 151	1 253	1 168	1 164	1 141	1 116	1 051	1 132	1 098	1 140	1 122	1 216	1 225	1 136	1 098	1 106	1 148
	1 189	1 230	1 203	1 309	1 267	1 223	1 267	1 146	1 245	1 163	1 158	1 141	1 107	1 039	1 120	1 090	1 124	1 112	1 200	1 218	1 118	1 085	1 094
	1,283	1,191	1.227	1,201	1.306	1.270	1.222	1.262	1,138	1.240	1,157	1,157	1.132	1.095	1.029	1.112	1.075	1,114	1.098	1,193	1,199	1,105	1.074
	1.287	1,285	1,188	1.225	1,198	1.310	1.270	1.217	1,253	1,133	1.233	1,157	1,148	1,119	1.083	1.022	1.097	1.066	1,100	1.092	1,175	1,186	1.094
	1.108	1.290	1.282	1.186	1.222	1.201	1.309	1.265	1.209	1.248	1.127	1.233	1.148	1.135	1.108	1.076	1.008	1.088	1.053	1.094	1.075	1.162	1.174
	1.179	1.111	1.287	1.280	1.183	1.225	1.201	1.304	1.256	1.204	1.242	1.127	1.223	1.135	1.124	1.101	1.062	999	1.074	1.047	1.078	1.063	1.150
	1.103	1.181	1,108	1,284	1.277	1.187	1.225	1.196	1.295	1.251	1.198	1.242	1,118	1,210	1.123	1.117	1.086	1.053	987	1.069	1.032	1.066	1.053
	1,128	1,106	1,179	1,106	1,281	1,281	1,186	1,220	1,188	1,290	1,245	1,197	1,232	1,106	1.198	1.117	1,102	1,077	1,040	982	1,053	1,020	1,056
	1,211	1,131	1,103	1,177	1,104	1,285	1,280	1,181	1,212	1,183	1,283	1,245	1,188	1,219	1,095	1,190	1,101	1,093	1,064	1,035	968	1,042	1,011
	1,002	1,214	1,128	1,101	1,174	1,107	1,285	1,275	1,174	1,207	1,177	1,283	1,235	1,176	1,207	1,088	1,174	1,093	1,080	1,059	1,020	958	1,032

М	М	М	Μ	М	Μ	M	M	Μ	М	М	М	М	Μ	Μ	М	Μ	Μ	Μ
	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
	688	660	625	629	602	548	492	510	490	443	425	383	367	353	327	356	242	165
	687	676	645	619	616	593	531	481	486	480	423	404	351	342	315	305	331	222
	707	678	659	630	606	598	576	513	467	478	462	401	386	336	325	293	285	308
	688	692	666	652	606	597	584	558	494	442	459	445	387	355	323	297	261	259
	693	672	688	656	640	592	578	575	539	483	425	437	420	364	337	303	281	228
	636	669	665	671	642	621	572	557	551	528	467	417	418	406	338	310	265	267
	630	630	664	644	655	628	609	553	541	532	515	450	394	402	394	314	292	254
	695	624	627	652	636	646	617	602	532	522	517	507	431	376	388	374	296	273
	830	687	618	601	637	623	637	606	597	522	506	504	504	416	353	372	340	272
	860	819	685	611	583	632	613	627	602	586	508	494	486	481	400	330	344	317
	851	849	806	682	598	568	623	603	619	585	583	493	488	470	460	379	309	312
	945	834	833	793	667	576	563	611	595	596	562	573	472	471	459	442	356	286
1	.,189	936	827	812	778	662	573	549	602	572	584	544	560	454	453	431	416	341
1	.,087	1,178	911	820	802	770	643	564	526	586	561	577	530	538	438	436	397	399
	899	1,078	1,152	893	803	791	751	627	545	513	573	539	558	508	520	417	409	371
	891	894	1,058	1,122	875	795	771	723	616	544	497	550	525	532	485	496	387	379
	806	876	879	1,026	1,108	862	778	743	704	599	513	475	531	504	520	455	460	360
	854	797	864	862	1,005	1,090	848	762	728	686	585	500	461	511	485	494	425	431
	897	845	787	848	845	989	1,072	830	746	709	670	570	485	444	492	462	462	399
	884	888	835	772	831	831	973	1,050	813	728	693	653	554	467	428	468	432	434
	863	875	877	819	757	818	818	954	1,029	793	711	676	635	534	451	408	439	406
	944	855	864	860	803	745	805	802	935	1,005	776	694	658	612	515	430	382	413
	909	935	844	848	844	791	734	790	787	913	983	758	676	634	592	492	403	360
	962	901	924	829	832	831	//9	720	775	/68	894	960	/38	652	614	565	462	381
	951	953	890	907	813	820	819	764	707	/5/	752	874	936	/13	631	586	531	436
	987	942	942	874	891	802	808	804	751	691	742	/36	852	905	690	604	552	502
	958	978	931	925	858	8/8	791	794	790	/34	6//	/26	718	824	8//	661	569	522
1	.,102	949	967	915	909	840	800	051	780	773	720	003 705	709	695	799	840	623 702	539
1	.,035	1,092	939	950	022	897 007	835 005	851 821	/03	704	758	705	048	080	0/4	/00	795	222
1	.,097	1,020	1,080	922	933	001	005 075	821	837	748 920	750	745	200	028	610	640	724 612	752
1	.,005	1,000	1,015	1,002	1 044	921	0/5	070 961	007 9EC	020 701	734 905	735	727	705	610	040 E96	606	500
1	122	1,054	1 0/2	1 059	022	1 021	909	802	000 9/19	840	779	720	715	608	686	500 625	555	502
1	.,133	1 1 2 5	1.045	1,030	1 0/1	070	1 010	035 070	040	040	975	750	705	695	690	661	502	577
1	.,001	1,125	1 112	1,020	1,041	1 020	1,019	1 002	001	052	025	704 011	7/4	752	660	655	535 627	525
1	081	1.052	1 062	1,020	1,010	000	1 017	944	022	805 8/1	851	804	795	728	73/	644	622	509
1	160	1 073	1 0/13	1 0/15	1,012	1 000	987	1 002	920	971	829	837	789	728	711	708	612	595
1	137	1 152	1 062	1,045	1,078	1,000	980	972	950	914	956	815	822	768	756	686	674	585
1	0/1	1,132	1 1/1	1,020	1,029	1,000	1 055	972	900	914	930	015	801	801	750	731	652	645
1	044	1 024	1,141	1 1 2 4	1 021	1,018	1,055	1 040	963	9/1	901	887	925	781	782	731	696	627
1	.,044	1 027	1,119	1,124	1,051	1,000	1,007	1,040	1 027	045	021	007	925	002	765	720	692	669
1	.,000	1,037	1,025	1,102	1,107	1,020	990	994	1,027	947	931	944	8/3	903	764	758	093	600

М	М	М	М	
84	85	86	87	88
161	133	136	126	101
149	136	115	109	97
202	133	115	97	101
269	179	111	94	69
231	251	155	89	77
206	209	223	136	83
239	190	197	19 <b>3</b>	123
237	228	183	179	153
261	214	204	165	153
247	240	202	180	143
301	225	231	180	161
282	272	196	204	168
258	257	244	184	180
311	238	236	208	157
374	293	218	203	190
347	341	274	197	180
368	303	307	257	181
333	340	281	274	227
400	308	315	251	242
370	370	286	282	222
403	343	344	257	250
378	374	320	309	228
384	351	349	288	275
336	357	328	315	256
355	313	335	296	281
407	331	293	303	265
470	380	311	266	272
489	439	358	282	239
505	458	414	325	254
554	473	432	377	293
707	520	447	394	341
647	664	493	409	357
548	609	630	451	371
544	516	578	577	410
500	513	491	531	526
534	472	489	452	484
566	506	450	450	413
563	536	483	415	412
555	534	513	446	381
613	527	512	475	410
596	583	506	475	437

М	М	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	89 90+		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	72	176	827	860	831	865	869	927	974	1,013	1,023	1,017	1,034	1,034	1,046	1,096	1,000	977
	77	189	829	851	867	834	866	883	936	982	1,027	1,037	1,015	1,048	1,035	1,063	1,097	993
	87	196	874	842	860	873	836	875	881	956	995	1,052	1,042	1,005	1,051	1,047	1,069	1,099
	85	228	892	879	864	887	892	858	880	913	987	1,018	1,065	1,055	1,030	1,057	1,049	1,087
	58	242	846	880	904	874	887	897	860	886	921	984	1,010	1,090	1,063	1,030	1,067	1,054
	68	227	899	865	908	915	872	897	913	856	884	923	986	1,016	1,102	1,060	1,017	1,073
	77	229	912	926	873	915	923	873	917	904	873	886	932	993	1,037	1,124	1,061	1,038
	110	239	958	922	926	880	928	928	870	937	894	882	887	939	989	1,045	1,115	1,063
	134	297	970	988	931	940	899	937	931	876	932	911	890	892	952	992	1,062	1,122
	132	352	<b>936</b>	951	999	947	956	912	932	928	870	942	914	901	887	956	979	1,065
	121	394	967	977	970	1,012	942	960	918	930	938	876	948	912	909	888	972	974
	133	407	996	991	1,003	962	1,023	941	975	919	939	942	891	941	921	919	899	958
	149	433	929	991	1,015	1,011	949	1,028	953	980	926	951	943	904	955	934	917	910
	<b>142</b>	480	916	925	1,006	1,006	1,030	961	1,024	976	991	947	947	951	91 <b>3</b>	969	926	926
	136	480	927	944	944	1,007	1,033	1,042	974	1,048	999	1,007	943	968	967	905	986	942
	168	515	910	943	982	961	1,042	1,048	1,060	98 <b>3</b>	1,056	1,003	1,032	962	983	973	910	986
	162	560	970	924	983	1,035	983	1,079	1,069	1,087	989	1,079	1,006	1,045	980	987	966	920
	157	585	975	986	940	990	1,049	991	1,087	1,077	1,094	1,000	1,086	1,015	1,056	987	991	971
	197	604	971	990	1,003	947	1,003	1,057	998	1,096	1,084	1,106	1,006	1,096	1,025	1,063	991	996
	211	653	966	986	1,008	1,010	960	1,011	1,065	1,006	1,103	1,096	1,113	1,015	1,107	1,033	1,067	996
	194	706	960	981	1,004	1,015	1,024	967	1,019	1,073	1,013	1,115	1,103	1,123	1,025	1,115	1,037	1,073
	219	737	955	976	999	1,011	1,029	1,032	975	1,027	1,081	1,024	1,122	1,113	1,135	1,033	1,119	1,042
	200	786	949	970	993	1,006	1,024	1,037	1,040	982	1,034	1,092	1,030	1,132	1,124	1,143	1,037	1,125
	242	812	943	965	987	1,000	1,019	1,032	1,045	1,048	989	1,045	1,100	1,040	1,144	1,133	1,147	1,042
	226	870	937	959	982	994	1,013	1,027	1,040	1,053	1,055	1,000	1,052	1,109	1,050	1,152	1,137	1,153
	249	907	930	952	976	989	1,008	1,021	1,035	1,048	1,060	1,066	1,006	1,061	1,120	1,058	1,156	1,143
	235	959	924	945	969	983	1,002	1,015	1,029	1,043	1,055	1,071	1,073	1,015	1,072	1,129	1,062	1,162
	241	993	917	939	962	976	996	1,010	1,023	1,037	1,050	1,067	1,078	1,083	1,025	1,080	1,133	1,067
	213	1,030	911	932	955	969	989	1,004	1,018	1,031	1,044	1,062	1,074	1,088	1,094	1,033	1,084	1,139
	227	1,038	907	926	948	962	982	997	1,011	1,026	1,038	1,056	1,069	1,083	1,099	1,102	1,037	1,089
	262	1,060	904	921	942	955	975	990	1,004	1,019	1,032	1,049	1,062	1,078	1,094	1,107	1,106	1,042
	305	1,111	903	919	938	949	968	983	998	1,012	1,026	1,044	1,056	1,072	1,089	1,102	1,111	1,111
	320	1,193	904	918	935	944	962	975	990	1,005	1,019	1,037	1,050	1,066	1,083	1,097	1,106	1,117
	334	1,278	907	919	934	942	957	969	983	998	1,012	1,030	1,044	1,060	1,076	1,090	1,101	1,112
	369	1,364	911	921	935	941	954	964	977	991	1,005	1,023	1,037	1,053	1,070	1,084	1,095	1,107
	475	1,471	917	926	938	942	953	962	972	984	997	1,016	1,030	1,046	1,064	1,078	1,088	1,100
	438	1,656	924	932	942	944	954	961	969	980	991	1,008	1,022	1,039	1,056	1,072	1,082	1,094
	374	1,786	932	939	948	949	957	962	968	977	986	1,002	1,015	1,031	1,049	1,064	1,076	1,088
	375	1,847	941	947	955	955	962	965	969	976	983	997	1,008	1,024	1,042	1,057	1,068	1,081
	347	1,905	951	956	964	962	968	969	972	977	982	994	1,003	1,017	1,034	1,049	1,061	1,074
	374	1,935	960	967	973	971	975	975	977	980	983	993	1,000	1,012	1,027	1,042	1,053	1,066

	F	F	F	F
16	17	18	19	20
964	965	880	844	877
980	964	984	908	942
1,024	1,001	989	999	1,009
1,106	1,054	1,032	976	1,086
1,087	1,114	1,040	877	1,019
1,051	1,090	1,090	884	867
1,076	1,065	1,083	903	888
1,030	1,081	1,041	933	852
1,070	1,037	1,036	883	937
1,133	1,077	1,023	872	832
1,072	1,141	1,047	848	837
981	1,053	1,113	862	828
953	997	1,031	909	835
919	933	988	900	948
935	927	909	813	862
964	928	889	767	793
978	960	877	718	777
926	980	938	736	702
977	927	957	787	719
1,002	979	906	803	769
1,002	1,004	956	760	785
1,080	1,004	980	802	743
1,048	1,081	981	822	784
1,132	1,050	1,056	823	804
1,049	1,134	1,026	886	804
1,160	1,051	1,107	861	866
1,150	1,162	1,026	929	841
1,170	1,152	1,135	861	908
1,074	1,172	1,125	952	841
1,146	1,076	1,145	944	931
1,096	1,148	1,051	960	923
1,049	1,098	1,121	882	939
1,118	1,050	1,073	941	862
1,124	1,120	1,026	900	920
1,119	1,126	1,094	861	880
1,114	1,121	1,100	918	841
1,107	1,116	1,095	923	898
1,101	1,109	1,090	919	902
1,095	1,103	1,083	914	898
1,088	1,097	1,077	909	894
1,081	1,090	1,071	904	889

F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
	915	924	867	879	927	965	1,019	1,047	1,045	1,142	1,129	1,201	1,254	1,249	1,270	1,297	1,332	1,301
	961	981	990	887	899	945	976	1,041	1,075	1,073	1,161	1,146	1,232	1,271	1,254	1,289	1,314	1,349
	1,043	1,040	1,029	1,016	892	941	928	1,024	1,054	1,101	1,119	1,161	1,177	1,248	1,285	1,260	1,289	1,313
	1,076	1,095	1,109	1,054	1,058	960	985	974	1,073	1,095	1,111	1,156	1,229	1,192	1,264	1,304	1,297	1,296
	1,162	1,073	1,115	1,141	1,064	1,048	995	1,017	1,012	1,070	1,111	1,155	1,178	1,250	1,214	1,286	1,311	1,311
	1,051	1,119	1,020	1,087	1,150	1,065	1,030	990	1,004	1,025	1,085	1,111	1,146	1,186	1,272	1,227	1,300	1,334
	907	1,020	1,029	989	1,103	1,143	1,045	1,043	984	1,005	1,041	1,087	1,139	1,165	1,202	1,275	1,242	1,325
	946	1,002	1,008	1,009	961	1,086	1,128	1,069	1,018	991	1,003	1,052	1,093	1,159	1,177	1,208	1,280	1,240
	897	1,017	1,016	1,006	1,021	965	1,114	1,130	1,044	1,013	1,012	1,016	1,050	1,111	1,143	1,187	1,223	1,297
	994	1,008	1,052	1,029	1,027	1,022	999	1,119	1,151	1,046	1,025	1,030	1,029	1,064	1,122	1,166	1,203	1,238
	913	1,044	1,073	1,075	1,034	1,027	1,030	1,006	1,140	1,165	1,085	1,069	1,036	1,037	1,053	1,133	1,167	1,203
	896	994	1,081	1,085	1,073	1,063	1,054	1,051	1,029	1,154	1,189	1,113	1,081	1,043	1,056	1,051	1,145	1,166
	866	982	1,060	1,076	1,077	1,085	1,064	1,044	1,055	1,032	1,180	1,187	1,101	1,089	1,056	1,077	1,079	1,157
	889	959	1,042	1,043	1,076	1,112	1,088	1,052	1,032	1,057	1,029	1,202	1,185	1,107	1,069	1,103	1,084	1,081
	935	954	994	1,068	1,058	1,072	1,108	1,106	1,091	1,006	1,105	1,059	1,243	1,214	1,132	1,110	1,131	1,108
	873	1,011	983	988	1,103	1,033	1,092	1,140	1,115	1,099	1,064	1,112	1,098	1,233	1,231	1,158	1,124	1,149
	898	942	1,051	982	1,018	1,091	1,078	1,113	1,193	1,163	1,161	1,109	1,166	1,132	1,246	1,254	1,194	1,144
	820	968	966	1,050	988	1,021	1,100	1,088	1,118	1,195	1,189	1,180	1,122	1,179	1,139	1,267	1,270	1,205
	745	890	992	965	1,057	991	1,029	1,110	1,093	1,120	1,222	1,209	1,194	1,134	1,185	1,158	1,283	1,281
	762	815	912	991	971	1,060	999	1,039	1,115	1,095	1,145	1,242	1,223	1,207	1,141	1,206	1,172	1,295
	812	832	835	911	997	974	1,068	1,008	1,044	1,117	1,120	1,164	1,257	1,236	1,214	1,160	1,221	1,183
	828	882	853	834	917	1,000	982	1,078	1,013	1,045	1,143	1,138	1,178	1,270	1,244	1,235	1,175	1,232
	786	897	904	852	840	920	1,008	991	1,083	1,015	1,069	1,161	1,151	1,191	1,278	1,265	1,250	1,186
	827	855	920	903	857	842	927	1,018	995	1,085	1,038	1,087	1,175	1,164	1,198	1,300	1,281	1,262
	847	897	877	919	909	860	849	936	1,022	997	1,110	1,055	1,099	1,188	1,171	1,218	1,316	1,293
	847	917	919	876	925	911	867	857	940	1,024	1,020	1,128	1,067	1,111	1,195	1,191	1,233	1,328
	909	917	940	918	882	928	919	875	861	942	1,047	1,036	1,141	1,079	1,118	1,215	1,206	1,245
	884	979	940	939	924	884	935	927	879	862	963	1,065	1,049	1,154	1,085	1,137	1,230	1,217
	951	954	1,003	939	945	927	892	944	932	880	882	979	1,077	1,060	1,161	1,104	1,151	1,242
	884	1,021	978	1,003	945	948	934	900	948	933	901	896	991	1,089	1,005	1,180	1,117	1,162
	974	954	1,046	977	1,009	948	955	943	904	950	954	915	907	1,001	1,095	1,084	1,195	1,128
	002	1,044	370	1,040	305	1,012	1 0 2 0	904	940	900	972	970	920	917	1,007	1,114	1,050	1,200
	902	1,055	1,070	1 060	1,052	300 1 055	1,020	1 020	909	949	920	900 041	902	950	922	1,024	1,120	1,100
	905	1,051	1,001	1,009	504 1.076	1,055	994 1 064	1,050	1 024	970	9/1	941	999	99Z 1 010	942	930 0E0	1,057	1,159
	072	375	1,078	1,001	1,070	300 1 070	1,004	1,004	1,054	371	002	307	000	1,010	1 016	950 1 015	950	1,047
	925	1,052	1 059	1,077	1,007	1,079	1 000	1,074	1,000	1,030	1 060	1,009	1 021	1 000	060	1,015	1 0 2 9	070
	004	992	1,058	1 057	1,004	1,070	1,000	1,004	1,079	1 091	1,000	1,009	1,021	1,009	1 015	0.055	1,028	1 029
	0/5	1 010	070	1,057	1,005	1,007	1,075	1,090	1 102	1,001	1,055	1,077	1,021	1,052	1,015	1 022	000	1,056
	945	1,010	1 026	977	1,004	1,007	1,090	1 106	1,105	1 105	1,105	1 1 2 4	1,050	1 102	1,038	1,055	1 0/6	1,050
	027	1,015	1,030	1 025	1,025	1,007	1,010	1,100	1 1 1 1	1,105	1,055	1,124	1 1 2 7	1,102	1,038	1,050	1,040	1,007
	937	1,011	1,040	1,055	504	1,020	1,070	1,025	1,111	1,090	1,150	1,050	1,157	1,074	1,109	1,050	1,009	1,050

F	F	F	F	
39	40	41	42	43
1,232	1,249	1,136	1,102	1,192
1,293	1,247	1,249	1,130	1,109
1,338	1,289	1,238	1,268	1,133
1,326	1,352	1,286	1,241	1,277
1,292	1,332	1,367	1,290	1,255
1,318	1, <mark>302</mark>	1,328	1,360	1,282
1,366	1,308	1,293	1,330	1,359
1,337	1,366	1,322	1,303	1,314
1,241	1,321	1,371	1,321	1,315
1,281	1,258	1,307	1,388	1,321
1,230	1,297	1,260	1,301	1,384
1,198	1,218	1,304	1,254	1,301
1,185	1,221	1,228	1,320	1,249
1,161	1,189	1,224	1,232	1,321
1,081	1,171	1,204	1,234	1,221
1,136	1,088	1,179	1,220	1,256
1,160	1,166	1,103	1,183	1,220
1,150	1,164	1,170	1,108	1,183
1,212	1,154	1,168	1,176	1,108
1,289	1,216	1,158	1,174	1,176
1,302	1,293	1,220	1,164	1,174
1,190	1,307	1,298	1,226	1,164
1,239	1,194	1,311	1,304	1,226
1,192	1,243	1,198	1,318	1,304
1,269	1,197	1,248	1,204	1,318
1,300	1,273	1,201	1,254	1,204
1,336	1,305	1,278	1,207	1,254
1,252	1,340	1,309	1,284	1,207
1,224	1,256	1,345	1,316	1,284
1,249	1,228	1,261	1,352	1,316
1,169	1,253	1,233	1,267	1,352
1,134	1,173	1,258	1,239	1,267
1,213	1,138	1,177	1,264	1,239
1,115	1,218	1,143	1,183	1,264
1,145	1,119	1,222	1,148	1,183
1,053	1,149	1,123	1,228	1,148
964	1,057	1,154	1,128	1,228
985	968	1,061	1,159	1,129
1,044	988	971	1,066	1,160
1,062	1,047	992	976	1,066
1,013	1,066	1,051	997	976

F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61
	1,139	1,118	1,043	1,003	1,027	1,041	1,009	1,060	1,169	1,283	1,425	1,102	1,033	998	<b>913</b>	837	735	777
	1,187	1,128	1,101	1,054	999	1,031	1,041	1,020	1,053	1,165	1,265	1,414	1,092	1,019	986	905	837	729
	1,116	1,190	1,126	1,100	1,051	994	1,034	1,023	1,017	1,033	1,168	1,253	1,403	1,086	995	974	887	831
	1,136	1,114	1,166	1,128	1,107	1,064	997	1,038	1,014	1,022	1,023	1,158	1,247	1,398	1,064	979	973	856
	1,283	1,131	1,091	1,149	1,128	1,119	1,052	990	1,043	1,015	1,012	1,003	1,157	1,234	1,385	1,049	972	961
	1,239	1,267	1,125	1,077	1,149	1,112	1,119	1,050	983	1,026	1,008	1,002	987	1,144	1,214	1,383	1,039	951
	1,281	1,242	1,268	1,127	1,081	1,145	1,102	1,105	1,049	979	1,021	993	1,010	981	1,142	1,209	1,370	1,022
	1,364	1,280	1,249	1,273	1,127	1,068	1,149	1,096	1,103	1,057	979	1,004	982	993	974	1,138	1,213	1,363
	1,303	1,376	1,278	1,263	1,260	1,120	1,073	1,158	1,090	1,107	1,057	980	1,000	982	997	968	1,141	1,219
	1,328	1,290	1,386	1,268	1,282	1,244	1,110	1,070	1,159	1,082	1,098	1,050	983	998	973	994	954	1,133
	1,322	1,317	1,290	1,378	1,258	1,276	1,235	1,105	1,068	1,163	1,083	1,099	1,047	972	981	961	997	944
	1,370	1,329	1,303	1,283	1,377	1,260	1,257	1,229	1,097	1,064	1,167	1,069	1,082	1,038	956	975	939	989
	1,289	1,371	1,318	1,319	1,286	1,362	1,250	1,241	1,222	1,096	1,057	1,162	1,053	1,073	1,030	959	960	928
	1,251	1,288	1,364	1,317	1,324	1,278	1,348	1,239	1,252	1,221	1,085	1,061	1,140	1,056	1,066	1,024	943	950
	1,329	1,247	1,307	1,353	1,314	1,342	1,255	1,328	1,253	1,250	1,205	1,063	1,059	1,140	1,036	1,059	1,027	933
	1,234	1,338	1,232	1,307	1,358	1,307	1,345	1,249	1,309	1,230	1,247	1,194	1,041	1,053	1,132	1,012	1,044	1,022
	1,257	1,239	1,327	1,244	1,299	1,374	1,305	1,332	1,231	1,303	1,230	1,239	1,181	1,041	1,025	1,118	1,000	1,029
	1,221	1,257	1,238	1,327	1,245	1,293	1,365	1,297	1,330	1,228	1,298	1,220	1,229	1,175	1,032	1,018	1,109	992
	1,183	1,221	1,256	1,238	1,328	1,239	1,285	1,356	1,295	1,327	1,223	1,288	1,211	1,223	1,164	1,025	1,010	1,100
	1,109	1,184	1,220	1,256	1,239	1,322	1,231	1,277	1,354	1,292	1,322	1,214	1,278	1,204	1,212	1,157	1,017	1,002
	1,176	1,109	1,183	1,220	1,257	1,234	1,314	1,224	1,275	1,352	1,287	1,312	1,205	1,271	1,194	1,204	1,148	1,009
	1,174	1,176	1,108	1,183	1,221	1,252	1,226	1,306	1,222	1,272	1,346	1,277	1,302	1,198	1,260	1,186	1,195	1,139
	1,165	1,175	1,176	1,108	1,184	1,216	1,244	1,218	1,304	1,219	1,267	1,336	1,267	1,295	1,188	1,252	1,177	1,186
	1,227	1,165	1,174	1,176	1,109	1,179	1,208	1,236	1,216	1,301	1,215	1,258	1,326	1,261	1,284	1,181	1,242	1,168
	1,305	1,227	1,164	1,174	1,177	1,105	1,171	1,200	1,234	1,214	1,296	1,206	1,248	1,319	1,250	1,276	1,172	1,233
	1,318	1,305	1,226	1,164	1,175	1,172	1,098	1,164	1,199	1,232	1,210	1,287	1,197	1,242	1,308	1,243	1,266	1,163
	1,205	1,319	1,304	1,227	1,166	1,170	1,164	1,091	1,163	1,197	1,228	1,200	1,277	1,190	1,232	1,300	1,233	1,257
	1,255	1,205	1,318	1,305	1,228	1,160	1,163	1,157	1,090	1,161	1,192	1,218	1,192	1,271	1,181	1,224	1,291	1,224
	1,207	1,255	1,204	1,318	1,306	1,223	1,153	1,156	1,156	1,088	1,156	1,183	1,209	1,186	1,260	1,174	1,215	1,281
	1,285	1,208	1,254	1,205	1,320	1,300	1,215	1,146	1,154	1,154	1,084	1,148	1,175	1,203	1,176	1,253	1,165	1,206
	1,317	1,285	1,207	1,255	1,206	1,314	1,292	1,208	1,145	1,152	1,150	1,076	1,139	1,169	1,194	1,169	1,244	1,157
	1,353	1,317	1,285	1,208	1,256	1,201	1,306	1,285	1,206	1,143	1,148	1,141	1,068	1,134	1,160	1,187	1,161	1,235
	1,268	1,353	1,316	1,285	1,209	1,251	1,194	1,298	1,283	1,204	1,139	1,140	1,133	1,063	1,125	1,153	1,178	1,153
	1,240	1,268	1,353	1,317	1,287	1,204	1,243	1,187	1,297	1,281	1,200	1,131	1,132	1,128	1,054	1,118	1,145	1,170
	1,265	1,240	1,268	1,353	1,318	1,281	1,196	1,236	1,185	1,295	1,277	1,192	1,123	1,126	1,119	1,048	1,111	1,137
	1,184	1,266	1,239	1,268	1,355	1,313	1,273	1,189	1,235	1,184	1,290	1,268	1,183	1,117	1,118	1,113	1,041	1,103
	1,149	1,184	1,265	1,240	1,270	1,349	1,305	1,266	1,188	1,233	1,180	1,281	1,259	1,178	1,109	1,111	1,105	1,034
	1,229	1,150	1,184	1,266	1,242	1,265	1,341	1,297	1,265	1,186	1,229	1,171	1,272	1,253	1,169	1,103	1,104	1,098
	1,129	1,230	1,149	1,184	1,267	1,237	1,257	1,333	1,296	1,263	1,183	1,220	1,163	1,267	1,243	1,162	1,095	1,096
	1,160	1,130	1,229	1,150	1,186	1,262	1,229	1,250	1,332	1,294	1,259	1,174	1,212	1,158	1,257	1,236	1,154	1,088
	1,067	1,161	1,129	1,230	1,151	1,181	1,254	1,222	1,249	1,330	1,290	1,250	1,166	1,206	1,149	1,250	1,228	1,147

	F	F	F	F
62	63	64	65	66
770	777	745	752	706
768	760	762	738	745
718	756	760	757	733
821	715	754	752	752
855	819	700	745	740
954	849	812	684	736
935	946	837	807	673
1,015	915	939	825	790
1,377	1,014	906	927	818
1,214	1,376	1,003	885	918
1,127	1,205	1,370	1,000	879
931	1,117	1,193	1,367	980
994	924	1,102	1,175	1,361
934	999	923	1,068	1,163
934	919	999	897	1,064
929	935	907	985	884
1,004	917	921	904	982
1,024	998	909	907	894
988	1,018	989	896	897
1,096	982	1,010	975	886
998	1,089	974	995	964
1,005	992	1,080	960	984
1,134	999	984	1,065	949
1,181	1,128	991	970	1,053
1,164	1,174	1,119	977	960
1,228	1,157	1,165	1,103	967
1,159	1,221	1,148	1,149	1,092
1,252	1,152	1,212	1,132	1,137
1,220	1,245	1,144	1,196	1,121
1,277	1,213	1,236	1,128	1,183
1,202	1,270	1,204	1,219	1,116
1,153	1,196	1,261	1,188	1,207
1,231	1,147	1,187	1,244	1,176
1,149	1,224	1,139	1,171	1,231
1,166	1,143	1,216	1,124	1,160
1,133	1,160	1,135	1,200	1,113
1,100	1,128	1,153	1,120	1,188
1,031	1,094	1,120	1,138	1,110
1,094	1,026	1,087	1,106	1,127
1,093	1,089	1,019	1,073	1,095
1,085	1,088	1,082	1,006	1,063

F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
	655	608	645	675	681	614	591	545	552	569	535	499	508	522	525	370	316	301
	697	650	604	642	676	667	606	581	538	537	560	517	477	487	498	504	348	293
	749	691	645	586	634	671	664	601	575	527	521	549	498	462	459	476	472	328
	730	742	<b>692</b>	630	579	633	662	656	579	563	503	507	529	489	438	436	433	441
	746	725	734	679	622	569	615	653	641	563	548	492	490	498	473	414	402	406
	715	722	719	719	661	612	556	601	634	609	547	524	471	465	472	462	396	387
	725	715	721	719	706	644	605	545	589	620	596	525	515	470	450	451	433	374
	671	719	710	712	705	696	631	595	534	582	610	574	514	496	450	433	444	408
	779	661	706	699	707	69 <b>3</b>	695	621	583	525	561	593	558	498	480	432	416	420
	813	764	656	691	700	700	680	680	616	570	511	544	584	533	480	467	419	397
	905	820	759	651	693	695	696	679	668	604	567	495	531	564	509	464	437	393
	868	900	815	743	653	690	<b>692</b>	<b>693</b>	663	658	596	561	481	518	549	494	457	408
	978	878	895	795	742	647	680	676	673	660	641	576	553	472	517	523	479	428
1	1,345	958	868	884	790	749	632	669	664	655	661	629	578	535	460	501	503	450
1	1,155	1,350	964	866	881	773	741	625	655	658	635	646	604	554	520	434	476	471
:	1,044	1,137	1,328	960	854	878	768	723	605	638	639	622	635	583	530	503	405	451
	889	1,028	1,129	1,312	962	850	865	747	711	604	623	626	602	599	591	499	477	383
	972	884	1,021	1,116	1,304	952	840	852	732	699	592	606	614	584	581	569	479	450
	885	966	878	1,009	1,109	1,292	942	828	835	720	686	577	595	596	567	560	547	452
	888	880	960	868	1,003	1,099	1,277	928	812	821	706	668	566	578	579	547	538	517
	877	883	874	949	863	994	1,087	1,259	910	799	806	688	656	550	561	558	526	509
	955	873	878	864	944	855	983	1,072	1,235	896	784	786	676	638	535	542	538	498
	975	950	867	868	860	935	846	970	1,051	1,216	879	764	772	657	620	516	522	509
	940	970	944	857	863	852	926	834	951	1,035	1,194	858	751	751	639	599	498	495
:	1,043	935	964	933	853	856	844	913	819	937	1,017	1,165	844	732	731	618	578	472
	951	1,038	930	953	929	846	848	832	897	807	921	993	1,146	822	712	708	597	549
	958	946	1,032	920	949	921	838	837	817	884	793	899	977	1,117	801	690	684	567
:	1,082	953	941	1,021	916	941	913	827	822	806	869	775	885	953	1,089	776	667	650
:	1,127	1,077	948	931	1,017	909	933	901	813	810	793	849	763	864	929	1,056	750	635
:	1,111	1,122	1,071	938	927	1,009	900	921	886	802	797	775	837	745	843	901	1,022	715
:	1,173	1,106	1,115	1,060	935	920	1,000	890	905	874	789	780	764	817	727	818	873	974
:	1,107	1,168	1,100	1,104	1,056	928	912	988	874	893	860	772	769	746	798	706	793	833
:	1,197	1,102	1,162	1,089	1,100	1,048	920	902	972	863	880	842	761	751	729	776	685	757
:	1,166	1,192	1,096	1,151	1,085	1,093	1,040	909	887	960	851	861	831	745	735	709	753	655
:	1,221	1,162	1,186	1,086	1,147	1,078	1,084	1,028	895	876	946	833	850	813	728	715	689	720
1	1,150	1,216	1,156	1,175	1,083	1,139	1,070	1,072	1,012	884	864	926	823	832	796	709	695	659
	1,104	1,146	1,211	1,145	1,171	1,076	1,131	1,058	1,055	1,000	872	846	915	806	815	775	690	665
	1,179	1,100	1,141	1,200	1,142	1,164	1,068	1,119	1,042	1,043	986	855	836	897	789	794	754	661
	1,101	1,175	1,095	1,130	1,196	1,135	1,156	1,057	1,101	1,030	1,029	967	845	820	879	770	774	723
	1,118	1,097	1,169	1,085	1,128	1,189	1,127	1,144	1,041	1,090	1,017	1,010	957	829	804	858	750	743
:	1,087	1,114	1,092	1,159	1,082	1,121	1,181	1,116	1,127	1,030	1,076	998	999	938	813	785	837	721

F	F	F	F	
85	86	87	88	89
303	297	250	235	219
282	279	272	213	203
262	250	247	242	189
307	237	227	225	213
416	295	207	195	192
383	382	275	184	173
360	352	349	248	157
349	327	321	300	231
392	324	283	297	263
390	360	316	246	262
388	357	329	293	234
368	351	326	303	247
375	341	323	291	257
404	352	320	295	264
413	377	327	278	261
437	380	347	304	245
425	407	331	316	275
360	392	375	299	281
423	332	362	340	266
426	391	307	328	303
487	394	362	279	293
480	451	365	329	249
470	445	419	332	295
481	436	414	381	298
468	447	406	377	342
447	436	416	370	339
520	416	406	381	334
538	485	389	372	343
617	502	453	356	336
603	576	470	416	322
679	564	540	432	377
927	636	529	497	392
793	869	597	487	452
721	744	816	551	443
624	678	700	754	502
687	587	638	648	689
630	647	554	592	592
636	593	611	514	542
633	600	561	567	471
693	598	568	522	521
712	655	566	529	480

F	Births	Deaths	Net	Total	Natural
90+			Migration	Population	Change
674	1			157,269	
722	2 1,615	1,269	1,071	158,686	<b>346</b>
757	7 1,746	1,239	1,167	160,360	507
742	2 1,821	1,287	1,611	162,505	<b>534</b>
753	<mark>3 1,770</mark>	1,297	592	163 <i>,</i> 570	473
738	3 <mark>1,885</mark>	1,147	-429	163,879	738
769	) 1,768	1,209	-57	164,381	<b>559</b>
739	) 1,971	1,214	-91	165,047	757
774	<mark>1,908 1</mark>	1,226	479	166,208	<mark>682</mark>
867	7 1,940	1,245	538	167,441	695 <b>6</b> 95
919	) 1,945	1,319	424	168,491	<mark>626</mark>
968	3 <mark>2,030</mark>	1,366	224	169,379	<mark>664</mark>
1,003	<mark>3 1,905</mark>	1,403	430	170,311	502
1,062	2 1,923	1,266	622	171,590	657
1,070	) 1,928	1,468	669	172,719	<b>460</b>
<b>1,07</b> 1	l 1,927	1,420	971	174,197	507
1,057	7 2,016	1,504	1,485	176,194	512
1,098	3 2,032	1,522	505	177,209	510
1,138	3 2,023	1,534	487	178,184	489
1,161	L 2,014	1,561	505	179,142	452
1,213	3 2,002	1,573	498	180,069	428
1,250	) 1,990	1,589	480	180,950	401
1,247	7 1,979	1,597	472	181,804	382
1,285	5 1,967	1,614	459	182,616	353
1,321	l 1,953	1,629	429	183,369	324
<b>1,39</b> 1	l 1,939	1,646	442	184,104	293
1,450	) 1,925	1,665	417	184,781	260
1,497	7 1,911	1,683	421	185,430	228
1,548	3 1,899	1,705	405	186,029	194
1,587	7 1,889	1,724	406	186,600	165
1,612	2 1,884	1,749	407	187,142	135
1,682	2 1,882	1,776	435	187,682	106
1,756	5 1,884	1,799	432	188,198	85
1,874	1,889	1,822	436	188,701	67
1,970	) 1,898	1,846	435	189,187	52
2,106	5 1,910	1,873	428	189,652	37
2,385	5 1,924	1,897	430	190,109	27
2,545	5 1,941	1,916	441	190,575	25
2,644	1,960	1,931	468	191,072	29
2,672	2 1,981	1,936	484	191,601	45
2,745	5 1,999	1,951	508	192,158	48

19,798

### Appendix C – Mid Sussex District Plan Inspectors Letter

### MID SUSSEX DISTRICT PLAN EXAMINATION

Inspector: Jonathan Bore, MRTPI	Progra	mme Officer: Pauline Butcher c/o
260 Collingwood Road		
Sutton	Tel:	07823 494353
Surrey, SM1 2NX	Email:	ldfprogrammeofficer@tiscali.co.uk

Chris Tunnell Acting Head of Planning Mid Sussex District Council Oaklands Road Haywards Heath West Sussex RH16 1SS 20 February 2017

Dear Mr Tunnell,

Mid Sussex District Plan 2014-2031 Housing requirement

As promised, I am writing to set out my interim conclusions on the housing requirement for Mid Sussex for the period 2014-2031. This and its various components have been covered in considerable detail through written evidence from the Council, the Developers' Forum and a range of individual parties, and have been the subject of discussion at the hearings held on 29 and 30 November 2016, 1 and 9 December 2016, 12 and 13 January 2017 and 8 February 2017.

I should like to thank the Council and, through this letter, all the participants, for their helpful and well-researched contributions to the hearings. I should also like to take the opportunity to record the considerable degree of local interest throughout the proceedings.

I have based my comments in this letter on the "Mid Sussex District Plan 2014-2031, Submission Version", which is Document BP1 and is dated August 2016. This version (with the exception of Policy DP29: Affordable Housing) represents the Council's latest position on the emerging plan, moving on from the original Pre-Submission Plan (Document BP2) and the Focused Amendments (Document BP3). Both BP2 and BP3 have been subject to consultation but BP1 contains some further amendments that the Council would like to make, which have not yet been consulted upon. The housing requirement and its various components, together with the key documents that underpin them, have evolved during the various stages leading up to the submission of Document BP1. They are in the Examination Library on the Council's website, and it is not necessary to list them here. The Council's proposed housing requirement for the plan period of 2014 to 2031, as set out in Policy DP5 of BP1, is for 13,600 dwellings, at an average rate of 800 dwellings per annum (dpa). The figure of 800 dpa can be broken down into a starting point of 714 dpa derived from the 2014 household projections, an allowance of 16 dpa for vacancy rates, giving a base objectively assessed need (OAN) of 730 dpa, and a market signals uplift of 24 dpa, giving a full objectively assessed need of 754 dpa. The remainder, 46 dpa, is available to meet unmet need in neighbouring authorities.

# Issues

The main issues raised in relation to the housing requirement during the Examination are as follows.

- The calculation of the full objectively assessed need (the OAN) for housing, with particular regard to market signals uplift, the need for affordable housing and employment projections.
- The degree to which the housing requirement should make an allowance for the unmet needs of nearby authorities, with particular regard to Crawley, Brighton and Hove and the other coastal towns.
- The extent to which environmental, infrastructure and practical delivery constraints should affect the housing requirement.

# Calculating the Full Objectively Assessed Need for Housing

# Household projections

The 2014 DCLG household projections, released in July 2016, provide a starting point of 714 dwellings per annum (dpa) for the plan period on which the OAN calculation can be based. Applying a vacancy rate leads to a basic OAN figure of 730dpa. This is a generally accepted figure and is soundly based.

# Market signals uplift

In response to market signals, the Council has applied a 24 dpa uplift to the figure of 730 dpa, leading to the conclusion that the full OAN in Mid Sussex is 754 dpa. This uplift is based on an analysis which shows that an average of 24 fewer households were formed per year between 2008 and 2012 within the age group 20-34, suggesting the suppression of household formation during the recession (Housing and Economic Development Needs Assessment (HEDNA) Update, Nov 2015, EP21).

This approach is said by the Council to be similar to analysis found sound at Horsham, Crawley, Chichester and Arun. I consider that Horsham and Crawley are the closest comparators, being in the same HMA (the Northern West Sussex Housing Market Area) as Mid Sussex. The Council's approach to the OAN uplift is understandable given that the same calculation has been used elsewhere in the HMA. But circumstances in Mid Sussex are rather different now from when the examinations into the local plans for Horsham and Crawley took place and there are strong reasons why a different approach should now be taken.

The Horsham District Planning Framework and the Crawley Borough Local Plan were both adopted in late 2015, but the Examination hearings took place between 19 and 26 months ago, and the approaches towards market signals in both cases were clearly influenced by evidence derived from the recessionary and immediate post-recessionary periods. The Horsham Inspector's report referred to falls in house prices and flat indicators thereafter (para 36) and the Crawley Inspector's report to refers to improved affordability and a fall in the proportion of households unable to buy without assistance (para 23).

However, time has passed since the recession. House prices have resumed an upward trend (NLP submission, Appx 8) and affordability has markedly worsened. In Mid Sussex, the housing affordability ratio (the ratio of lower quartile house prices to lower quartile earnings), after a fairly modest deterioration from 9.76 in 2009 to 10.1 in 2013 (MSDC2, 2.26), sharply deteriorated to 12.6 in 2015 (DCLG, published July 2016). These are the most recent circumstances and they require a new approach from that taken at Horsham and Crawley. The figures cannot be regarded as a cyclical spike: it is worth noting that in 1997 the affordability ratio stood at 4, and in 2000, 6.91. There will always be short term fluctuations in the housing market (such as the current slackening off), but the long term trend is plain. Based on the latest affordability ratio, Mid Sussex is the 22<sup>nd</sup> least affordable local authority in England outside London.

Since the affordability ratio is based on the relationship between lower quartile earnings and prices, it is not sufficient to explain the deterioration by suggesting that it simply reflects the desirable nature of the locality and the local housing market profile: there are very clear market signals in terms of a serious and growing affordability problem for those in the lower quartile income bracket.

The Council places much reliance on the relative position of Mid Sussex vis- à-vis other districts in the HMA and in Sussex. It believes that if house price trends and related signals in Mid Sussex are broadly aligned with those in nearby authorities, which by and large they are, it should not be necessary to make a significant uplift to its OAN to reflect market signals. The flaw with this is that if each authority simply had regard to similar trends in neighbouring authorities, and each plan were to replicate the OAN approach of its neighbours, the cycle would be perpetuated and there would be no adequate response to continually worsening affordability.

Such an approach fails to take into account Planning Policy Guidance (the PPG). The PPG indicates that comparisons should be made with longer term trends, both in absolute levels and in rates of change; similar demographic and economic areas; and nationally. The more significant the affordability constraints, as reflected in rising prices and rents, and worsening affordability ratio, the larger the improvement in affordability needed and the larger the additional supply response should be. Planned supply should be increased by an amount that, on reasonable assumptions and consistent with the principles of sustainable development, could be expected to improve affordability.

It is necessary to look at absolute as well as relative conditions, and take a wider view as well as a local view. In the case of Mid Sussex both the long term affordability trend and the recent sharp deterioration point to the necessity for effective action to increase planned supply to improve affordability.
The Council said in the HEDNA Update of November 2015 (EP21, 5.23) that the proposed 24 dpa uplift "could be expected to improve affordability and assist with this age group". However, there is no evidence that the 24dpa uplift would improve affordability either generally, or for the 20-34 age group on which the uplift is targeted, and indeed the Council has more recently asserted that there is little evidence to suggest that even a significant uplift would improve affordability (MSDC1 and MSDC4). The affordability modelling by NLP (ED8) suggests that with a 24 dpa uplift, the affordability ratio would continue to deteriorate to between 13.59 and 14 by the end of the plan period.

The Council suggests that, instead of a further increase in housing provision, it might consider a "targeted approach" whereby it would increase the proportion of affordable housing on its housing sites, perhaps to 40%. I make no comment here on the viability or deliverability aspects of that idea. However, as a general observation, such an approach would not be an adequate means of addressing market housing affordability since it would only deal with a minority part of overall housing need, would accept as inevitable the continuing deterioration in the affordability of market housing, and (all other things being equal) would reduce the amount of new market housing that could be delivered.

In MSDC4 the Council highlights what it sees as the risks in applying a higher market signals uplift than 24 dpa. It considers that an authority such as Mid Sussex cannot improve affordability by itself, and that any proportionately greater stock growth in Mid Sussex compared with other authorities would simply be filled through in-migration, resulting in an inelastic price response to increased supply. However, these concerns are founded on the assumption that, if Mid Sussex were to make a substantial market signals uplift, it would be acting in isolation. That overlooks the fact that it is government policy to boost housing supply through the plan-led system, which will result in the raising of the housing requirement by other planning authorities. Looking beyond Horsham and Chichester, there is evidence of action being taken across a broad range of authorities in response to worsening affordability, with market signals uplifts, mostly of 10% to 20%.

For all the above reasons I do not consider the submitted plan to be sound. A significant uplift should be made to the OAN in response to market signals, to the point where it could be expected to improve affordability, in accordance with government policy. The Developers' Forum has put forward a number of approaches to assess the degree of uplift that should be applied to the base OAN (ED8, NLP, 7 December 2016). Of these, I consider that the approach with the greatest value is that based on the OBR house price forecast and University of Reading model updated to account for the OBR's November 2016 economic outlook. The Forum's calculations suggest that 918 dpa would be required to hold the affordability ratio constant until 2021, all other things being equal, including all housing needs being met in neighbouring areas. The separate sensitivity exercise by the Council, based on the same model but using some localised inputs from the Oxford Economics forecasts, suggests that a housing provision of 854 dpa would improve affordability. I acknowledge the Council's criticisms of the model but it is the best analysis available in the circumstances; the range it points to, 854 dpa to 918 dpa, has a sense of realism about it; and it correlates reasonably well with other forecasts and with a comparative analysis of other authorities (see below).

Before concluding on the OAN, I will turn to two connected points, affordable housing provision as a component of the OAN, and the relation with economic growth.

## Affordable housing and the OAN

The local plan should meet the full objectively assessed need for both market and affordable housing, as far as consistent with the policies in the Framework. The Statement of Common Ground of 7 February 2017 (Appendix A) indicates that affordable housing need (based on a 15 year period) would be 258 dpa in respect of reasonable preference groups and 331 for the total waiting list. Taking into account housing commitments, net need plus committed housing would result in a need for a range of 1,120 dpa to 1,363 dpa at an affordable housing rate of 30%. These figures again point towards a higher OAN than indicated in the submitted plan. However, they are much higher than the realistic figures suggested by household projections and market signals uplift, and there is doubt as to whether such amounts could be delivered. An OAN of between 854 dpa and 918 dpa referred to above would allow a substantial proportion of the affordable housing need to be met.

## Economic forecasting and the OAN

On the subject of projected jobs growth, there are considerable differences in estimates (ED8 Appendix 3) and figures as high as 687 jobs per annum have been put forward. It is nonetheless agreed between the Council and the Developers' Forum, based on PPG guidance, that the range of job growth to be considered for the purposes of establishing OAN should be 424-514 jobs per annum. The Council states that their proposed housing requirement of 800 dpa would provide 420 jobs per year (MSDC3, Appx D,para 10). A range of scenarios using the 424-514 range are tested in Appendix B of ED8 based on work carried out by Barton Willmore using the PopGroup demographic model employed by the Council. These translate to a range of 862 dpa to 945 dpa. These figures again point to a higher OAN than that referred to in the plan and broadly lend support to the range 854 dpa to 918 dpa derived from the affordability analysis.

#### Conclusion on the OAN

Having regard to all the evidence I consider that conditions justify a significant uplift in Mid Sussex in response to market signals. The affordability analysis indicates that the OAN is in the range 854 dpa to 918 dpa with the analyses of employment growth and affordable housing suggesting figures in the upper part of the range. A comparative analysis (ED8 Appendix 3) demonstrates that a number of other authorities have responded to affordability issues with uplifts of 10% to 20%, and in one exceptional case, 30%. 10% would give just over 800 dpa which, in the light of all the evidence, is not sufficient. 25%, as suggested by the Developers' Forum, would broadly coincide with the top of the range but would be a higher percentage than most of the market signals adjustments in other authorities and would not fit well with the comparative evidence of affordability. An uplift of 20% from the basic OAN figure of 730 dpa would give 876 dpa. From all the material that has been submitted this figure is in my view the most well-founded and most realistic, being compatible with the greatest part of the evidence base. Evidence indicates that it would counter worsening affordability and would accommodate most of the affordable housing need for reasonable preference groups. It would also align with the range of employment forecasts, and whilst recognising that each authority is different, it would be comparable with the range of market signals uplifts accommodated by many other local authorities in broadly similar circumstances.

Having regard to all the evidence I consider that the full objectively assessed need for housing is 876 dpa, an uplift of 146 dpa (20%) over the base OAN figure of 730 dpa and 122 dpa over the Council's currently suggested full OAN.

So far I have dealt with the calculation of the objectively assessed need for housing, which paragraph ID: 2a-004 of the PPG makes clear should be based on facts and unbiased evidence and should not be subject to the application of constraints. The OAN does not include either an assessment of environmental or infrastructure constraints or an allowance for meeting the unmet needs of other authorities. I shall come on to the issue of unmet need next.

Unmet housing need in other districts

## Crawley

Paragraph 47 of the Framework indicates that the full OAN should be met in the housing market area, subject to consistency with other Framework policies. Crawley, like Mid Sussex, is in the Northern West Sussex Housing Market Area and is unable to meet its housing need within its boundaries. Written into its plan is an obligation to work closely with neighbouring authorities to explore all opportunities for meeting its need in sustainable locations. Its shortfall is in the region of 335 dpa, of which 150 dpa is being taken by Horsham, leaving a residual unmet need of 185 dpa.

The proposed Mid Sussex housing requirement of 800 dpa would leave only 46 dpa to meet this need. Given the position of Mid Sussex immediately adjacent to Crawley, and within the same HMA, this aspect of the plan is not sound. Mid Sussex is the only authority other than Horsham that can make a significant contribution towards accommodating Crawley's unmet housing need. Opportunities in other authorities are very limited. It is reasonable for perhaps 35 dpa to be catered for elsewhere. The Mid Sussex District Plan should therefore include a contribution of 150 dpa, the same as that of Horsham, to meet this need.

## Coastal West Sussex

The Coastal West Sussex Housing Market Area overlaps with the southern part of Mid Sussex District and is relevant to plan preparation in the District. Brighton and Hove's total housing need amounts to 30,120 of which the agreed plan target is 13,200, leaving a shortfall of 16,920 or 56% of the total. There are also large amounts of unmet housing need in other authorities including Adur and Lewes. However, the coast has different characteristics and patterns of migration, and any plan to satisfy this level of need will require input from a number of local authorities and necessitate a sub-regional approach of the kind referred to in paragraph 179 of the National Planning Policy Framework. Several local authorities, including Mid Sussex, are collaborating on a study, but it is in its early stages and there is not enough evidence available now to ascertain the proportion of this unmet need that ought to be accommodated in Mid Sussex.

It follows that there is no strong basis at the present time to make a numerical addition to the housing requirement of the Mid Sussex District Plan to address this need. But the cross-boundary study should be progressed as quickly as possible to bring an end to the uncertainty over how the unmet need is to be provided for. The District Plan should make a commitment that the Council will co-operate with Brighton and Hove and the relevant authorities in the Coastal West Sussex HMA to bring forward the study within a short

space of time, and that it will be taken into account in the next review of the District Plan. A commitment to a plan review in two years' time, advocated by some at the hearings, is too onerous given the scale of the task, but a review is unlikely to be more than 5 years away.

Meanwhile the Council should consider whether the matter should have some influence over the pattern of smaller site allocations either in the present plan or in the subsequent site allocations plan.

## Elsewhere

There is unmet housing need in Surrey authorities including Tandridge, but the first priority should be the unmet need in the same HMA as Mid Sussex. London has also been mentioned, but the issues are on a very much larger scale. Attempting to address elements of London's unmet need outside the Greater London area would involve multi-authority regional-level policy decisions. It would not be appropriate to include an explicit additional allowance for unmet need from London within this plan.

## Sustainability and developability

## Development constraints - the general picture

The Council states that the proposed housing requirement of 800 dpa is the point above which the advantages of additional housing provision are significantly outweighed by the disadvantages. The Sustainability Appraisal (SA) (BP5) concluded that higher level provision would be likely to have severe negative impacts on environmental sustainability objectives. The evidence base includes the key LUC reports "Capacity of Mid Sussex to Accommodate Development" (EP47) and "Sustainability Appraisal of Cross Boundary Options". The District has a number of nationally important designations, including the South Downs National Park, the High Weald Area of Outstanding Natural Beauty (AONB) and various heritage designations, and is within the zone of influence of Ashdown Forest, which is a Special Protection Area (SPA), and much of the remainder of the District is rural.

The LUC reports also highlight heritage, environmental, biodiversity and other constraints, access to services and the capacity of the landscape to accommodate development. The highways network is under pressure in some places, notably East Grinstead.

The SA and the Strategic Site Selection Paper (EP23) assessed a number of strategic site options using a threshold of about 500 dwellings for a strategic site and rejected all but three contenders. The conclusion was that there were no options for allocating a further strategic site at this stage. As for smaller sites, 182 were found suitable, available and achievable in the Strategic Housing Land Availability Assessment (SHLAA), with a potential yield of 11,988 dwellings, and the Council argues that to meet 800 dpa every one of these sites will be required, and perhaps more, to ensure the 5 year housing supply is robust. To meet a higher requirement would require re-visiting sites that have been rejected.

I recognise the difficulties inherent in the precise definition of strategic sites, and will come back to the point later. The problem with the Council's approach is that the SA and SHLAA do not in themselves provide an adequate basis for supporting the Council's conclusion regarding the setting of the housing requirement at 800 dpa, and indeed there is a degree of circularity about the Council's argument.

## Limitations of the Sustainability Appraisal

Dealing first with the SA, this study makes generalised and in some cases questionable assumptions about the connection between levels of housing provision, benefits and impacts. Any reasonable consideration of the relevant analysis in the SA (paragraph 7.84 on) bears this out. For example, in the appraisal, the benefits arising from the provision of a decent and affordable home do not increase for options above 800 dpa, whereas more weight should be given to higher levels of provision if there is greater housing need. There are also a number of unjustified conclusions for a housing requirement above 800 dpa in respect of access to education and health, the creation of cohesive, safe and crime resistant communities, and flood risk.

## The SHLAA

The SHLAA rejects a number of sites on the basis of availability, transport access, sewerage, landscape capacity, heritage assets, ancient woodland and so on. These are important issues but what the analysis does not do is to consider the extent to which they might be resolved or mitigated through highways and footway improvements, sewerage infrastructure, selective development of parts of sites, the incorporation of green buffers and other measures. In some cases the absence of evidence counts against a site without any further assessment. Moreover, more consideration should have been given to the potential for new freestanding developments as opposed to settlement extensions. I have no doubt from the site exercise carried out for the hearing on 8 February that there are sites rejected through the SHLAA process which, through their characteristics or location, might remain unacceptable. But other representors have given examples where relatively minor infrastructure or mitigation measures, different site boundaries or developable areas, might enable sites to come forward, and have cited other examples where identified constraints in the SHLAA have not proved obstacles to the subsequent allocation of sites, or to the grant of planning permission.

There are some constraints in certain localities, such as sewerage and highway capacity, which may be partially dependent on the programmes of other bodies to resolve. But housing provision is a government priority and should be reflected in the programmes of other public bodies. It is also the case that both site-related development contributions and CIL will assist in future in addressing such constraints.

## Site and land identification

On the question of site identification and availability, Document MSDC5 suggests that to meet a requirement of 900 dpa, 12 sites totalling more than 300 units would be likely to be required in the AONB. But like the SA and the SHLAA, it only takes the analysis so far; it does not take into account policy choices that might be made to redirect development away from sensitive areas or practical action that might mitigate its effects. It falls well short of demonstrating that harm would be caused to the AONB or other important designations through a higher housing requirement.

Large areas of the District are not covered by national designations. The LUC study EP47 which suggests that much of the District outside the national designations has "low landscape capacity for development" does not recognise that the scale of development required to meet housing needs will inevitably result in some

landscape impact, and that such impacts are capable of a degree of mitigation. None of this evidence demonstrates that significant and demonstrable harm would arise from housing provision above 800 dpa.

In respect of site availability, the Council places a lot of weight on whether a site is actually being promoted by developers or landowners now, but the Framework only indicates that there should be a reasonable prospect of availability, which is a different thing, and allows for judgement and discretion in the identification of potential future land. It is important to recognise that the District Plan has a further 14 years to run and if the Council is unable to identify every particular site, paragraph 47 of the Framework leaves the option open to set broad locations and set a housing figure without having to be specific on all sites.

## Setting the housing requirement

I consider that both the full OAN of 876 dpa and 150 dpa of Crawley's unmet need can and should be accommodated in the District Plan, and that this can be achieved sustainably without conflicting with policies in the Framework. The evidence also demonstrates that the market can sustain such figures.

That leads to a minimum housing requirement for the plan period of 1,026 dpa, or 17,442 dwellings over the 17 year life of the plan.

## The way forward

Further work will be required to identify sites or broad areas of land for potential development. At the hearings the Council expressed a strong preference for undertaking this work now. In conjunction with other public bodies and the development industry, there needs to be a positive and pro- active re-assessment of known sites and the identification of potential areas of growth. The self-imposed threshold for strategic sites should be lowered significantly from the current 500 dwellings. This will not only help with the identification of sites, it will enable a range of sites of different sizes to come forward at different times, and will limit exposure to delivery issues that can arise from the identification of only two or three very large sites, a subject which is particularly relevant to 5 year housing land supply. For the same reasons, as well as identifying strategic sites, the Council is strongly advised

to bring the Site Allocations Plan forward to an earlier date – although that might not be so important if the strategic sites threshold is dropped substantially and a range of sites and locations is identified now.

As part of this work, the spatial strategy should be clarified by establishing the approximate number of dwellings expected in each settlement or groups of settlements. The District Plan is a strategic plan and should contain this information. As submitted it is not sound because it provides inadequate guidance to neighbourhood plans and to the future Site Allocations Plan on the amounts of housing development they should aim to accommodate. Up to now, neighbourhood plans have been produced without sufficient guidance of this sort and indeed without the knowledge of the OAN and housing requirement. Future plans, both neighbourhood plans and the Site Allocations Plan, must take account of both the housing requirement and the numbers of new homes expected in each settlement otherwise they could well be at variance with the District Plan's spatial strategy and be unsound themselves. The District Plan must state that all future rounds of planning at the level below the District Plan must take into account the District Plan's spatial strategy and be unsound themselves.

The 5 year housing land supply will need to be calculated against the minimum housing requirement of 1,026 dpa once the site and land identification process has been undertaken. The methodology and trajectory can be discussed again at that time.

I shall look forward to seeing you at the hearing on 28 February to discuss selected topics that we have not already covered. We are then due to meet at a further hearing on 3 March to discuss the implications of this letter for future work. However, I will not enter into discussion on this letter's conclusions at either of the forthcoming hearings. Housing matters have been thoroughly researched and discussed and I do not consider that the outcome of either of these hearings will affect my interim findings on the housing requirement to any significant degree. The purpose of the hearing on 3 March is to talk about the further work programme and timescale required to make the plan sound, and to that end I invite you to send to me relevant headings for that discussion once you have considered the contents of this letter.

On receipt of this letter, the Council should immediately make it available to all interested parties by adding it to the Examination website.

Yours sincerely,

Jonathan Bore

INSPECTOR

Appendix D – Experian Longevity Note

# Comparison between Experian and OBR Participation Rate Projections

by Callum Cartwright & Sunil Joshi



We compare the methodologies used by the Office for Budget Responsibility and Experian in deriving participation rate projections, and assess the results.

## Introduction

As part of their January 2017 Fiscal Sustainability Report (FSR), the Office for Budget Responsibility (OBR) published updated participation rate projections to 2066 by gender and five-year age band. As in 2015, following the release of the previous FSR, we will compare and evaluate the latest OBR projections with our own, with particular focus on what has changed since 2015.

- We will compare Experian's most recent projections with those of the OBR;
- We will explain Experian's projections; and
- We will offer an assessment of OBR's projections.

## Comparison

Firstly, Experian's projections have a different purpose to those in the FSR. The purpose of the FSR paper is to "...assess the long-term sustainability of the public finances". Experian's projections are intended to produce a realistic forecast for the labour market in order to drive our macro, regional and local forecasts.

Secondly, Experian's horizon reaches out to 2040<sup>(1)</sup> whereas the FSR projects as far as 2066.

In Appendix A, we set out Experian and the FSR's projections of activity rates for people aged 16-64 and 65+, as well as the overall participation rate for the population aged 16+.

Experian's projection for participation rates for those aged 16-64 reaches 80.3% by 2037, compared with the FSR projection of 78.6% by 2037. Meanwhile, for those aged 65+, the FSR forecast reaches 14.1% and Experian's rises to 17.7% by 2037. When comparing the latest FSR projections with the previous edition, the forecasted participation rate for those aged 16-64 is now two percentage points higher by the end of the forecast period. Over the same period, Experian projections have generally remained stable relative to the previous set of forecasts, with an increase of less than one percentage point from old to new. In addition, the FSR projections

<sup>(1)</sup> The initial forecasts contained in this report reach out to 2037, but it has been deemed necessary to extend this to 2040 in some cases.for those aged 65+ plus have changed from 13.7% for 2035 previously to 14.1% for 2037, with Experian's projections similarly shifting from 16.7% for 2035 previously to 17.7% for 2037. The main cause of this increase in the case of our own forecasts is our incorporation of the recently announced State Pension age increase to 68 between 2037 and 2039, as outlined in Appendix B below.

	Previous forecast en	d points (2035)	Latest forecast end points (2037)		
Age Band	OBR	Experian	OBR	Experian	
16-64	76.5%	79.6%	78.6%	80.3%	
65+	13.7%	16.7%	14.1%	17.7%	
16+	58.3%	61.4%	59.7%	62.0%	

Source: Experian, OBR

Both Experian and the FSR's 16+ participation rates decline throughout the forecast due to the aging of the population. The FSR projections fall more sharply than Experian's, due mostly to the different 16-64 participation rates. Experian's projection declines to 62% in 2037, while the FSR's falls to 59.7%.

In each case, the OBR's projections have shifted towards our own throughout the forecast period.

# **Experian's Projections**

The full rationale for Experian's projections is set out in Appendix B below, which takes into account the 2014 national population projections and more recent data on participation rates by age and gender.

In summary, Experian projects forward activity rates for each age and gender group taking into account:

- Announced changes to public policy (in particular the change in State Pension Age(SPA));
- Expected changes in the participation of females in older age groups as evidenced by today's participation rates of younger cohorts (who will age into those older groups);
- Expected changes in behaviour connected with improved longevity and health; changes to patterns of work (allowing older people to continue working under more flexible arrangements); and changes in the industrial composition of the economy (especially the shift to services.)

These activity rates are applied to the population projections to produce activity rates for the 16-64, 65+ and 16+ age groups. The full breakdown by age and gender is set out in the note.

# Assessment of the OBR's approach

The model used in the FSR is based on a cohort approach. The key distinction between this and Experian's approach is that Experian's starting point for the behaviour of an age-gender group is the behaviour of the same group today. FSR on the other hand, takes as its starting point the current behaviour of <u>the people</u> who will age into that age-gender group in the future. The consequence for this approach is that if a younger cohort today has – for some reason – a reduced participation rate, this reduction in activity rates will be perpetuated throughout its life-cycle. This means that reduced participation rates in a younger age group today will lead to a permanent decrease in comparison to older generations.

This trend was particularly prominent in the supplementary tables to the FSR 2015 (published 05/11/2015), especially for males. Although participation rates differ consistently between age bands

throughout the forecast, the 2015 FSR model forecast a permanent decrease in the activity rate of the cohort that was aged 25-29 in the medium term.

The effect is still apparent in the supplementary data of the FSR 2017 (published 17/01/2017), with staggered declines of approximately two per cent over a 12-year period for males aged 40-44, 45-49 and 50-54, but the trend is far less pronounced this time. The new history available since the FSR 2015 is presumably a key factor in the OBR's revised forecasts, with participations rates of 91.08% and 90.47% for males aged 25-29 in 2015 and 2016 respectively turning out as 91.5% and 91.7%. The higher turnout for these figures, among other factors, has evidently reduced the extent to which the 'cohort effect' is carried forward over time. The result of these revisions is that the OBR's forecasted participation rates for males aged 25-54 are higher than they were previously. The same effect is similarly diminished for females of the same 25-54 age groups, resulting in an upward shift in all of the forecasts.

The permanent decline in participation rates in each age band arising from the cohort approach still leads to a slight decline in the participation rate for all people aged 16-64 over the next ten years (Chart 1 in Appendix A), albeit by a significantly smaller margin compared with the 2015 forecasts. In the FSR, the 16-64 participation rate now reaches at 78.05% in 2020 before falling to its lowest value of 77.79% in 2028. This 0.26 percentage point decrease compares with a fall of 0.92 percentage points in the 2015 forecasts (between 2017 and 2028). By 2037, Experian's projection is only 1.8 percentage points higher than that of the FSR, compared with the previously estimated difference of 3.1 percentage points by 2035. The overall 16+ activity rate from the FSR falls by 3 percentage points over the 20 year forecast period (compared with 4 percentage points previously), while Experian's is still set to decline by less than one percentage point.

## Conclusion

While the magnitude of the 'cohort effect' has been reduced, it is still evident in the OBR's forecasts. The changes made in the current FSR projections have shifted their forecasts closer to the Experian baseline. The Experian participation rate projections have remained stable, with the same assumptions applied and when incorporating the latest data points, there have been minimal changes. As such, we consider these projections credible and given the FSR projections have updated their view to be closer aligned to our outcomes, we will continue to adopt Experian own projections in our forecasting models.

## Appendix A

The following charts apply the growth rates of participation rates by age and gender to Experian's participation rate history. Both Experian and the FSR's grouped participation rates are calculated by using the ONS 2014- based National Population Projections.



When calculating the participation rates for those aged 16-19 for both genders, Experian has attempted to fill in the FSR participation rates for period 2009-2021, which are not provided in the supplementary tables. The proportion of the working age population aged 16-64 averages 7.4% over the 2017-2037 forecast period.



The OBR does not provide projections for participation rates for those aged 90+. Experian assumes that there is no participation by those aged 90+.



# Appendix B

In 2037, there will be nearly 18 million people in the UK aged over 65; this contrasts with around 12m in 2017. Moreover, they will make up nearly a quarter of the entire population compared with around 18% in 2017. This change in the age-composition of the population will have a significant economic impact. Older workers will make an increasing proportion of the potential labour force. In this note, we consider the impact of different labour force participation rates for older workers and explain the participation assumptions we will use in our UK suite of models in future.

It will be convenient at this point to set out some key definitions:

- Participation Rates / Activity Rates: the proportion of the population either in employment or searching for employment.
- Working Age Population: the population above the age of 15 but below the current state retirement age for their gender.
- Subnational Population Projections: population projections set out by the Office of National Statistics using 2014 mid-year population estimates.
- Labour Force Survey: survey of the employment patterns of the UK population. It provides official measures of employment and unemployment.

Over the last few years, the ageing of the population has begun to markedly change the demographic profile of the UK. According to the 2014 Subnational Population Projections, the proportion of the population aged 16 and over that was older than 65 remained at around 20% between 1997 and 2010. However, baby boomers entering retirement has caused this ratio to increase rapidly from 2011. Longer life expectancy will sustain the rising proportion, projected to reach 30% by 2040.



The impact of the ageing population can be seen in the participation rate chart below. The counterfactual (the blue line) is based on the assumption that older people will have the same participation rate in the future as they have in 2017. The overall participation rate for the population aged 16+ falls dramatically as older people – who have lower participation rates – make up an increasing part of the population. Such a scenario would lead to very slow labour force growth, growing at an annual average rate of only 0.19%. This would seriously limit the economic growth potential of the UK.



Based on our analysis of LFS economic activity rates by 5-year age bands below, we instead forecast that the overall UK participation rate will fall to just below 63% by 2040. The labour force is 5% larger than in the counterfactual scenario by the end of the forecast, reaching over 38 million people by 2040.

We expect to see increasing participation rates across all older bands for both men and women. As the UK economy becomes increasingly service-oriented, older people are inclined to continue working. Improving health standards also mean that people are able to participate in the labour force for longer and need to build up enough savings ahead of longer retirements. The option to receive pensions as a lump sum may even leave people needing to return to the labour force at a later stage should they fail to adequately manage their finances.



Policy changes have also begun to influence participation rates. The default retirement age has already been phased out and the State Pension Age (SPA) is gradually being increased. The SPA for women began to increase from 60 to 65 in 2010. An increase in the female participation rate for those aged 60-65 can be seen in the historical LFS data from around 2011. We have forecast that the rate will grow such that the gender gap in this age band approaches the corresponding gap for the 55-59 age band. The female participation rate also grows because cohorts displace one another over time and women born in later generations have had a higher propensity to work. As the SPA for both genders reaches 67 by 2028 and health standards improve, we see fewer people leaving the labour force between the ages of 60-64. The impact of the SPA policy changes can also be seen on the 65-69 age band.

Under the current law, the State Pension age is due to increase to 68 between 2044 and 2046. Following a recent review, however, the government announced plans to bring this timetable forward. The State Pension age is now set to increase to 68 between 2037 and 2039. The policy change was announced as of July 2017, after the release of the OBR's forecasts, but before the publication of this report. As such, we have incorporated this change into our forecasts for the 65-69 year age groups, as seen below, but it does not currently feature in the OBR's projections.



Our participation rates grow such that, by the end of the forecast, the rate for each age band by gender approaches that of the age band below at the beginning of the forecast.

There is ageing within the 65-plus population group. For example, the population older than 90 will more than triple by 2040. We forecast that the overall 65-plus participation rate will increase to 19% by 2040, with growth rates fluctuating mainly due to policy changes and population growth across age bands.



The increase in the activity rate of those aged 16 to 64 is due largely to the growing participation rate of those aged 55-59 and 60-64. It also accounts for policies designed to encourage more people to take part in the labour force.



We can apply this analysis to the regional and local level as well. The impact on our regional forecasts is that Greater London is the only area without a consistently falling participation rate between 2017 and 2037. Greater London has the youngest population of

the UK regions. By 2037 only 24% of the population in London will be 65 or over, while all other regions will see this proportion rise to above 40%.

Overall Participation Rate (%) by Region	2017Q1	2022Q1	2027Q1	2032Q1	2037Q1
UK	62.7	62.4	61.9	61.6	61.5
East Midlands	61.3	60.8	60.2	59.7	59.5
East of England	63.4	63.2	62.8	62.7	62.6
Greater London	68.6	68.7	68.6	68.7	68.6
North East	59.5	58.9	58.0	57.5	57.3
Northern Ireland	59.0	58.3	57.5	56.8	56.2
North West	61.4	61.0	60.4	60.0	59.8
Scotland	61.0	60.6	59.9	59.4	59.1
South East	64.1	63.7	63.2	62.9	62.7
South West	62.5	62.1	61.6	61.3	61.2
Wales	59.5	59.1	58.5	58.2	58.1
West Midlands	60.2	60.0	59.6	59.5	59.4
Yorkshire and The Humber	61.6	61.2	60.6	60.2	60.0

Source: Experian



This publication is available in alternative formats including large print, audio and other languages

Please call 01245 606330

Planning and Housing Policy Directorate for Sustainable Communities Chelmsford City Council Civic Centre Duke Street Chelmsford Essex CM1 1JE

Telephone 01245 606330 planning.policy@chelmsford.gov.uk www.chelmsford.gov.uk

Document published by Planning and Housing Policy © Copyright Chelmsford City Council

