Plymouth & South West Devon Joint Local Plan

SHMA

Part 1: The Housing Market Area and Updating the Objectively Assessed Need

On behalf of **Plymouth City Council**

South Hams District Council

West Devon District Council

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1 Introduction

1.1 Overview

1.1.1 This study was commissioned by Plymouth, South Hams and West Devon Councils to provide an update to their objective assessment of housing need over the period 2014 – 2034. The assessment will help inform the Joint Local Plan requirement, as required by national policy and guidance.

1.1.2 The National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG) advise that where housing market areas (HMAs) extend beyond administrative areas, housing needs assessments should cover these areas rather than individual local authorities.

1.1.3 This SHMA Part 1 study examines the HMA and tests whether Plymouth, South Hams and West Devon Local Authority areas, including the part of Dartmoor National Park which is within those local authorities' area, appropriately form a HMA. Following this assessment an update of the whole area's housing need is undertaken. This approach follows the method set out in the PPG and starts from the latest official household projections. It tests alternative scenarios, considers employment issues and whether the indicators demonstrate that a market signals uplift is appropriate. Once this is complete, it arrives at the most robust, objectively assessed housing need for the HMA and recommends that this is met in full across the HMA.

1.1.4 The SHMA Part 2 study has been undertaken by affordable housing experts HDH Planning and Development, and considers the affordable housing need as well as the requirements of specific groups of the population. This is a separate calculation and relates to a different meaning of the term 'need'. It is a policy consideration when determining the housing requirement or target.

2 Defining the Housing Market Area

2.1 Overview

2.1.1 According to planning policy, where a Housing Market Area (HMA) extends across two or more local authorities, those authorities are required to work together to assess needs across the area as a whole. The underlying idea is that much of the demand or need for housing is not tied to specific local authority areas, as people's decisions about where to live are driven by access to jobs, schools, family etc., rather than administrative boundaries. A HMA is an area of search, bringing together places that share similar household characteristics.

2.1.2 From earlier work it is clear that while Plymouth may be a self-contained housing market area, neither South Hams or West Devon would be able to demonstrate that they are self-contained. It is also very clear that there are well established functional relationships across these areas, particularly with Cornwall.

2.1.3 Previous work done for Cornwall has demonstrated that there are no simple answers to the definition of housing market areas. It is therefore necessary to establish the most appropriate self-contained set of areas in a transparent way using consistent methodology. The conclusion drawn was that the four local authority 'best fit' approach is suitable for strategic purposes, but there is evidence to suggest that a tighter boundary could be explored in the future. This particularly recognises the relationship between Totness in South Hams eastwards to Torbay and between Okehampton in West Devon eastwards to Exeter.

2.1.4 This work now goes further and uses our PBA standard methodology to test the performance and levels of migration and commuting within the context of the new travel to work area geography (since published), which is shown below.

2.2 Testing the Plymouth, South Hams and West Devon HMA

2.2.1 The NPPF instructs that where a housing market area covers more than one local authority, plan-makers should assess housing needs for the whole area rather than each authority individually.

2.2.2 The first step in the study is to understand whether Plymouth, West Devon and South Hams are standalone HMAs, or whether they should be considered together as a single area.

2.2.3 The PG provides technical advice on how housing market areas should be defined, noting that a HMA should be a reasonably self-contained area in terms of migration – so that a high proportion of house moves occur within the area, as opposed to crossing its boundaries. It adds that this share of moves occurring within the HMA is 'typically 70%... *excluding long-distance moves* (*e.g. those due to a change of lifestyle or retirement)'*. The PG also identifies other data that can help identify housing market areas, including commuting patterns – '*which will influence house price and location*'.

2.2.4 In identifying a housing market area for Plymouth, our starting point is the geography defined in a study by the Centre for Urban and Regional Studies (CURDS) and others for the former National Housing and Planning Council (NHPAU). That study, published by CLG in 2010[1], created a consistent set of HMAs across England, based on migration and commuting data from the 2001 Census. This recommended that an area covering Plymouth City, Couth Hams, West Devon and (former) Caradon District for the Plymouth HMA. As the NHPAU study is the

[1] C Jones, M Coombes and C Wong, Geography of housing market areas, Final report, November 2010, Department for Communities and Local Government

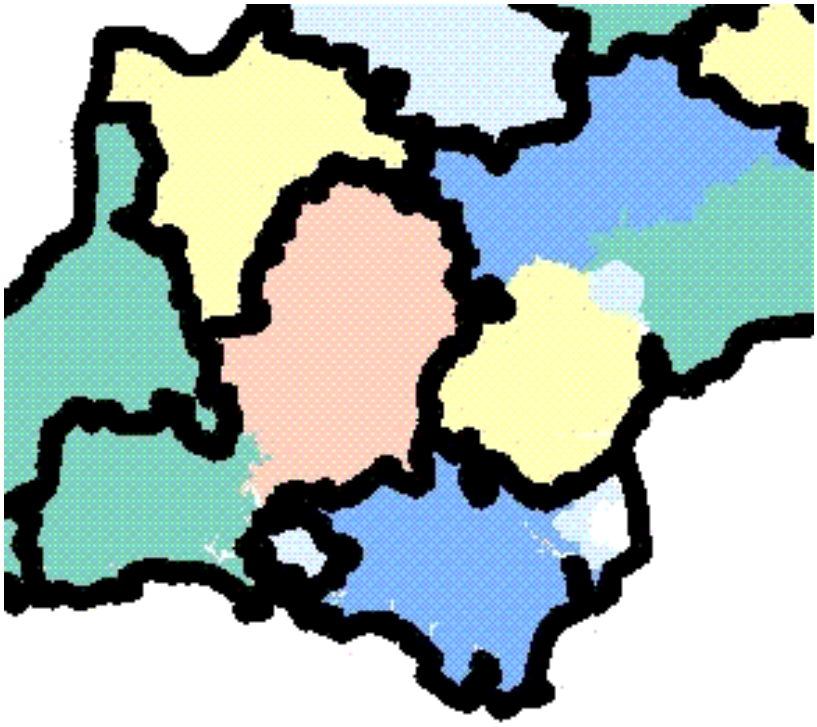
only one of its kind and has not been updated following the 2011 Census, we test the findings against up-to-date data on migration and commuting data from that Census.

2.3 The NHPAU Geography

2.3.1 The results of the NHPAU study are hosted on the CURDS website. It defines a three-tiered hierarchy of HMAs: strategic, single-tier and local. The study starts from a fine-grained analysis, producing HMAs that cut across administrative boundaries. But for the strategic and single-tier layers the study also provides a 'silver standard' version, which fits the HMAs to local authority boundaries. While the single-tier 'silver standard' geography is often the most helpful, and for Plymouth identifies it as a single housing market area, it is not helpful for either South Hams or West Devon which are combined within the other authorities of Torbay and Teignbridge, and also Cornwall respectively.

2.3.2 The Local HMA geography only changes South Hams to include Torbay, leaving both South Hams and West Devon split across administrative boundaries, demonstrating the difficulty of placing those authorities into any single HMA.

Figure 1: NHPAU Local HMAs



Source: NHPAU

2.3.3 For the purpose of drafting a Local Plan we ideally need to define HMAs using local authority districts, to ensure a consistent and robust approach to evidence collection. The NHPAU analysis suggests two broad options built along local authority district lines.

2.3.4 We can either identify Plymouth as an HMA it its own right, provided that it remains reasonably self-contained; or alternatively, recognising the cross boundary relationships, we could test combining Plymouth with the adjacent authorities with which it has the strongest

relationships - South Hams and West Devon. Given the commitment to a Joint Spatial Plan between the three authorities, this is the preferred approach.

2.3.5 Therefore, the next step in our analysis is to test whether Plymouth, South Hams and West Devon are self-contained enough to qualify as a combined HMA, and compare this with their individual score.

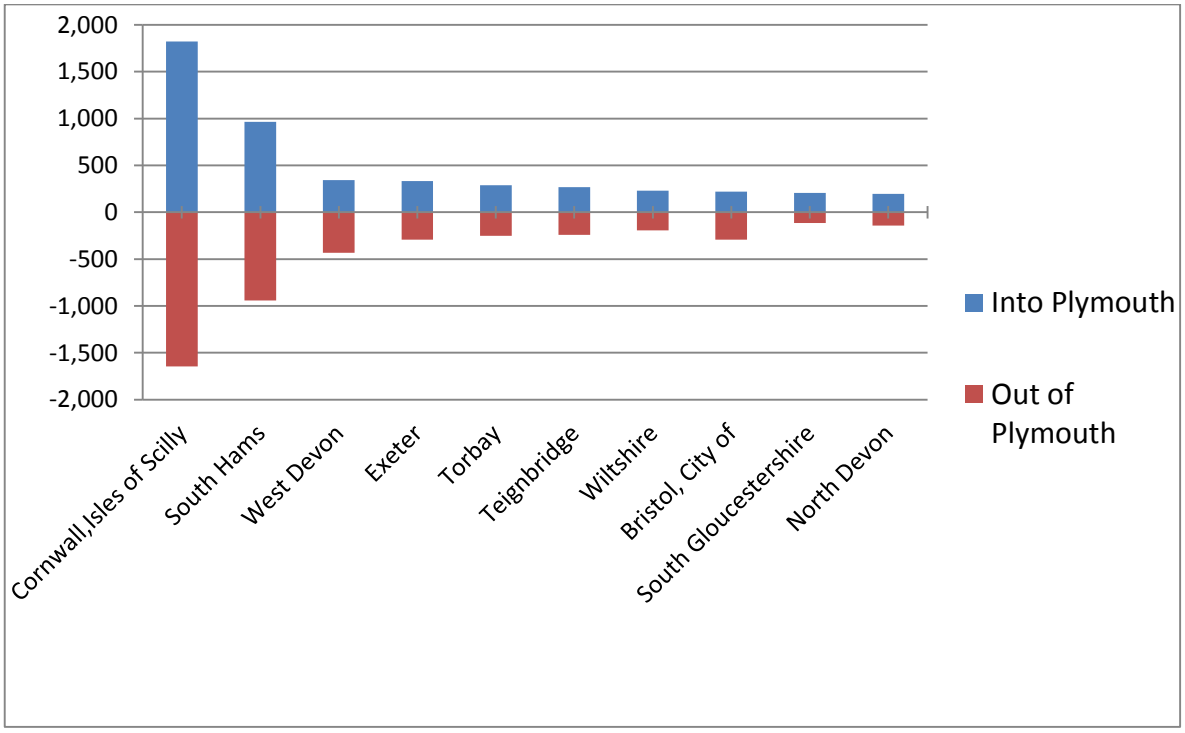
2.3.6 In order to do so, and following the Planning Guidance (ID: 2a-011), we examine migration and commuting links before moving on to consider house price and other contextual data.

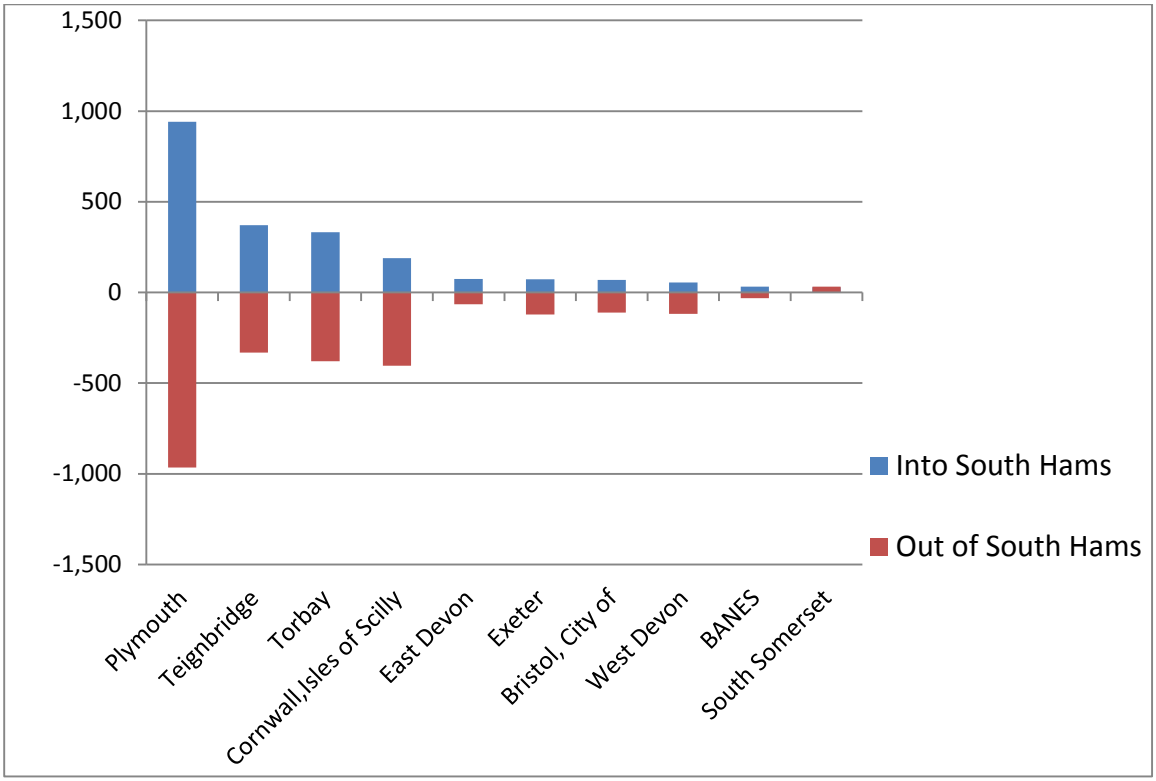
2.4 Migration

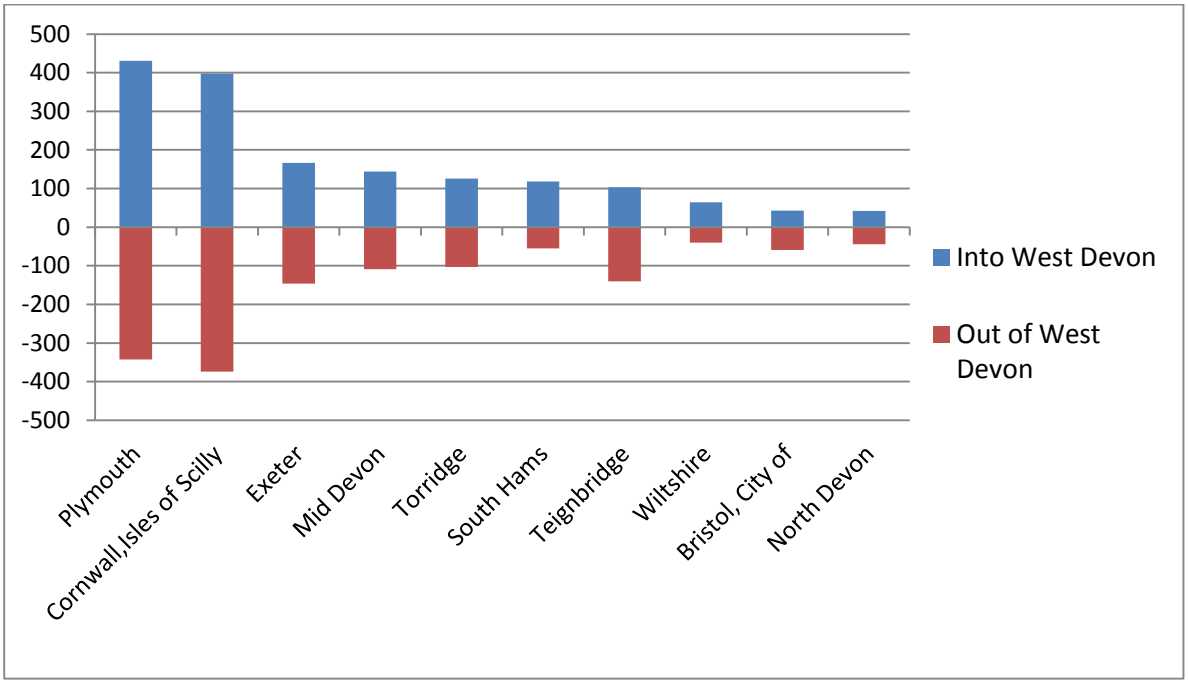
Main origins and destinations

2.4.1 The figures below show the top local authority areas that in the year before the 2011 Census had the largest combined migration flows in and out of Plymouth, South Hams and West Devon. The blue bars (positive numbers) show migration into, and the red bars (negative numbers) migration out of the respective areas. The chart excludes people moving within each of the local areas which number 26,000 for Plymouth, 4,100 for South Hams and 2,700 for West Devon and which represents between 68% and 47% of the total of cross-boundary moves.

Figure 2: Cross-boundary migration to and from Plymouth, South Hams and West Devon 2010-11, top 10 origins and destinations, persons







Source: ONS

2.4.2 The analysis shows that the links are primarily into each of the constituent authorities, together with relationships with Cornwall and Exeter, other Devon Authorities and then out to Bristol, BANES, South Gloucestershire and Somerset.

The 70% test

2.4.3 The PG does not specify how self-contained a HMA needs to be. For more precise guidance on how to test the HMA we refer to the original source behind the PG, which is an advice note published by CLG in 2007[2]. The note's introductory comments on this are already familiar because they are repeated in the PG (quoted earlier):

'Analysis of migration flow patterns can help to identify these relationships and the extent to which people move house within an area. The findings can identify the areas within which a relatively high proportion of household moves (typically 70 per cent) are contained. This excludes long distance moves (e.g. those due to a change of lifestyle or retirement).

2.4.4 The 2007 advice note goes on to provide more specific guidance, which is not repeated in the PG:

*'**Identifying suitable thresholds for self-containment**: The typical threshold for self-containment is around 70 per cent of all movers in a given time period. This threshold applies to both the supply side (70 per cent of all those moving out of a dwelling move within that same area) and the demand side (70 per cent of all those moving into a dwelling have moved from that same area).'*

2.4.5 The table below shows these measures of containment for Plymouth, West Devon and South Hams. In this calculation:

- migration data, as before, are taken from the 2011 Census and relate to persons moving house in the year ending on Census day;
- the analysis includes moves within the authority areas;
- in addition to the 'supply-side' and 'demand-side' ratios defined we have also calculated an overall containment ratio that combines the two. This overall measure is the ratio of moves that originate or end in the combined area, but do not cross the area boundary, to the total of all moves that originate or end in the combined area; and
- total moves comprise moves within England and Wales only, excluding those whose origin or destination is in other countries within the UK or overseas. We exclude this category because they are long-distance moves, as defined by the PG following the 2007 advice note.

Table 1: Migration self-containment, Plymouth, West Devon and South Hams, 2010-11, persons

From	To				
	Plymouth	West Devon	South Hams	Rest of E &W	Total
Plymouth	25960	431	941	9221	36553
West Devon	343	2701	55	2217	5316
South Hams	966	118	4108	3493	8685
Rest of England and Wales	10885	2498	3526		
Total	38154	5748	8630		
moves within P, WD, SH	35623	71246			

[2] Communities and Local Government, *Identifying sub-regional housing market areas, Advice note, March 2007*

Total moves to	50554
Total moves from	52532
total moves	103086
Overall Containment	69.11%

	for P, WD, SH	Just Plymouth	Just WD	Just SH
destination containment	67.81%	68.04%	46.99%	47.60%
origin containment	70.47%	71.02%	50.81%	47.30%

Source: ONS, PBA

2.4.6 The resulting ratios (shown at the bottom of the table) are minimum estimates of containment as defined in the PG, because they are based on this conservative definition of long-distance migration. Using this definition, it is clear that none of the areas quite meet the 70% threshold specified in the PG[3]. At 69.11% it comes very close and represents the highest figure when all three areas are considered together. Certainly West Devon and South Hams on their own are a long way from being self-contained at less than 50%.

2.4.7 If we further refine the data, removing lifestyle moves (for example to coastal retirement destinations) it is very likely that the 70% threshold would be achieved. Consequently, the area can be considered as sufficiently self-contained.

2.5 Commuting

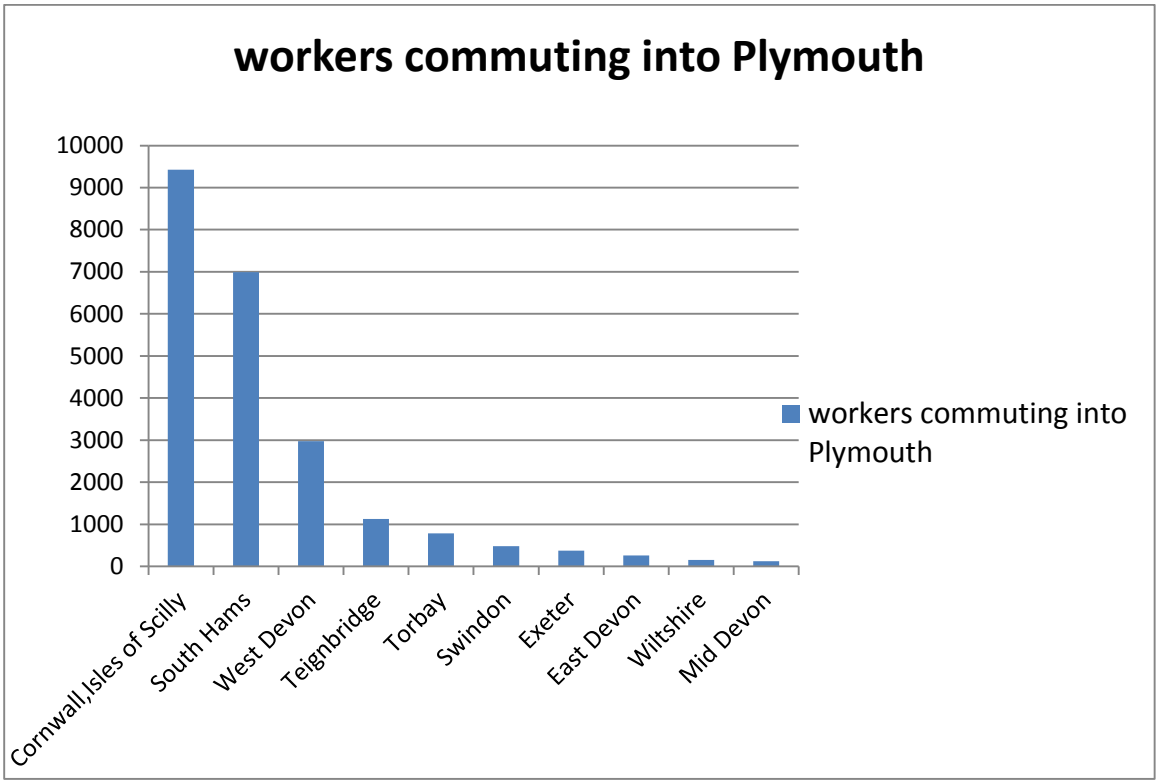
2.5.1 In addition to looking at migration data it is useful to consider the other main quantitative indicator suggested in the PG; commuting self-containment.

The data shows that Plymouth is a net importer of labour; there are more movements into Plymouth than out of it, with a net inflow of 5,655 workers.

[3] The overall containment ratio is a weighted average of the two others.

2.5.2 Figure 3 below shows the main origins of cross-boundary commuting into Plymouth. The data, as before, is from the Census. We have selected the 10 local authority areas with the largest flows into Plymouth, and again the largest flows are from Cornwall and the constituent authorities.

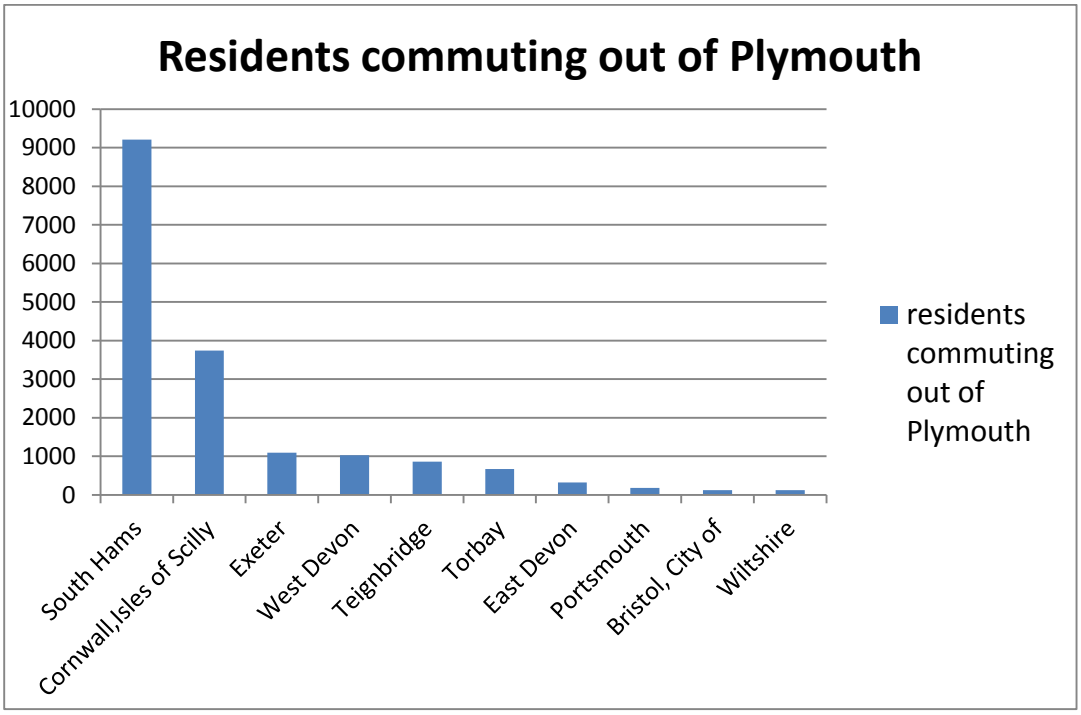
Figure 3: Cross-boundary commuting into Plymouth 2011, top 10 destinations, persons



Source: ONS, PBA

2.5.3 Figure 1.5 below shows the main destinations of residents commuting out of Plymouth. The data is again from the Census and shows the ten local authority areas receiving the largest flows out of Plymouth. The largest three flows are South Hams, Cornwall and then Exeter. Reflecting the employment locations on the edge of Plymouth, but within South Hams district.

Figure 4: Top 10 destinations of cross-boundary commuting out of Plymouth 2011, persons

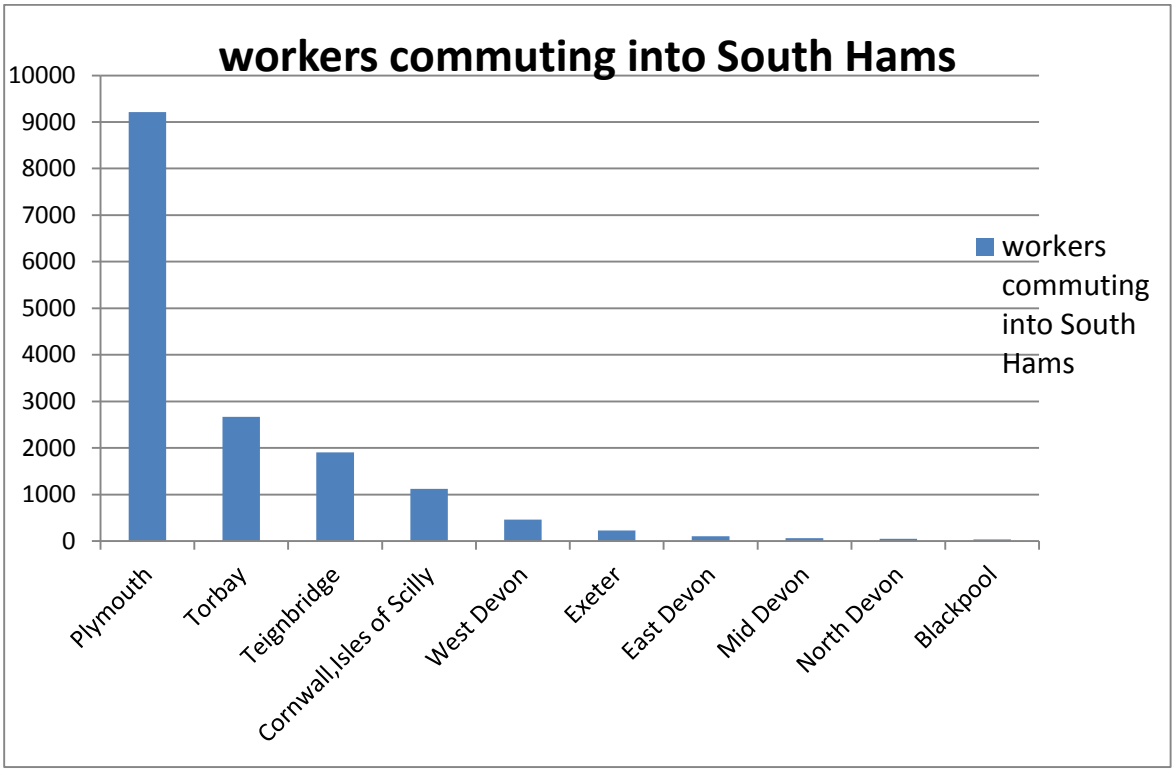


Source: ONS, PBA

For South Hams the data demonstrates again that it is a net importer of labour; there are more movements into South Hams than out of it, with a net inflow of 3,616 workers.

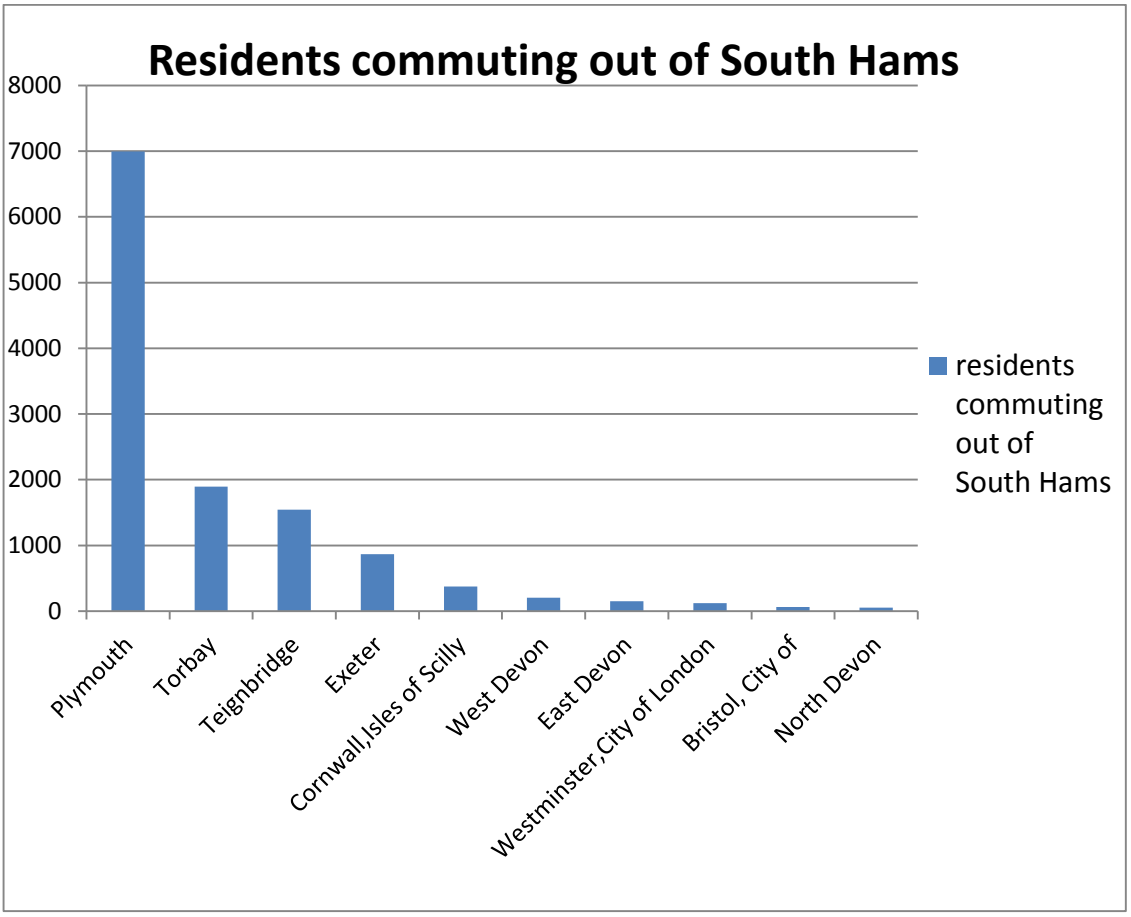
2.5.4 Figure 6 below shows the main origins of cross-boundary commuting into South Hams. The data, as before, is from the Census. We have selected the 10 local authority areas with the largest flows into South Hams, and again the largest flows are from Plymouth, followed by the adjacent authorities of Torbay and Teignbridge. It is interesting that the tenth highest area is from Blackpool with 35 people.

Figure 5: Cross-boundary commuting into South Hams 2011, top 10 destinations, persons



2.5.5 Figure 1.7 below shows the main destinations of residents commuting out of South Hams. The data is again from the Census and shows the ten local authority areas receiving the largest flows out of South Hams. The largest three flows are the same as the table above, followed by Exeter and then Cornwall. This demonstrates the relationship parts of South Hams has with its eastern neighbours of Torbay and Teignbridge. It is interesting that the City of Westminster features with 122 people.

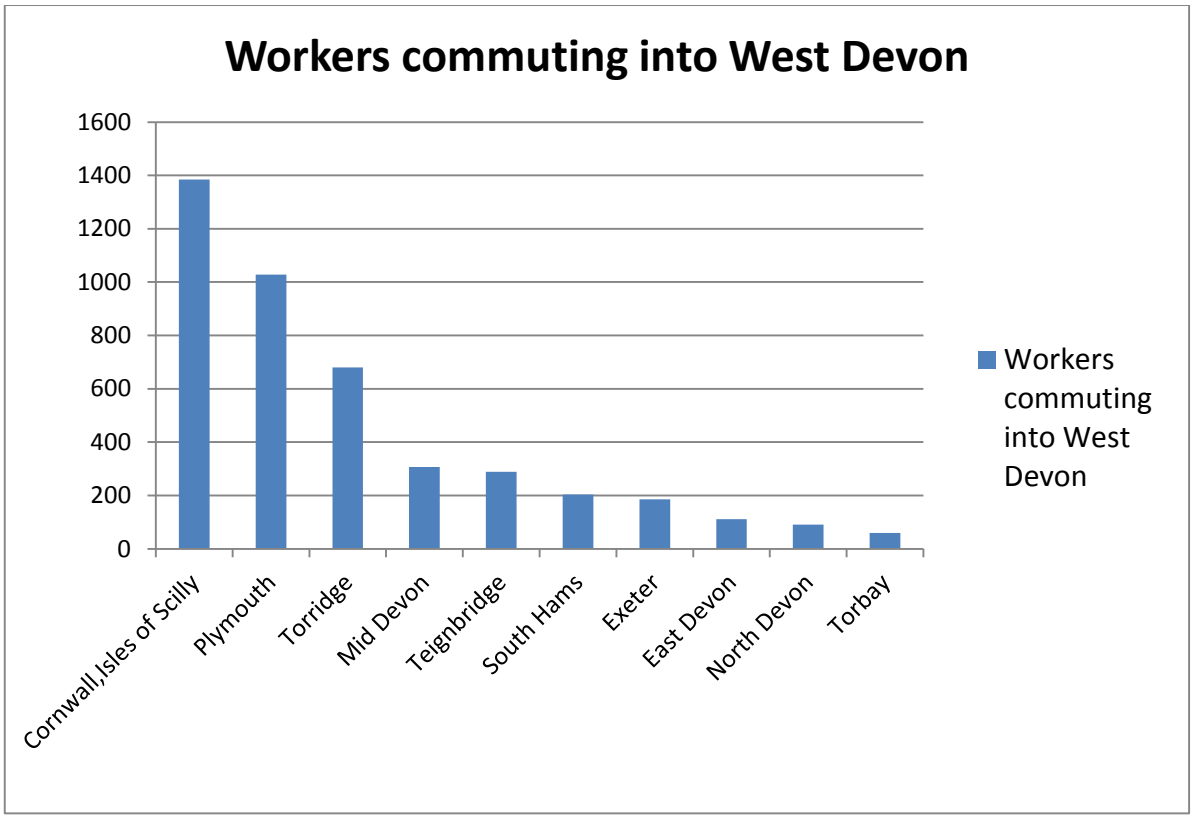
Figure 6: Top 10 destinations of cross-boundary commuting out of South Hams 2011, persons



For West Devon, the data demonstrates that it is a net exporter of labour; there are more movements out of West Devon than into it, with a net outflow of 3,556 workers.

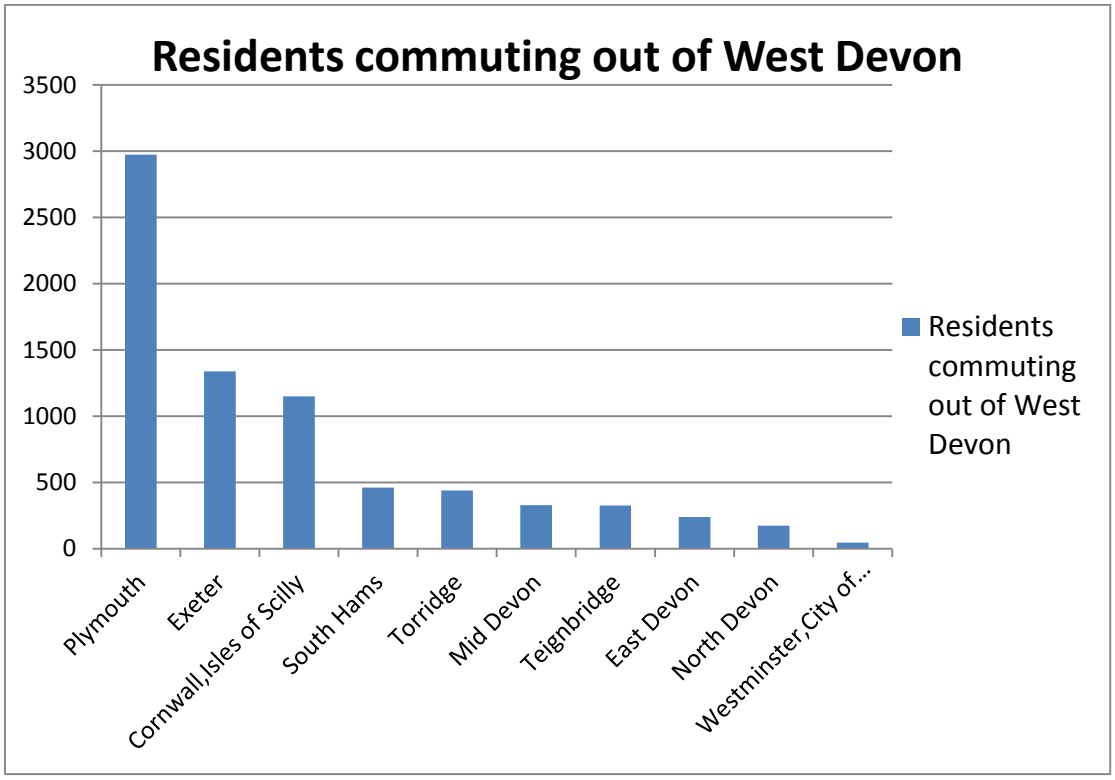
2.5.6 Figure 8 below shows the main origins of cross-boundary commuting into West Devon. The data, as before, is from the Census. We have selected the ten local authority areas with the largest flows into West Devon, and the largest flows are from adjacent authorities of Cornwall, Plymouth and Torridge.

Figure 7: Cross-boundary commuting into West Devon 2011, top 10 destinations, persons



2.5.7 Figure 1.9 below shows the main destinations of residents commuting out of West Devon. The data is again from the Census and shows the 10 local authority areas receiving the largest flows out of West Devon. The largest three flows are to Plymouth, Exeter and Cornwall, and demonstrates the relationship that parts of West Devon has with Exeter. The tenth largest flow is from the City of Westminster with 46 people.

Figure 8: Top 10 destinations of cross-boundary commuting out of West Devon 2011, persons



2.5.8 Table 2 below shows containment ratios for commuting, using the same method as for migration containment.

Table 2: Commuting self-containment, Plymouth, West Devon and South Hams, 2011,

Commuting

Live in	work in				
	Plymouth	West Devon	South Hams	rest of world	Total
Plymouth	79440	1028	9211	9899	99578
West Devon	2973	9490	461	4715	17639
South Hams	6995	203	14845	6124	28167
Rest of World	15825	3362	7266		
Total	105233	14083	31783		
moves within P, WD, SH	124646	249292			
total moves to	145384				
total moved from	151099				
total	296483				
Overall Containment	84.08%				

	P,WD,SH	Just Plymouth	just WD	Just SH
destination containment	82.49%	75.49%	67.39%	46.71%

origin containment	85.74%	79.78%	53.80%	52.70%

Source: ONS, PBA

2.5.9 The containment ratios for commuting are more than those calculated earlier for migration. In relation to commuting neither the PG nor the 2007 CLG advice identify a threshold to help define market areas. But such a threshold is provided in the ONS definition of Travel to Work Areas:

'The current criterion for defining TTWAs is that generally at least 75% of an area's resident workforce work in the area and at least 75% of the people who work in the area also live in the area… However, for areas with a working population in excess of 25,000, self-containment rates as low as 66.7% are accepted.'[4]

2.5.10 The only authority which satisfies this criterion is Plymouth. The evidence demonstrates that neither West Devon nor South Hams meet the 66.7% criterion and as such would not be a labour market and housing market in its own right[5]. It is clear however than when all authorities are added into the HMA, the containment ratio improves significantly; exceeding both the 66.7% and 75% threshold.

2.6 2011 Travel to Work Areas

2.6.1 Related to the commuting analysis above in August 2015 the ONS published updated travel to work areas (TTWA). These are based on the 2011 Census data as opposed to the older 2001 base TTWAs.

2.6.2 For the Plymouth TTWA this new data provides additional illustration of the difficulty faced by South Hams and West Devon because they do not fit neatly into district wide boundaries. The map below clearly highlights their predominant relationship with Plymouth.

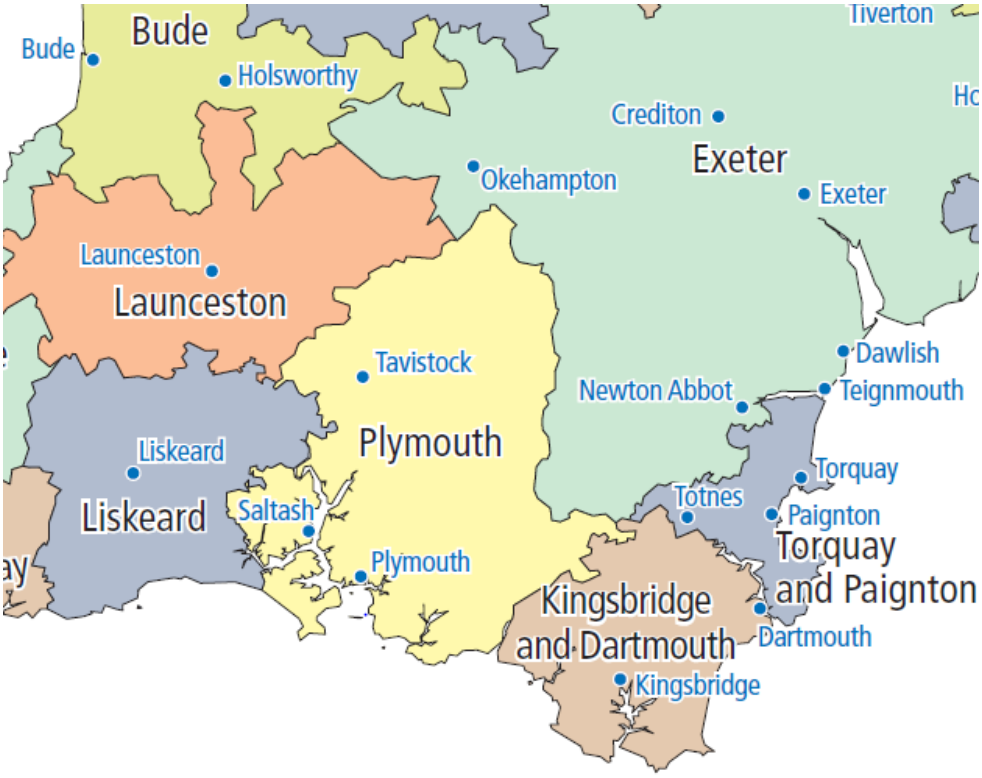
2.6.3 The 2011 TTWA geography divides South Hams into two. The Eastern part of South Hams is identified to be in its own Kingsbridge and Dartmouth TTWA, while the west is in Plymouth TTWA. While the majority of West Devon is within the Plymouth HMA, the map below demonstrates the relationships with Exeter, Launceston and Liskeard TTWA. It is particularly worth noting that Totnes has clear links with Torbay and that Okehampton has strong links with Exeter.

2.6.4 The Plymouth TTWA also extends into Cornwall representing the important functional relationship with Saltash that exists.

[4] Office for National Statistics, *Guidance and Methodology*, *A Beginner's Guide to UK Geography,* http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/other/travel-to-work-areas/index.html. The TTWA geography was developed by the same team as the NHPAU geography discussed earlier.

[5] The PG and 2007 CLG note mention TTWAs as a consideration in defining housing market areas. In our analysis we cannot use TTWAs directly, because the TTWAs based on the 2011 Census have not yet been defined, and in any case they will cut across local authority areas, which makes them unhelpful for present purposes.

Figure 9: Travel to Work Areas, 2011 Census



Source: ONS

2.7 House Prices

2.7.1 The analysis above demonstrates that the HMA is more self-contained if it includes Plymouth, South Hams and West Devon. Both the migration and commuting data is clear that neither South Hams nor West Devon is very well contained on their own.

2.7.2 To supplement the above analysis of migration and commuting, we have considered whether house prices (levels and recent change) provide any evidence that would help define a housing market area.

2.7.3 Figure 1.4 below is a heat map of house prices across the area which shows the coast / inland split.

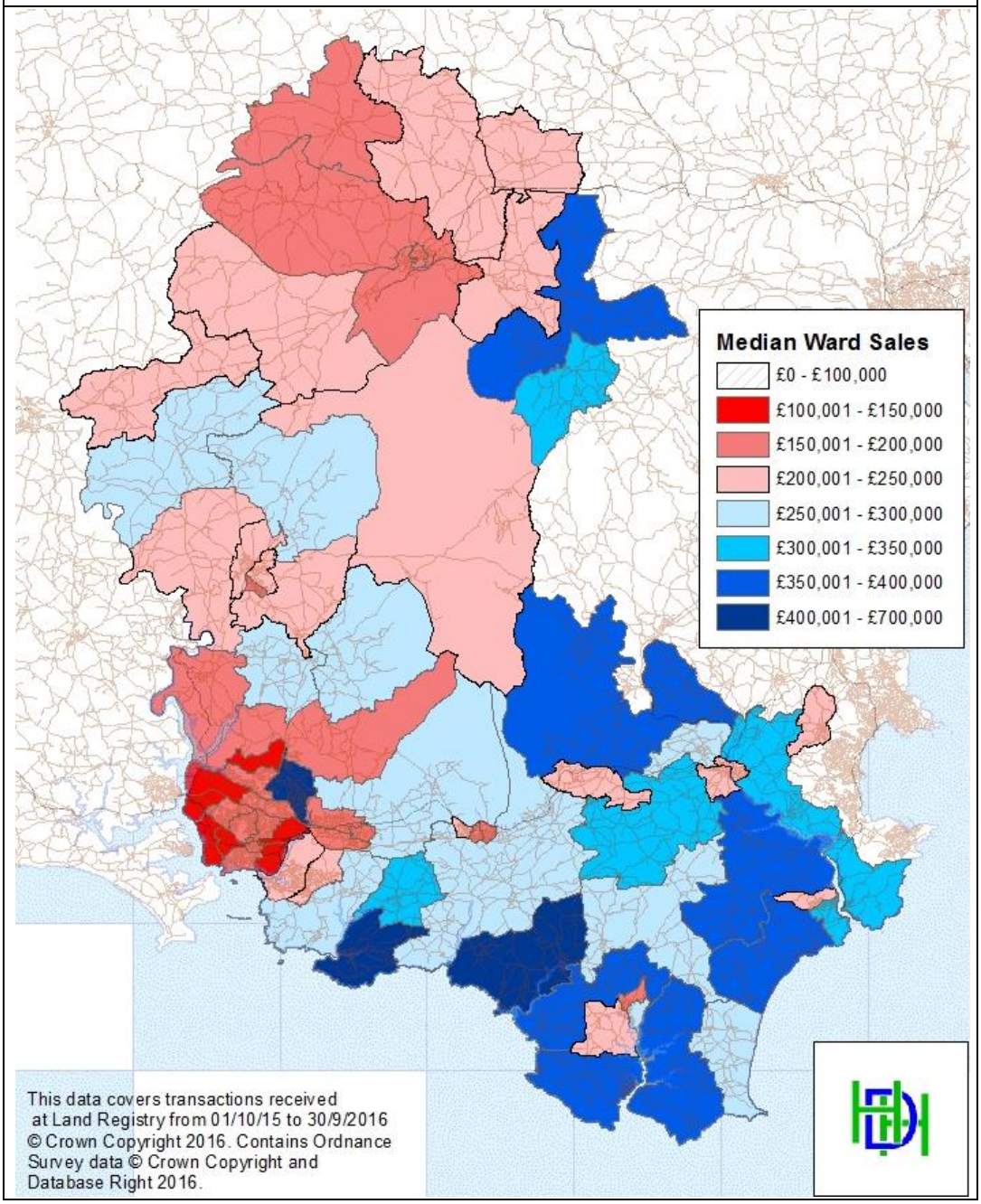
2.7.4 In South Hams house prices vary considerably and on the coast the mean house price is approximately £622,000. In Plymouth this is just £198,000 and to the north it is £268,000. This situation and variation occurs around all the coastal areas and the variation within South Hams district is over £352,000 just within this single district. With such a variance, it is difficult to suggest that housing in one part is a reasonable substitute for housing in another. Consequently, house prices do not assist with the definition and delineation of the housing market area.

Figure 10 House Price Heat Map, January 2016

Source: Zoopla

Figure 11: Median property prices

Figure 3.6 Variation in property prices across the Housing Market Area – Median property prices by ward October 2015 to September 2016



Source: Land Registry, 2016

2.8 Contextual Evidence

2.8.1 In addition to the quantitative data above, the PG requires us to test a range of contextual data. This includes school catchment areas and retail catchments. However, for such a large area this is not a useful data set, as Devon County Council and Plymouth City Council are likely to be able to confirm that most of the secondary school children have been offered a place at a school within the area, with very few going outside.

2.8.2 For retail Plymouth is the regional and sub regional centre and provides a range of higher order services. The other nearest major regional centre is Exeter which provides a range of facilities and services and for which some parts of West Devon, particularly Okehampton and its surrounding area will directly relate to.

2.9 Conclusions

2.9.1 We have used evidence from the 2011 Census to test the HMA and the assumption that Plymouth, West Devon and South Hams function effectively as a self-contained HMA.

2.9.2 For migration we have found that Plymouth, as well as the combined area of West Devon and South Hams almost meets the 70% self-containment test outlined in the PG. Furthermore, both areas will meet this test once long distance and lifestyle moves are excluded. Importantly, it is evidenced that West Devon and South Hams on their own fall well below this threshold.

2.9.3 For commuting, we have found that Plymouth meets the self-containment test and that the combined area of Plymouth, West Devon and South Hams significantly improve their score, and that a larger HMA is preferable. Again the evidence demonstrates that neither West Devon nor South Hams alone are able to meet the 66.7% threshold. The 2011 TTWAs clearly show that the Plymouth HMA extends into both South Hams and West Devon. However, it also illustrates the relationship that Plymouth has with Cornwall and that South Hams is split between its links with Plymouth in the West and the local influence of Kingsbridge in the east, and the wider relationship with Torbay. West Devon is also split with strong links in the north east with Exeter, and it is recognised that Okehampton in particular has a very clear relationship with Exeter.

2.9.4 Consideration of house prices does not assist in defining the HMA given the influence of the coast and the huge variation which exists across South Hams. While it is useful to consider contextual indicators, neither school nor retail catchments provide assistance in the definition of the HMA.

2.9.5 There are strong economic and functional relationships between Plymouth and Saltash, which is in Cornwall. However, while it is essential that these are recognised, it is not necessary to include part of Cornwall as part of this HMA. At the present time Cornwall is proceeding on the basis that it is a self-contained HMA. These relationships should be monitored and it may be that at the next round of plan making a more joined-up approach to this part of Plymouth and Cornwall can be pursued.

2.9.6 There is evidence to show that Plymouth together with West Devon and South Hams functions as a self-contained Housing Market Area. Indeed, while Plymouth could justify proceeding on its own, Neither South Hams or West Devon would be able to justify being their own self-contained HMAs. Consequently, it is appropriate and pragmatic to pursue an approach which considers the area of Plymouth, West Devon and South Hams, including the part of Dartmoor National Park which is within those local authority areas, as a HMA for the purposes of plan making and the establishment of an objectively assessed need.

2.9.7 Despite this it is important to acknowledge that there are strong links and relationships with adjacent authorities particularly with Cornwall in the west, Torbay in the east and Exeter in the north. These strong links need to be reflected in any duty to co-operate discussions with neighbours, to acknowledge important relationships and recognise where the functional HMA boundaries may overlap and cross administrative district boundaries.

3 The Updated Objectively Assessed Need

3.1 Introduction

3.1.1 The process that has been used to update the objectively assessed need follows what is set out in the Planning Practice Guidance (PPG) and also the Planning Advisory Service Technical Advice Note "Objectively Assessed Housing Needs and Housing Targets (updated July 2015), as well as considering the recent Local Plans Expert Group recommendations which have been submitted to Government.

3.1.2 As required by national and policy guidance, in assessing housing need we start from the latest official household projections published by the Department of Communities and Local Government (CLG). We then test these projections and consider alternative projections to reflect factors that the projections do not capture; specifically using locally generated projections and a longer migration trend. In order to ensure a consistent approach is taken across the HMA an update of demographic and economic projections has been commissioned. Local demographic projections, produced by Devon County Council, using the same methodology as the adjacent Exeter Housing Market Area have been produced.

3.1.3 As part of this update, future employment is considered via a bespoke model from Experian which uses consistent population assumptions and finally assess past provision and market signals to consider whether an uplift should be provided to arrive at the objectively assessed housing need.

3.1.4 The assessment of Objectively Assessed Need is for the whole HMA. This is built up from an assessment of information which is only available at district level, as shown in the Devon County Council local modeling report at Appendix A. Therefore, this information is provided for each authority, as well as for the total need for the HMA. It should be noted that this includes the parts of Dartmoor National Park that are within South Hams and West Devon. For plan making purposes Dartmoor National Park is its own planning authority and consequently while the OAN in this report includes the relevant parts Dartmoor National Park, the Joint Local Plan will exclude this area.

3.1.5 It is important to use an appropriate and up-to-date base date. This is 2014, which allows the use of the most recent factual evidence in terms of the mid-year population estimates which provide an official count of the population. It will also enable the consistent use of economic data which is also available for 2014. The housing need is considered for 20 years which effectively runs from 2014/15 to 2033/34 and consequently covers the Joint Local Plan period of 2014 to 2034.

3.1.6 Please note all figures presented in this report are rounded to the nearest 100 and as such some totals may not sum exactly.

3.2 Demographic Projections – Understanding the Baseline Position

3.2.1 It is useful to understand what the baseline population, households and dwelling stock is at 2014 so that the projections can be set in context. This is set out in the table below:

Table 3: Population projections, Household projections, and dwellings stock estimates

	2014 dwellings	2014 households	2014 population
Plymouth	114,900	112,000	261,500
South Hams	43,900	37,700	84,100

West Devon	24,900	23,400	54,300
HMA	**183,700**	**173,100**	**399,900**

From ONS and CLG

3.3 The Official Projections

3.3.1 The starting point in estimating overall housing need is the official household projections, however, it is recognised that these may require adjustment to reflect factors affecting local demography. On 25th May 2016 ONS issued the latest 2014-based sub national population projections. These go to 2039 and use the 2014 mid-year estimates as the starting point. As such, they represent the most up to date information and have been will be used to formulate the latest household projections which were released in July 2016.

3.3.2 These latest population projections demonstrate a population growth for the HMA as a whole of 35,000. There is projected to be 2,400 more people at 2034 than was shown in the previous 2012 based projections. The table below sets out these latest figures, split by Local Authority Area:

Table 4: 2014 based sub national population projections

	2014	2034	Growth
Plymouth	261,500	282,700	21,200
South Hams	84,100	90,600	6,500
West Devon	54,300	61,600	7,300
HMA	**399,900**	**434,900**	**35,000**

From ONS

3.3.3 The Planning Practice Guidance is explicit that the 2012-37 household projections are the most up-to-date estimate of future household growth. These projections use information directly from the sub national population projections and represent a robust starting point for the calculation of Objectively Assessed Need. However, they have been superseded by more recent projections as set out below.

3.3.4 On July 12th 2016 the new official DCLG 2014 based Household projections were released. These demonstrate that there will be growth of approximately 20,400 households across the HMA over the plan period. This is 1000 more households than identified in the previous 2012 based household projections. It is important to remember that this identifies households and requires an adjustment for vacancy levels to turn this figure into dwellings. This is set out in more detail at Scenario 1 below in table 11.

Table 5: 2014 based Household projections

	2014	2034	Growth
Plymouth	112,000	123,600	11,600
South Hams	37,700	42,100	4,400
West Devon	23,400	27,800	4,400
HMA	**173,100**	**193,500**	**20,400**

From DCLG

3.4 Alternative Demographic Projections

3.4.1 While these projections are the official starting point for the OAN they are based on short term trends and it is important to test alternative longer term trend based figures. In addition, local demographic projections provide more detailed local information, and as such are a valuable alternative source of information. In order to ensure consistency with the Exeter Housing Market Area which use local demographic projections produced by Devon County Council (DCC) it was considered appropriate to commission DCC to also produce updated local demographic projections for the whole HMA using the same POPGROUP model and methodology. This methodology is explained in detail at the Local Modelling Report at Appendix A.

3.4.2 A number of longer term local trend based projections were produced as follows:

- 10-year migration trend;
- 20-year migration trend; and
- 30-year migration trend.

3.4.3 A 20-year and 30-year trend projection were considered but both these show a smaller overall population and dwelling growth than both the official household projections and the 10-year migration trend and are not considered to be sufficiently representative of the growth which has occurred in the City of Plymouth or to properly reflect its growth agenda and future plans.

3.4.4 A period of 10 years ensures that periods of boom, the recession and several years of recovery are included in the time period and thus projected forward. The 10-year migration trend coving a period of 2005-2015 is considered to be the most robust trend based projection because it is the most realistic representation of population change that has occurred across the HMA and that is likely to continue to occur. In addition, this 10-year migration trend scenario is based on local demographic data it is calculated using robust ONS data and not proxy datasets that ONS use to represent migration. It is also not controlled to match with higher level projections and is not subject to the issue of unattributable population change which is a discrepancy that exists in the official population statistics arising between the 2001 and 2011 censuses. Therefore, it is considered that the local 10-year migration trend projections are more robust than the household projections and do not need to factor in an element of change to reconcile the unknown revised components of change. These issues are considered in more detail at section 2 of the DCC Local Modelling Report at Appendix A.

3.4.5 The local 10-year migration trend demonstrates that the population for the HMA will grow from 399,900 at 2014 to 442,700 at 2034, as shown split by local authority area below. If this trend continues it is likely that the population of Plymouth may reach 300,000 by 2037. This growth will need to be monitored in terms of the next set of household projections and further updates to the objectively assessed need.

Table 6: Local 10-year migration trend population projection

	2014	2034	Total growth
Plymouth	261,500	295,300	33,700
South Hams	84,100	87,300	3,200
West Devon	54,300	60,200	5,900
HMA	**399,900**	**442,700**	**42,800**

From DCC Local projections

3.4.6 In comparison with the 2014 based sub national population projections, the up-to-date local 10-year migration trend projections demonstrate a higher growth overall in the HMA of approximately 7,800 more people. This longer-term projection is considered to be far more robust because it is less reliant on short term variation. It also more accurately reflects the growth agenda that has been pursued within the City and the reality of what has been occurring in the more rural parts of the area over a longer and more reliable period of time.

3.4.7 Given that the local 10-year migration trend projection demonstrates a higher need across the whole HMA, and that it is based on a longer time period reflecting both the recession and recovery, it is considered that this is a more robust demographic projection to use in establishing the OAN. This approach is given additional credence by the recent population projections which show an upward trend in population across the HMA which indicates that relying solely on the official short term projections may not provide sufficient flexibility for long term strategic planning of the Joint Plan area.

3.5 Translating the Population to Dwellings

Household representation rates

3.5.1 In translating the population scenarios into households, it is necessary to consider what household representative rates (or headship rates) are used. The most recently available 2014 based household representative rates are considered to be the most up to date and robust because they use data from the 1971, 1981, 1991 and 2001 Censuses and partial information from the 2011 Census to project household representative rates by demographic group. As the most up to date source of data they have been used to translate the population into households in the DCC model, as explained in the Local Modelling Report at Appendix A. This approach is line with the Planning Advisory Service (PAS) technical advice note on Objectively Assessed Need and Housing Targets July 2015 and other professional advice from the Town and Country Planning Association (TCPA) and academics. It is considered that the 2008 rates are increasingly out of date, and in any event, were optimistic. It is clear that demand continues to be supressed due to factors such as more people living as couples, men increasingly living longer, work being more precarious, social benefits being lower and young people being increasingly burdened by student debt. Consequently, given the release of 2014 rates it is entirely appropriate and a robust methodological approach to use these.

3.5.2 Devon County Council use POPGROUP to produce population and housing projections. Details of the methodology is available in the Local Modelling Report at Appendix A. The dwelling requirement is calculated directly from the population projections using the known population (2014 and 2015 midyear estimate) as the starting point. The approach is consistent with the method used by ONS and DCLG, although the population data is refined to be more accurate at the Devon level. It should also be noted that the model takes full account of vacancy rates to project dwellings, so this does not need to be added to the calculation again.

Adjustments – Vacancy and Second homes

3.5.3 The following vacancy rates from the 2011 Census have been used. This demonstrates considerably higher rates for South Hams and West Devon than the CLG Council tax records because the rates used from the Census include second homes.

Table 7: Vacancy rates used in DCC projections

	Occupied	Vacant
Plymouth	96.7%	3.3%
South Hams	85.2%	14.8%
West Devon	92.1%	7.9%

From Census 2011

3.5.4 The rates used by DCC in their model can be compared with the CLG tables on dwelling stock estimates and vacant dwellings from council tax base returns (tables 125 and 615) which demonstrate that each of the authorities within the HMA are below the national average vacancy rates in 2011 and are very similar to the national rate in 2014.

Table 8: Vacancy rates

	2011 Vacancy rates (%)	2014 vacancy rates (%)
Plymouth	2.55	2.64
South Hams	2.93	2.50
West Devon	2.76	2.39
England	3.13	2.61

From CLG Council tax base and Housing stock estimates

3.5.5 Second homes are a controversial political issue which is best dealt with through policy. In terms of addressing need, it can only be dealt with by recognition of the fact that it is likely that the same percentage of new homes are expected to be taken up for second homes and therefore should use the most up-to-date evidence. This approach has been endorsed by Inspectors, including at the Cornwall Core Strategy Examination. The distribution of second homes is not evenly spread across the HMA and is concentrated in certain areas, as shown by the Council tax records in table 9. Evidence exists that while it represents approximately 10% of the South Hams district, in some parishes it is considerably higher. However, the only pragmatic approach in relation to this study is to use robust district wide figures. The percentage of second homes according to Council tax records in the local authorities at 2014 is set out below:

Table 9: percentage of second homes

	% of stock that are second homes at 2014
Plymouth	*0.65%*
South Hams	*10%*
West Devon	*4%*

From Local Authority Council tax records

3.5.6 The approach taken in the DCC model is to use the full vacancy rates as shown in table 6. This more than adequately includes within it an allowance for second homes. This approach is supported by the Council tax records which show that for each constituent authority the stock of second homes and the number that are vacant are less than or equal to the vacancy rate used in the model.

3.6 Dwelling Projections

3.6.1 The dwelling projections resulting from the DCC local 10-year migration trend scenario are set out below. This approach results in a projected growth of approximately 24,000 dwellings over the plan period across the HMA and split by local authority area as shown below.

Table 10: Dwellings required from 10-year migration trend scenario

	Dwellings 2014-2034
Plymouth	16,600
South Hams	3,100
West Devon	4,300
HMA	**24,000**

From updated DCC local projections

3.6.2 While the latest CLG 2014 Household projections provide a reasonable starting point, it is considered that using the local demographic projections from DCC over a more robust, longer term migration trend period, and using a model consistent with the adjacent Exeter HMA, is a more robust alternative approach to start to understand the objectively assessed need across the HMA.

3.6.3 Consequently, this Local 10-year migration trend dwelling projection is our preferred demographic projection. Before the OAN can be confirmed, it is necessary to consider whether any uplift is required to take account of future job growth expected in the area, and also to consider past performance and market signals. These points are discussed in the next few chapters.

4 Future Employment

4.1 Ensuring a Viable Workforce and Integration with Economic Forecasts

4.1.1 It is essential that planning for housing, employment, retail, economic land uses and community facilities/services are integrated, so that the demand for labour is fulfilled and there is no unsustainable commuting. This is clearly set out in the NPPF (paragraph 70). It is therefore important to consider whether housing provision in line with the preferred demographic projections would support enough workers to match the future job growth expected in an area.

4.1.2 In aligning jobs and housing we have used the Plymouth HMA because many people travel across administrative boundaries, so planning for each district in isolation will not produce the most efficient and sustainable relationships between the location of houses and jobs.

4.1.3 In order to fully integrate the demographic projections and economic forecasting, bespoke forecasts have been commissioned from Experian to examine the likely net increase in jobs between 2014 – 2034 within the HMA, using the preferred demographic projections as a key input into the model. The number and age structure of this future population has been included within a bespoke model to understand what the implications are for this population on the workforce and in relation to jobs using mutually consistent assumptions about the factors that link jobs to population and housing. The Experian model is dynamic and ensures that future jobs growth is consistent with the labour supply produced by that population, taking account of the potential for changes in unemployment, economic activity rates and commuting. This is important because the models used by economic forecasters already incorporate a view of the factors that link workplace jobs to resident population. As well as the supply-side factors such as commuting, double-jobbing, economic activity rates and unemployment, they include a demand-side link where additional population in an area creates extra demand for jobs serving that population in sectors like retail, leisure, education, health and other local services.

4.2 The Forecasts

4.2.1 Experian have prepared two scenario forecasts from 2014 to project jobs to 2034. These were produced in November 2016 and represent an up-to-date post-BREXIT position. The forecasts are discussed in more detail in the Employment Forecasts Report published separately, but in summary are as follows:

Baseline scenario – based on Experian's standard employment projections but adjusted in consultation with the study steering group to take into account an undercounting of jobs in the fishing and defence sectors. These forecasts are informed by the 2014 Sub-National Population Projections and Experian's derived participation rate (labour market economic activity) forecasts, which are discussed below; and

10-year migration trend scenario – these are the baseline forecasts as above but adjusted to reflect the Devon County Council Local projections which use a 10-year migration trend.

4.2.2 The baseline indicates that the Plymouth JLP area will deliver 19,700 jobs between 2014 and 2034 and the 10-year migration trend scenario indicates that the Plymouth JLP area will deliver 20,400 jobs over the same period (see Table 1.4). The difference between the two forecasts is just 700 jobs.

Table 11 Employment forecasts for Baseline and Local 10-year migration trend scenarios

	Baseline projection			Local 10-year migration projection		
	Jobs 2014	Jobs 2034	Total growth	Jobs 2014	Jobs 2034	Total growth
Plymouth	128,600	143,400	14,800	128,600	144,400	15,800
South Hams	46,500	48,900	2,400	46,500	48,700	2,200
West Devon	22,000	24,500	2,500	22,000	24,400	2,400
HMA	**197,100**	**216,800**	**19,700**	**197,100**	**217,500**	**20,400**

Source: Experian projections 2016

4.2.3 The Assessment of Employment Forecasts Report sets out more detail in relation to the individual variable such as working age population, workforce jobs, unemployment and commuting. This demonstrates that although the job growth figures are similar in both scenarios, the population structure leads to different variables and characteristics of the economy and workforce. Since the testing uses mutually consistent assumptions in the demographic and economic models, it is possible to examine if the anticipated demographic projection (10-year migration trend) would support the future job growth expected in the area without substantially affecting commuting flows. While the percentage increase in commuting appears substantial this is based on very small numbers and is not considered to be a problem because the results demonstrate that the HMA area is not constrained by a lack of local supply of labour. Instead, the testing shows that the 10-year migration trend generates a slightly larger labour supply.

4.2.4 With the growth in labour supply there is the potential for increasing the local unemployment rate (i.e. share of economically active working age population not working). This is because the resident labour supply may increase at a greater rate than employment (demand) growth. This is relevant in the Plymouth City 10-year migration scenario, which increases the Plymouth population by 7,700 above the Experian baseline population. This higher population growth would lead to higher local job demand throughout the forecasts (because of the need for more services, etc), but this would be insufficient to match the increase in the labour force resulting from the population growth. This is because new business enterprises and output (and therefore additional demand for jobs) take longer to evolve relative to demographic changes. Consequently, the 10-year migration scenario forecasts show a slightly higher unemployment rate and marginally lower economic activity rate in Plymouth relative to the baseline.

4.2.5 The 10-year migration scenario forecast, which is considered a reasonable and consistent forecast, infers that the councils, and particularly Plymouth Council, should align their aims for increasing local job growth by asserting economic development policy initiatives that may enhance more employment opportunities for residents. It is understood that Plymouth Council is aiming for above trend job growth through planning tools such as in allocating employment land and other economic interventions to address the issues identified. Therefore, there is no justification for adjusting the housing requirement down in response to the top-down employment forecasts. Not least because much of the demand for housing is not necessarily driven by job opportunities, and people who do not work also need to live somewhere.

4.2.6 It can be concluded that there is no need for an economic uplift on the basis of the preferred demographic scenario. Indeed, as this is only one part of the assessment of OAN we would also not recommend that a downward adjustment is made either.

5 Market Signals

5.1 Introduction

5.1.1 The PPG is clear that the starting point or preferred demographic scenario should be adjusted to reflect appropriate market signals and indicators. Consideration of market signals is important because they demonstrate the balance between the *demand for* and the *supply of* dwellings.

5.1.2 The PPG advises that further evidence should be considered to identify whether market signals demonstrate that there has been an undersupply of housing demand in the past. If this is the case, then the projections may understate the need and should be adjusted upwards. In order to investigate if planning across the HMA has underprovided housing land in the period on which our projections are based, we examine the history of housing development in the HMA and for each constituent authority.

5.1.3 The SHMA 2013 and update reports 2014 and 2015 provide a considerable amount of detail in relation to market signals. These reports consider house price trends, private rental market, housing market activity and rates of development, overcrowding, homelessness and those in temporary accommodation. Further work had been carried out to update the data as far as possible and compare figures with county, regional and national benchmark information.

5.2 Housing Market Activity and Rate of Development

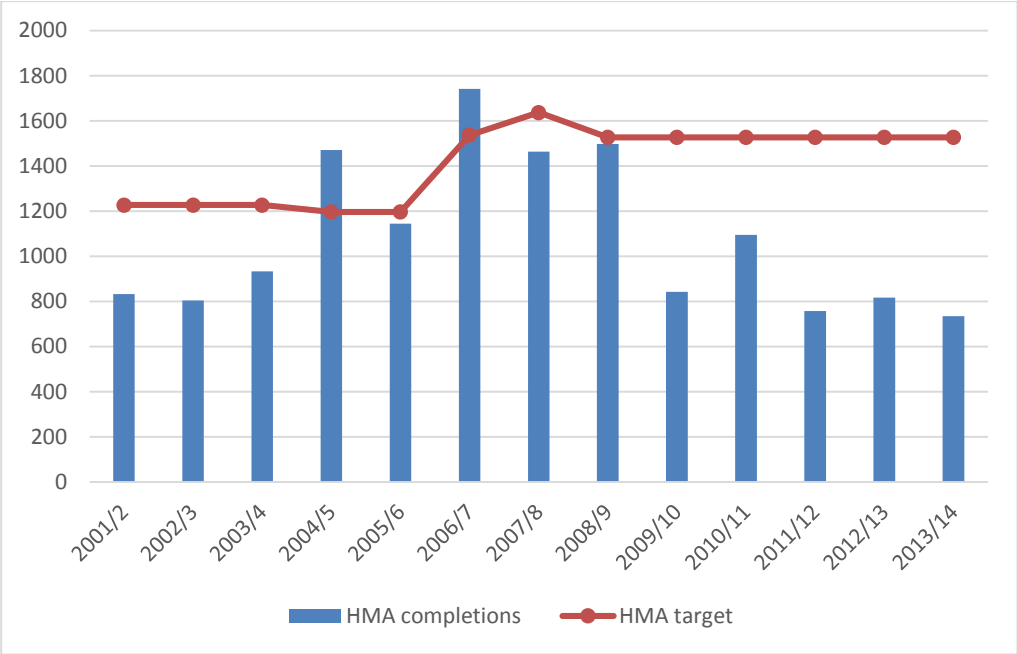
5.2.1 The SHMA update demonstrates a decline in transactions broadly in line with the rate of change in housing market activity across the region and nationally. Current rates are below national rates in Plymouth, and slightly above in both South Hams and West Devon. Interestingly, a review of the housing stock between 2001 and 2012 demonstrates that there has been a considerable increase in stock in West Devon, compared with Plymouth and South Hams which are below the national and regional rates. This data should be used with caution as the development rates can be artificially supressed and are closely linked to the planning system. It is also worth comparing this with completion rates.

Table 12: Increase in housing stock 2001-2011

	Increase in housing stock 2001-2011 (%) Census data
Plymouth	6.38
South Hams	6.65
West Devon	15.9
South West	10.11
England	8.34

5.2.2 It is clear that completions across the HMA have not reached the targets set. This is primarily due to Sherford not coming on stream as quickly as expected. As this site was intended to deliver almost half of the District's target at a rate of 300 homes a year and is a "one off" or "special" set of circumstances that is unlikely to be repeated in this way on any regular basis it is important to treat Sherford as a separate entity when considering past delivery and future housing targets. However, even when Sherford is excluded and only data for rural South Hams is included there have been less completions than required. This is shown in the table below.

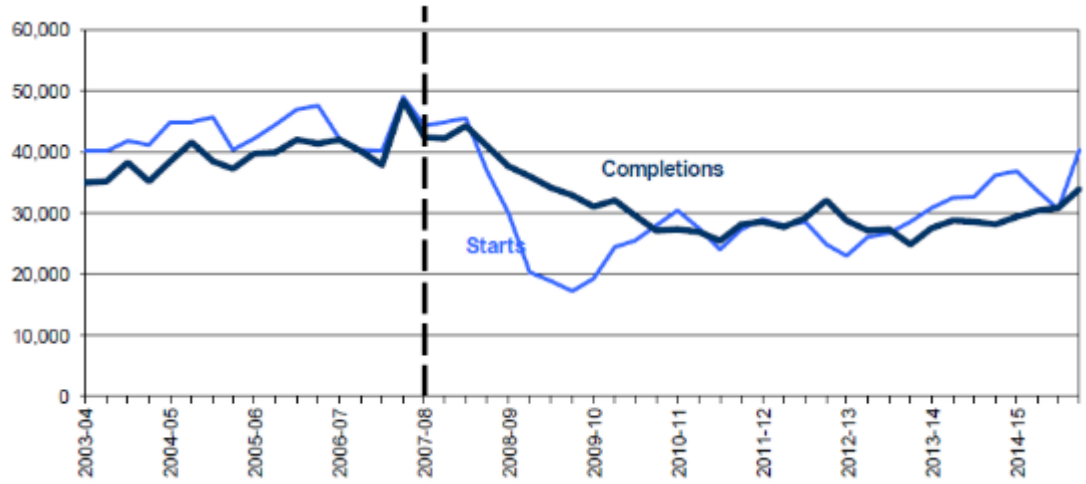
Figure 12: HMA Housing completions and requirement 2001-2014



Source District figures

5.2.3 The difference is particularly significant since 2009/10 which is typical of the pattern across the country. There are a number of reasons for this - most importantly the recession - which almost halved the national rate of housing delivery, reducing the effective demand for housing and the viability of development sites. A further factor was the that the planning system was transitioning from the Structure Plan to the Regional Spatial Strategy which caused a period of uncertainty in land supply across the HMA.

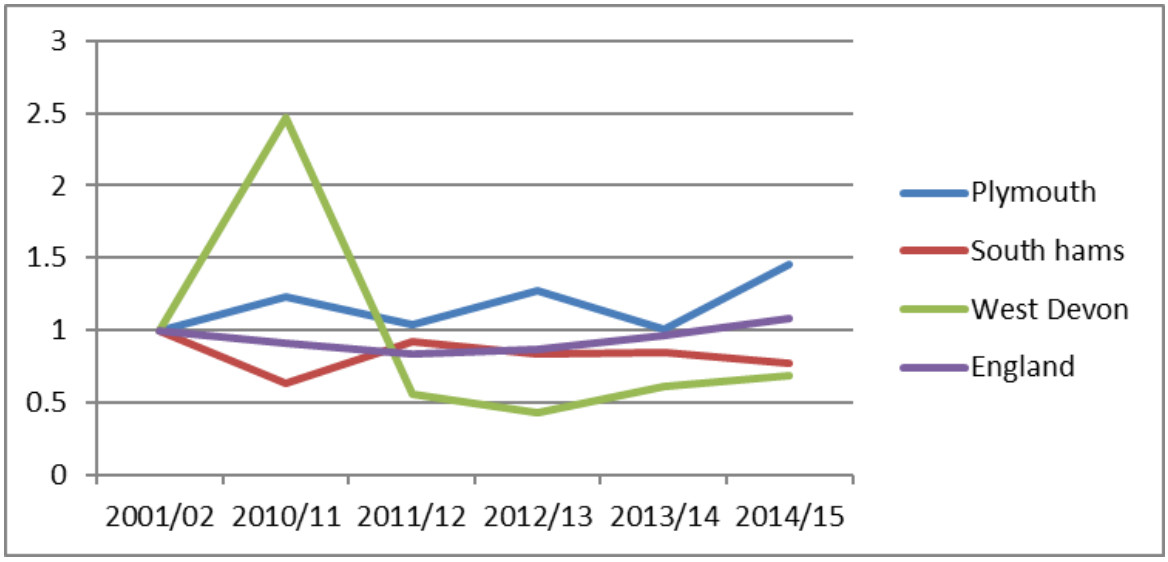
Figure 13: Housing delivery in England 2003-2015



Source CLG

5.2.4 In terms of completions data, it is interesting to consider the completions that have occurred in the last five years of the projection period compared with completions in a base year identified as 2001/02. This is displayed on the chart below, which demonstrates that Plymouth has consistently performed above the national rate whereas South Hams has tracked it or been just below. West Devon is far more variable with considerably increased level of completions between 2007 and 2011, which is shown in the graph but then plummeting to sit below the national rate more recently.

Figure 14: Completions 2010-2015 indexed against 2001



5.2.5 In terms of housing delivery across the individual districts, the following charts demonstrate completions against the applicable plan targets. These charts show completions from 2001 – 2016, although the period we are particularly interested in runs from 2005- 2015, which is the start of the trend period used in our preferred demographic scenario.

Figure 15: Plymouth completions with requirement figures

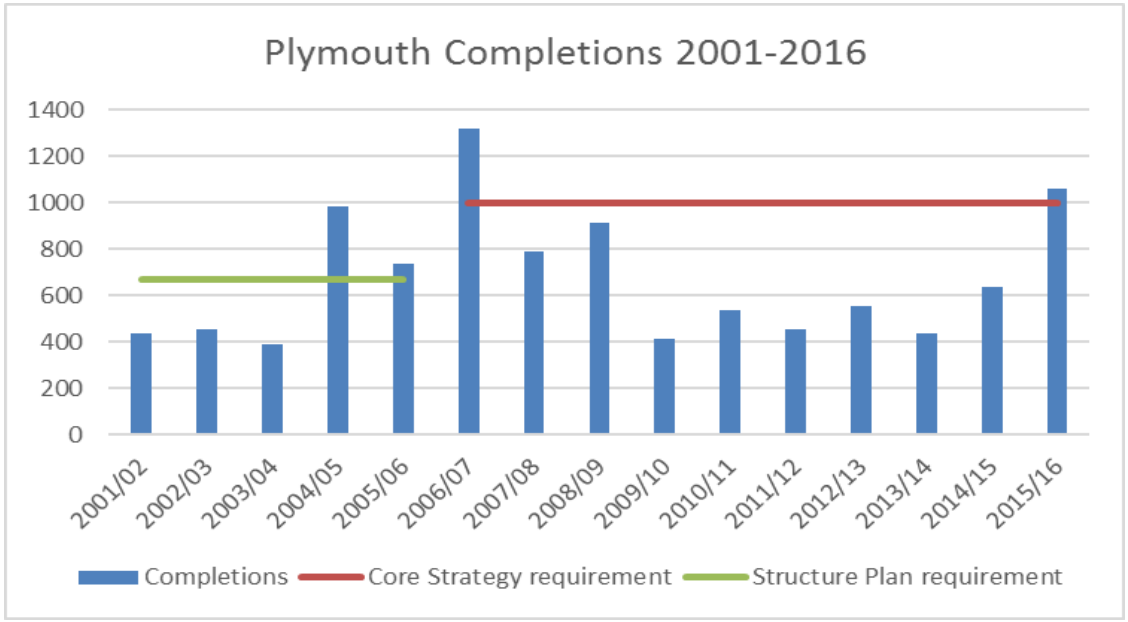


Figure 16: South Hams completions with District requirement figures

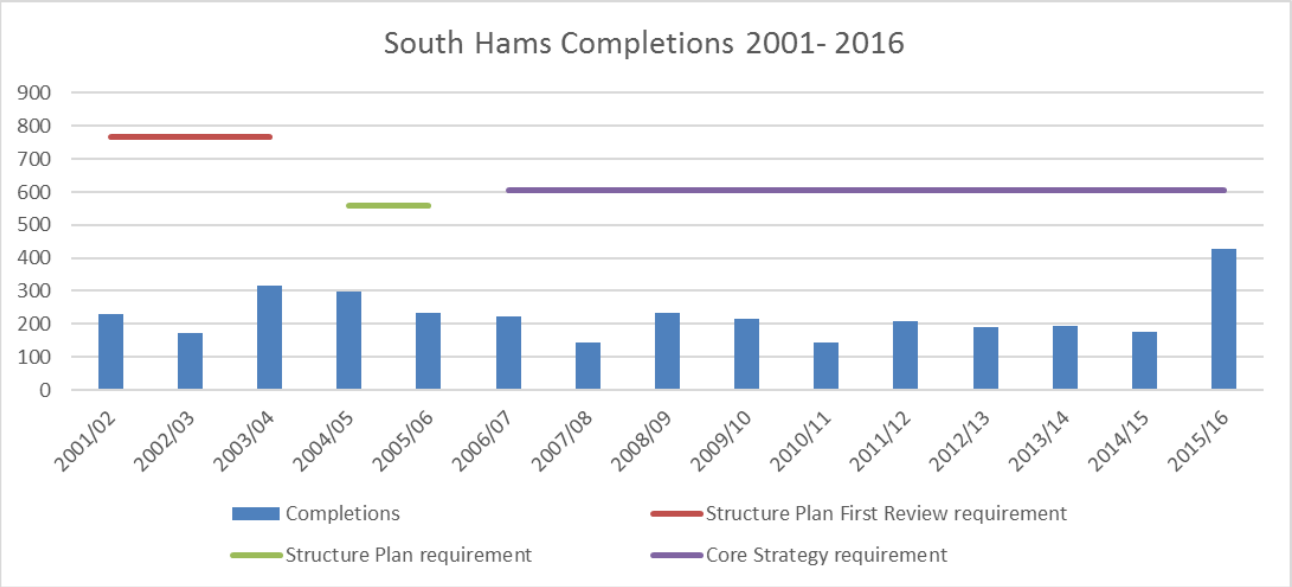


Figure 17: South Hams completions with Rural South Hams requirement figures

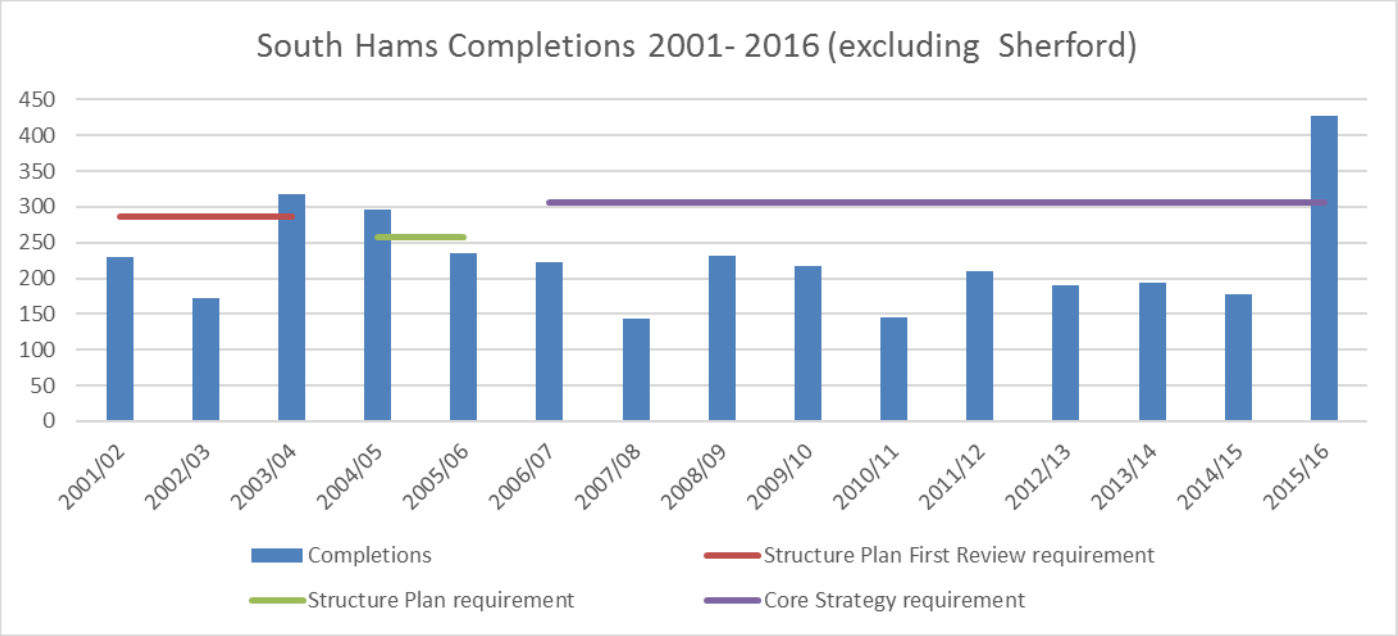
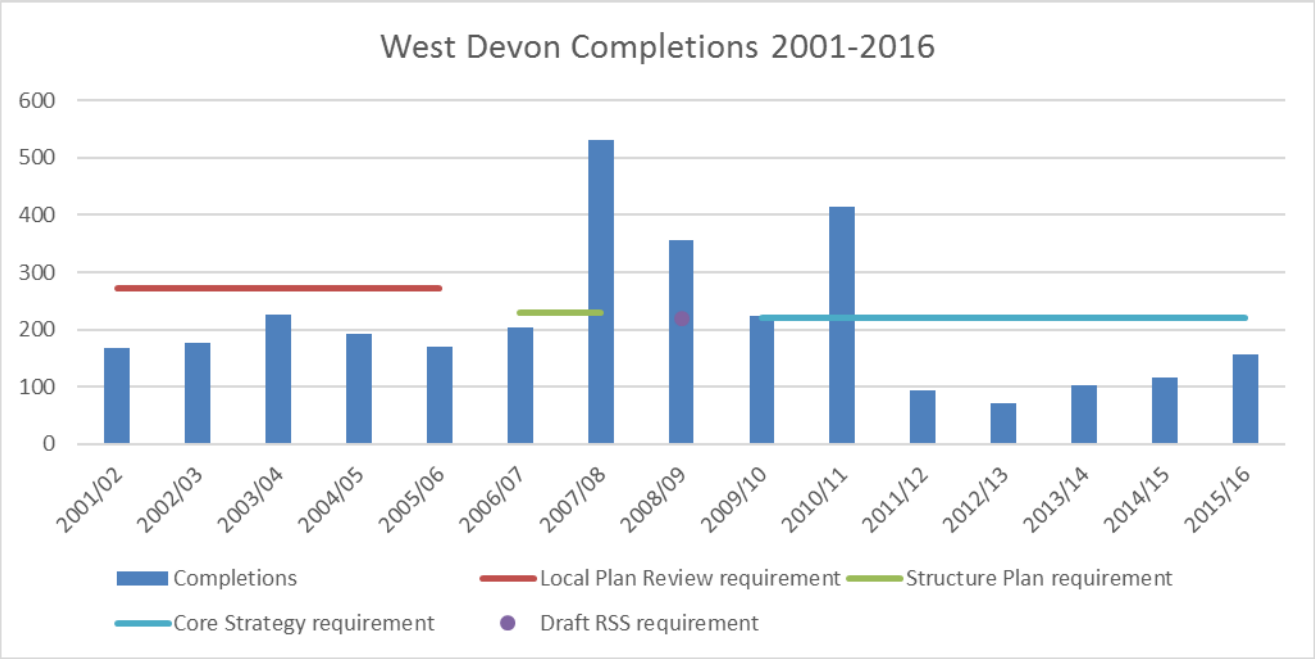


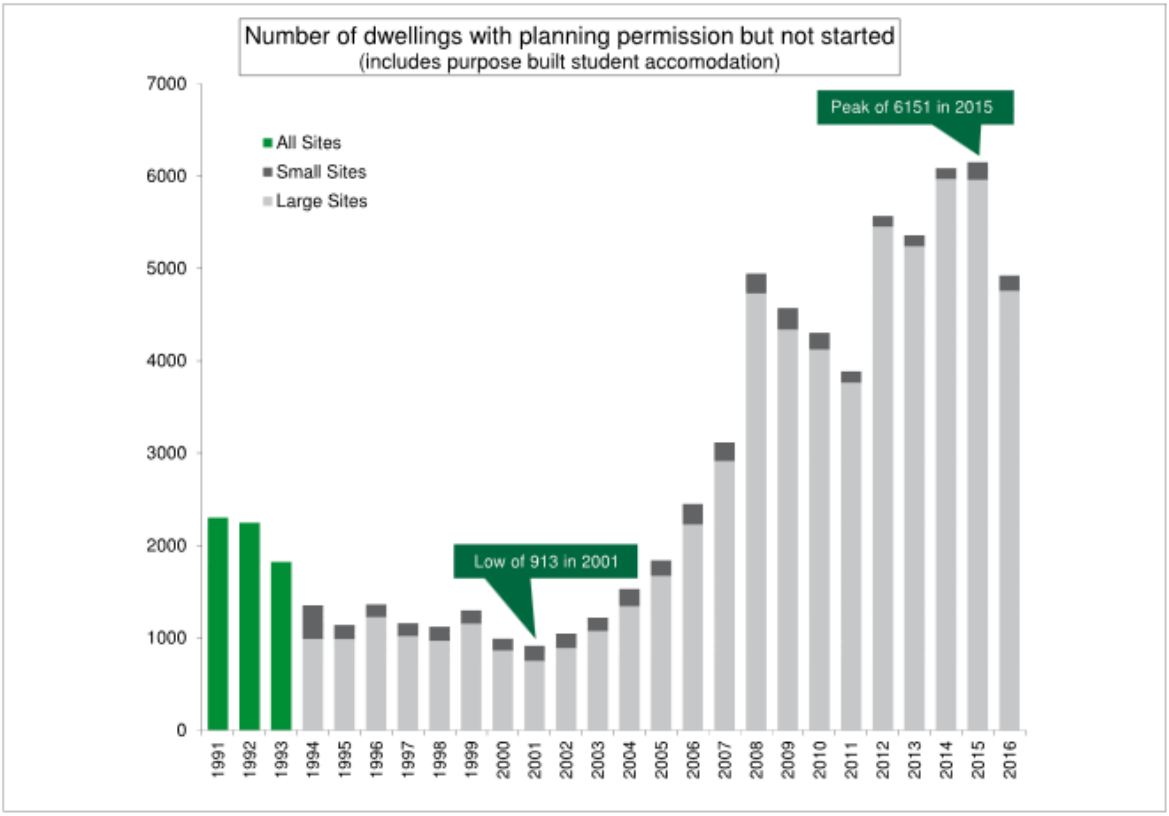
Figure 18: West Devon completions with requirement figures



5.2.6 It is clear that generally the completions reported do not meet the requirements in place at the time. This is particularly stark in South Hams, which is primarily accounted for by the lack of delivery on Sherford, however, even excluding Sherford, the rates of delivery have not achieved the requirement. However, there has been a sharp increase in completions in 2015/2016. It can be seen that delivery plummeted in 2009/10 in Plymouth, 2010/11 in South Hams and 2011/12 in West Devon. The key issue is whether this was caused by any planning constraints, or simply reflects the recession and macroeconomics which led to weak market demand for new homes.

5.2.7 It is useful to look at planning permissions in the pipeline to understand whether the supply was constrained by a deficiency in land. However, this information is not available consistently across the HMA and should be used with caution. Evidence from Plymouth in the figure below indicates that there was a good supply of sites with permission since 2008, however, it is important to note that these include purpose-built student accommodation which has consent. It is understood that these total approx. 545 units and cannot be stripped out of historic data. It should be emphasised that they cannot and are not being counted as part of the delivery going forward.

Figure 19: Plymouth planning permissions 1991-2016



5.2.8 Despite this health warning, it suggests that the poor delivery between 2010-2015 in Plymouth was largely a result of weak market demand for new homes as opposed to any abnormal planning constraints. The situation in West Devon is complicated by the very high delivery rates achieved between 2007-2011, which demonstrates that delivery has not been deliberately constrained over the projection period, indeed these very high rates will disproportionately influence the five year projections based on this period and lead to higher forecasts of growth.

5.2.9 As discussed above the South Hams figures are heavily influenced by the development of a new community at Sherford which is intended to meet needs in both South Hams and Plymouth with its location on the Eastern fringe of the city. Due to economic circumstances the site failed to come forward as initially envisaged and accounts for a significant proportion of the under delivery that has been seen in South Hams. Despite this South Hams has not been delivering as much as expected and while this lack of housebuilding may simply reflect the national recession and a lack of interest in investing in sites to bring them forward, it may also have to some extent been influenced by the lack of available sites. It is difficult to conclusively argue weak market demand is wholly responsible and dismiss the idea that supply had to some extent been constrained over the project period. As such, it is necessary to consider whether an uplift should be applied to account for this undersupply.

5.3 House Prices and Affordability

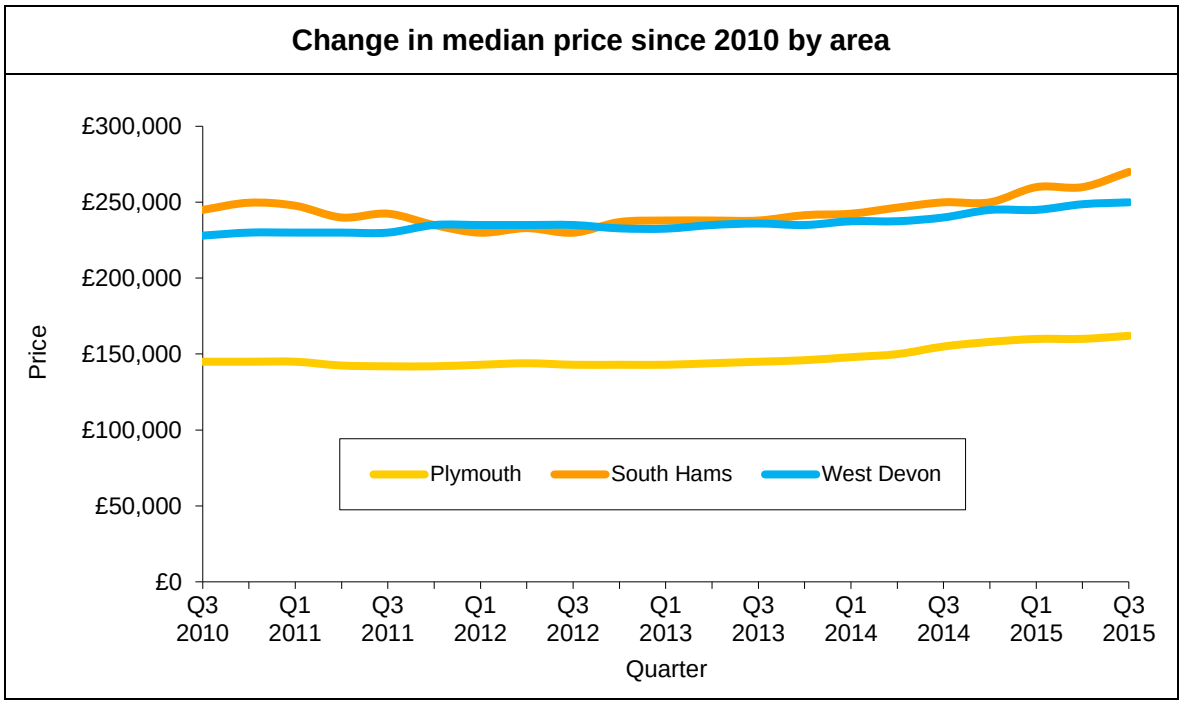
5.3.1 In relation to house prices the evidence consistently demonstrates that Plymouth remains the most affordable with median house prices tracking below the national average and that South Hams in particular has average house prices that have consistently and significantly exceeded the national average. The most recent SHMA part 2 report concludes that this pattern continues using more recent data. Average prices in Plymouth are the only ones within the HMA lower than the average for the South West region and England as a whole. The table also shows that between 2010 and 2015 average prices have increased fastest in Plymouth, followed by South Hams and West Devon. All areas recorded price rises lower than the region-wide and national equivalents.

Table 12: Change in median prices across HMA

Change in median property prices 2010-2015			
Location	*Median price Jul - Sep 2010*	*Median price Jul - Sep 2015*	*Percentage change recorded 2010-2015*
Plymouth	£145,000	£162,000	11.7%
South Hams	£245,000	£270,000	10.2%
West Devon	£228,000	£250,000	9.6%
South West	£182,950	£209,950	14.8%
England	£175,000	£204,995	17.1%

Source: Land Registry

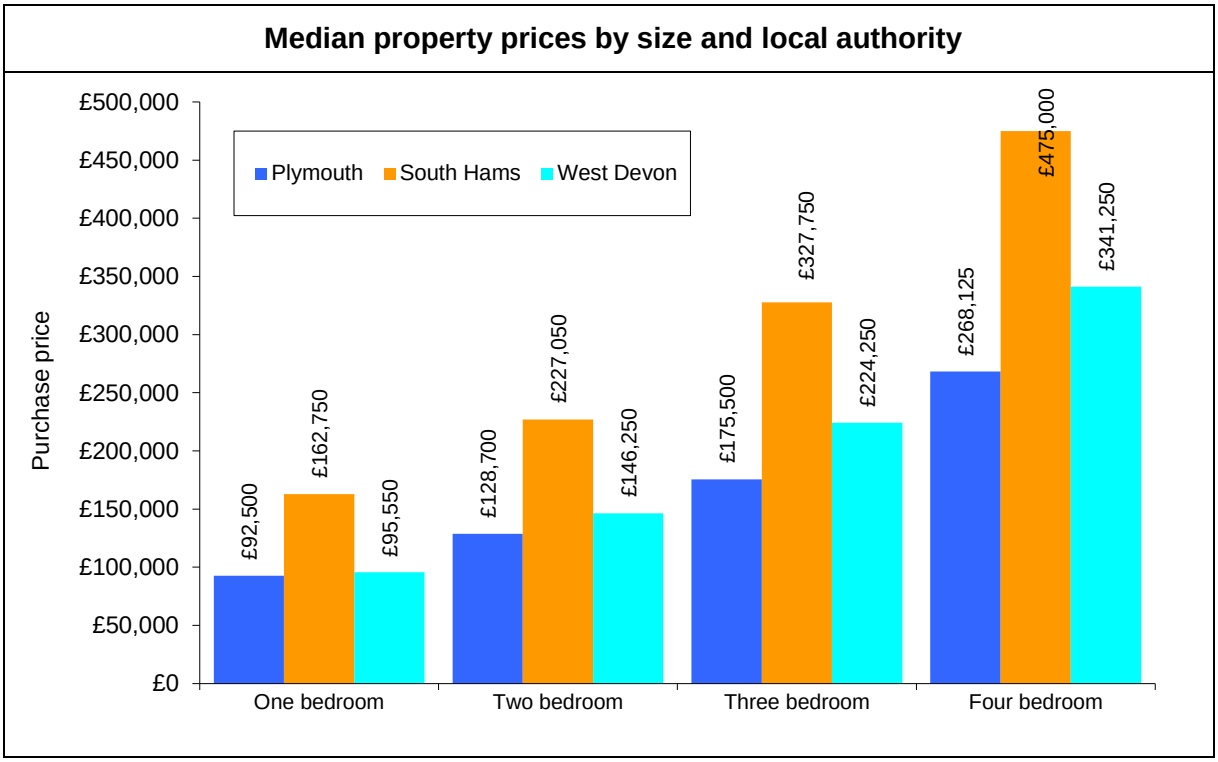
Figure 20: Change in median price for Plymouth, South Hams and West Devon



5.3.2 The SHMA has undertaken a price survey to assess current cost of housing and demonstrate that prices are highest in South Hams and lowest in Plymouth. In all authorities the difference

between one and two bedroom homes is smallest and the difference between three and four bedroom homes is largest.

Figure 21: Median property price by size and LPA



5.3.3 The Local Plans Expert Group recommended that median House Price Ratio should be used as an indicator of market imbalances occurring in their area. The affordability of housing in an area is measured by the ratio of market housing costs to income in that area. An example of an indicator is the house price ratio, which is the ratio of median quartile house prices to median earnings and is a comparison of housing costs against the ability to pay. It is therefore a good measure of how affordable it is to buy a property. The higher the ratio the less affordable it is for households to buy and get onto the property ladder.

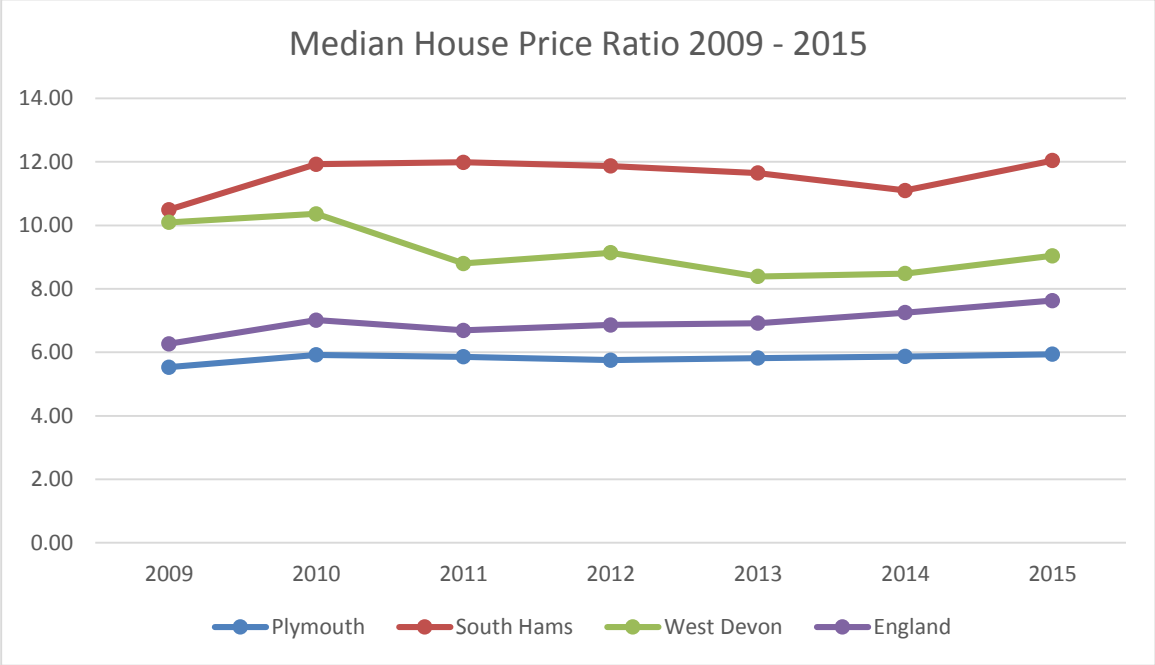
5.3.4 The pattern of prices identified in the SHMA part 2 is reflected in the house price ratio at both the median and lower quartile level. This demonstrates that affordability issues have not eased and many low income households will be priced out of entering the private housing market, particularly in South Hams. It is important to note that average figures hide a wide range of house prices across the local authorities.

Table 13: House Prices, House Price Ratio and Affordability

	Mean House price Q 4 2014 £ (ONS Land Registry)	House Price Ratio Median (2013-15 average)	Affordability Ratio Lower quartile house price to lower quartile earnings (2013-2015 average)
Plymouth	168,931	5.88	6.23
South Hams	323,983	11.59	10.79
West Devon	241,284	8.63	9.25
England	258,535	7.26	6.87

Source, ONS, Land Registry and VOA

Figure 22: Median house price ratio

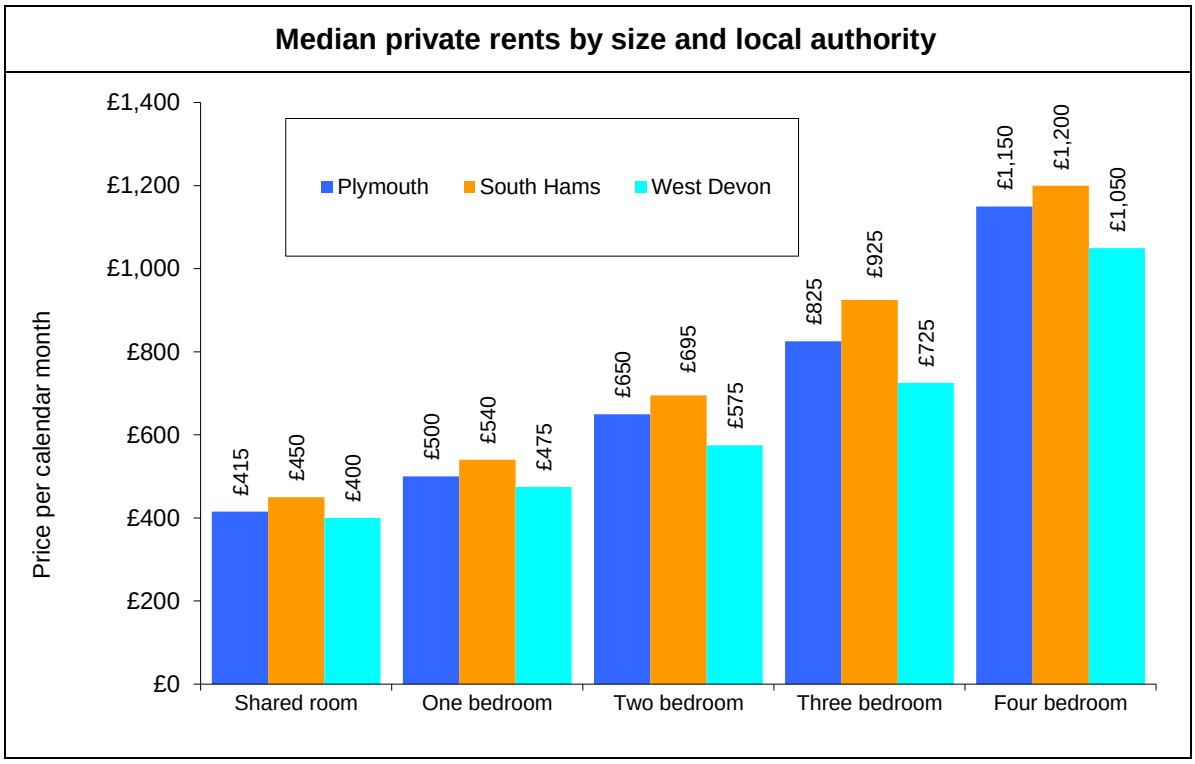


Source VOA

5.4 Private Rental Market

5.4.1 The SHMA Part 2 report demonstrates that in terms of median rents, South Hams is the most expensive of the Local Authorities to rent privately in.

Figure 23: Median private rents



5.4.2 It should be noted that there is currently no definitive rental affordability ratio by local authority produced by CLG. However, using VOA and ASHE data it is possible to identify the ratio. The table below compares private rental market statistics for lower quartile and median monthly rents for all property categories with lower quartile and median monthly earnings for 2014. This demonstrates that South Hams is above the national average in terms of rents and earnings whereas Plymouth is below both the regional and national average.

Table 14: Rental affordability

	Lower quartile rents 2013/2014 (£)	Lower quartile earnings 2014 (£)	Rents as a percent of earnings (%)	Median rents	Median earnings	Rents as a percent of earning (%)
Plymouth	412	1443	29	537	1894	28
South Hams	550	1625	34	650	2166	30
West Devon	525	1478	36	580	2017	29
South West	525	1446	35	635	1983	32
England	465	1492	30	595	2094	28

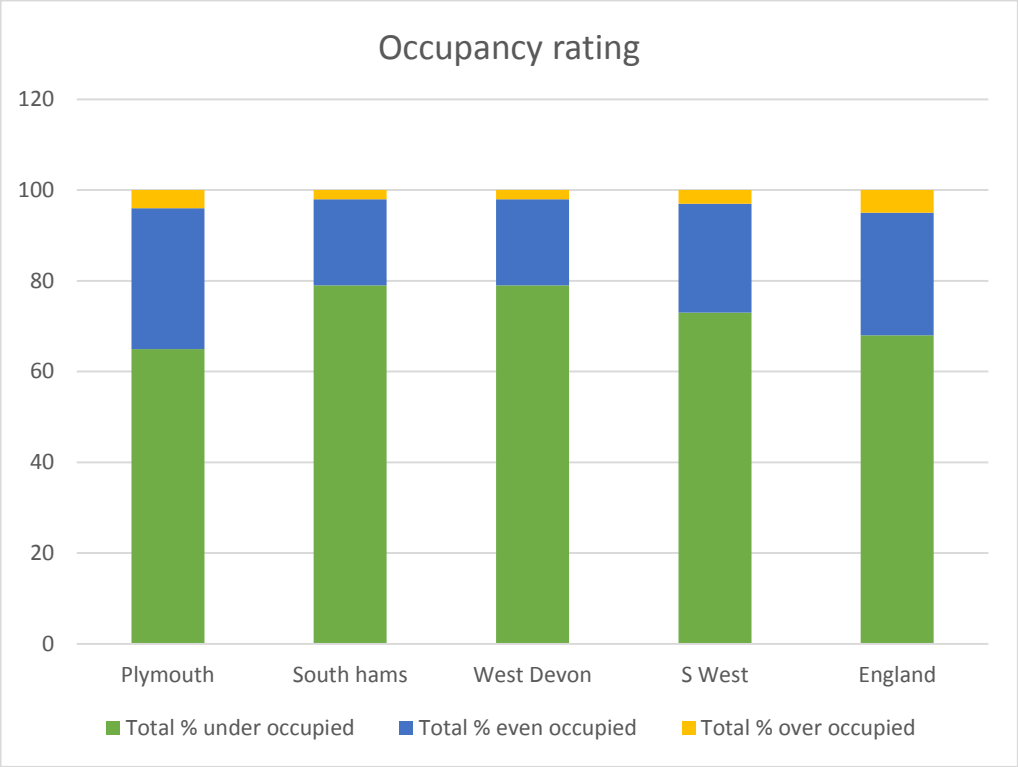
Source: VOA, and AHSE from Nomis

5.5 Overcrowding

5.5.1 The previous SHMA identified that the districts within the HMA had low levels of overcrowding. The New SHMA Part 2 report continues to use the 2011 Census information as a basis for their work as this is the only information available. The chart identifies the percentage of dwellings that are under-occupied, correctly occupied and over-occupied according to ONS definitions, which are based on number of bedrooms according to the Census. As shown by the chart, all the districts within the HMA have only a very small percentage of properties with -

1 or less occupancy ratings, ie they are over-occupied. Both South Hams and West Devon have only 2% over-occupation compared with the national average of 5%; both these authorities have a higher rate of under-occupation when compared to regional and national trends.

Figure 24: Occupancy rating

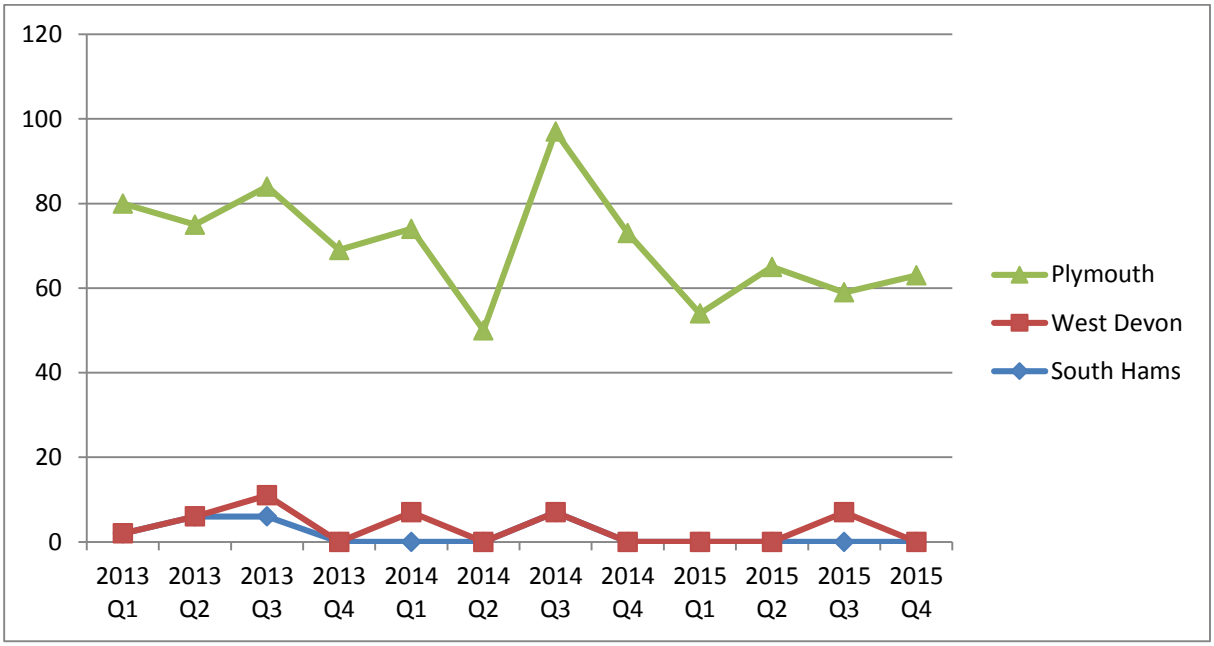


5.5.2 Consequently, the previous SHMA concluded that there is no compelling evidence to suggest an upwards adjustment is required and given that there is no more recent information to add to this assessment, it remains the case that no adjustment is required.

5.6 Homelessness

5.6.1 Numbers of households classed as homeless can indicate a lack of market and affordable housing. However, in this instance using data contained on the Shelter Housing Databank webpage the average rate in change in homeless households across all authorities between 2005 and 2013 is -70.97%. Indeed, all authorities have witnessed a significant decrease ranging from 53.83% in Plymouth to 84.48% in West Devon suggesting that homelessness is not an indicator of high levels of demand. More recent figures below from the Shelter databank show that homelessness continues to decline.

Figure 25: Homelessness

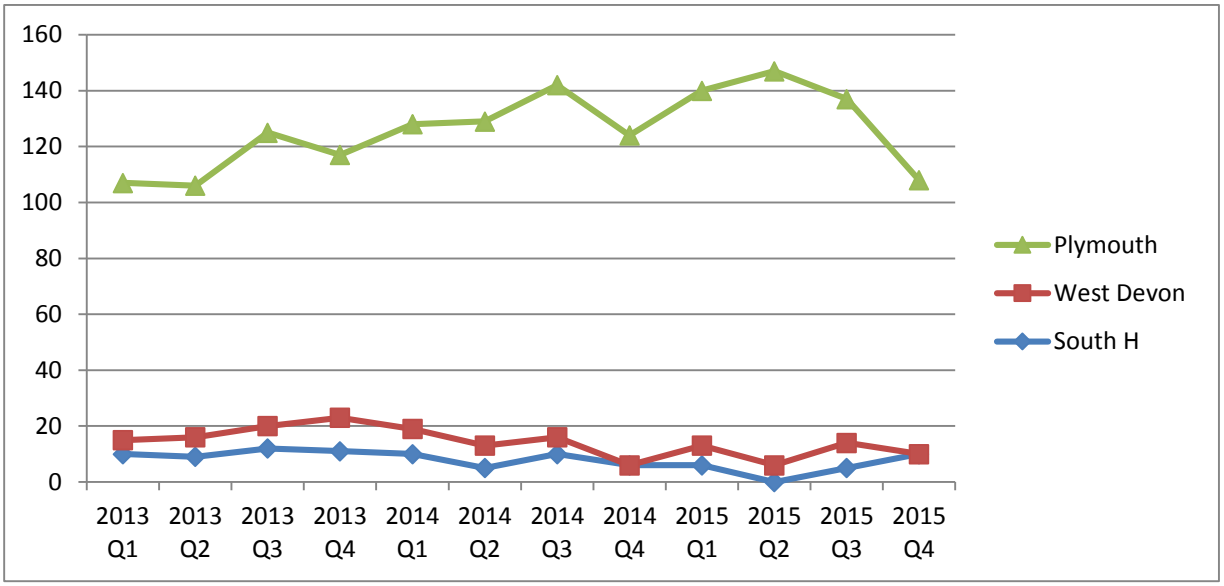


Source Shelter databank

5.7 Temporary Accommodation

5.7.1 Similarly, the Shelter Databank provides that numbers of households in temporary accommodation across the authorities have reduced by 61.02% on average between 2005 and 2013. Indeed, reductions ranged from 33.62% in Plymouth to 90.16% in South Hams. Consequently, it can be said that temporary accommodation is not a meaningful indicator of demand. More recent figures below from the Shelter databank show that those in temporary accommodation are relatively static, and have not been increasing.

Figure 26: Temporary accommodation



Source Shelter databank

5.8 Local Plans Expert Group

5.8.1 The SHMA concluded that the market signals assessment shows a mixed picture across the HMA, and this pattern continues to be evident from the more up to date information. While South Hams certainly exhibits affordability indicators that would suggest a market signals uplift is required, this is similarly the picture for West Devon, although at a lower scale. Plymouth however on all indicators demonstrate that they are not constrained and overall probably do not require a market signals uplift.

5.8.2 Nevertheless, in considering market signals it is important to understand current thinking and the extent to which the Local Plans Expert Group recommendations and thresholds are appropriate. Using these thresholds, it is clear that in relation to House Price South Hams would require 25% uplift, West Devon 20% and Plymouth 10%. This is set out in the table below:

Table 15: LPEG House Price Ratio uplift implications

	House Price Ratio (3-year average)	Percentage uplift	Reason
Plymouth	5.88	10%	House Price Ratio is above 5.3
South Hams	11.59	25%	House price ratio is above 8.7
West Devon	8.63	20%	House price ratio is between 7 and 8.7

Source CLG

5.8.3 LPEG propose the use of the rental affordability ratio based on lower quartile rental costs as a percentage of lower quartile earnings. As shown above, local authority published data for this ratio indicates that an uplift is required in all the areas of between 10-25%. However, when the more reasonable median figures are used, an uplift is still required and the uplift figures and reasons for this are set out in the table below.

Table 16: LPEG Rental Affordability Ratio uplift implications

	Median Rental Affordability Ratio	Percentage uplift	Reason
Plymouth	28%	10%	RAR is above 25% and less than 30%
South Hams	30%	20%	RAR is above 30% and less than 35%
West Devon	29%	10%	RAR is above 25% and less than 30%

Source VOA, NOMIS, ASHE

5.8.4 However, we do have some significant concern about these measures as they use individual earnings rather than household income and by this measure there is potential over-inflation of the market signals uplift. As such, median figures are used as a more realistic assessment of the uplift.

5.9 Conclusions

5.9.1 Using the PPG criteria, we have considered house prices, affordability, private rental levels, delivery of development, and other issues such as overcrowding, homelessness and temporary accommodation. The assessment demonstrates that there are clearly issues of constrained supply and affordability in parts of the HMA where an imbalance exists with market undersupply relative to demand. Consequently, it is necessary to factor in an appropriate uplift to the figures, in order to recognise the previous undersupply as well as the high house prices and rental levels, and particularly responding to the lack of affordability in South Hams.

5.9.2 It is clear from completions data that delivery has not been at the levels set out in the structure plan and RSS. It is important to note that while these are the relevant requirements, they are not an accurate basis of OAN and indeed these figures were not devised on that basis and never purported to be an accurate representation of objectively assessed housing need. It is clear that while delivery has slowed considerably since 2009, this is in line with national trends and is due primarily to the recession and wider macroeconomic issues rather than land supply constraints. This is particularly the case in Plymouth, and in relation to the new community at Sherford. Over the projection period it is clear that West Devon have delivered a considerable number of dwellings and exceeded their target in a number of years. It is more difficult to be conclusive about the reasons why delivery has been constrained in South Hams and therefore it may be necessary to make an upward adjustment for undersupply in this area over the projection period.

5.9.3 There is no accepted current good practice in relation to the level of uplift which should be applied, and Inspectors are interpreting this differently across the country - in some cases applying a rather arbitrary 10% uplift. We have considered the Local Plans Expert Group (LPEG) recommendations which set out indicators and benchmarks for house price ratios, as well as rental affordability ratios and have incorporated these, where considered reasonable, into the assessment. Although these recommendations have not been accepted by the Government, and the Housing White Paper is yet to be published, they are useful and relevant in part and do attempt to simplify this process of adjusting for market signals.

5.9.4 The approach used has considered all the relevant indicators as identified by the PPG and more recent LPEG recommendations to establish whether an uplift should be applied and then the level at which it would be appropriate and reasonable. The assessment concludes from an analysis of the most up-to-date data that is only available for the different districts, that different levels of uplifts may be appropriate for the different indicators and in the different constituent authority areas. Consequently, the assessment identifies an uplift range for each district. By then using the highest end of the range it ensures the approach is robust and factors in the highest level of uplift. This is then applied according to the broad distribution of growth and results in a weighted uplift across the HMA.

5.9.5 A summary of the market signals assessment is set out below which identifies the need for and scale of the uplift against each indicator, resulting in the range and highest uplift to be applied.

Table 17: Market signals uplift

	House Price Ratio and affordability uplift	Private rental market uplift	Market activity and delivery uplift	Overcrowding and homelessness uplift	Uplift Range	Highest uplift to be used in OAN
Plymouth	Yes 10%	Yes 10%	No	No	0-10%	10%
South Hams	Yes 25%	Yes 20%	Yes	No	20-25%	25%
West Devon	Yes 20%	Yes 10%	No	No	10-20%	20%

6 Conclusions

6.1 Summary

6.1.1 The methodology used in this report follows that outlined in the Planning Advisory Service Technical Advice Note 'Objectively Assessed Housing Needs and Housing Targets', updated July 2015. It also follows the stages set out in the Planning Practice Guidance.

6.1.2 The first stage of any OAN assessment is to define the Housing Market Area. Both the NPPF and PPG advises that, where HMAs extends beyond administrative boundaries, housing need assessments should cover these wider areas. We have used evidence from the 2011 census to test the HMA in relation to migration, commuting, house prices and contextual data.

6.1.3 Our analysis suggests that a HMA comprising Plymouth, South Hams and West Devon forms a pragmatic basis for assessing housing need. It is important to recognise that there are close links with neighbouring authorities and particularly strong relationships between Plymouth and Saltash in Cornwall to the west, between Kingsbridge and Torbay in the east and between Okehampton and Exeter in the north-east.

6.1.4 The second stage is to test the demographic data for the most appropriate demographic starting point. We have updated the OAN for the HMA starting from the official demographic projections. We have tested these against alternative scenarios based on local demographic data and over a range of migration trend periods. The 10-year migration trend period is considered to be the most robust demographic starting point because it more accurately reflects the longer term trend and also uses more reliable local data which is consistent with the approach taken in the adjacent Exeter HMA.

6.1.5 The third stage is to consider how employment trends should be taken into account. This has been informed by independent employment forecasts which demonstrated that using the 10-year migration trend demographic projections is a reasonable and consistent forecast, and that certainly no upward adjustment is required. However, it recognises that the councils, and particularly Plymouth Council, should use local economic development policies initiatives to increase local job growth to enhance more employment opportunities for residents.

6.1.6 The fourth stage is to consider market signals and past rates of housebuilding. The findings demonstrate evidence that affordability is an issue, particularly in South Hams, and that to some extent past delivery has not kept pace with market demand. Consequently, an upward revision to the projection is justified. The report has sought to use the most robust recommendations from the Local Plans Expert Panel, because this has been done in advance of the Housing White Paper being published, in applying an appropriate uplift.

6.1.7 As a result, two scenarios have been developed as follows:

Scenario 1: Using official 2014 based household projections and adjusted for vacancy and uplifted for market signals; and

Scenario 2: Using updated Local DCC 10-year migration trend and uplifted for market signals.

Table 18: Scenario 1: 2014 based Household projections uplifted

	DCLG 2014 based Household projections 2014-2034	Adjust for vacancy rates	Cumulative total	Market signals uplift	OAN (dwellings) 2014-2034
Plymouth	11,659	3.3%	12,044	10%	13,248
South Hams	4,386	14.8%	5,035	25%	6,294
West Devon	4,419	7.9%	4,768	20%	5,722
HMA	**20,464**		**21,847**		**25,264**

Table 19: Scenario 2: 10-year migration trend projections uplifted

	10-year trend projections 2014-2034	Market signals uplift	OAN (dwellings) 2014-2034
Plymouth	16,561	10%	18,217
South Hams	3,139	25%	3,924
West Devon	4,302	20%	5,162
HMA	**24,002**		**27,303**

6.2 Recommendation

6.2.1 Scenario 2 above is considered to be the most robust demographic projection and with the market signals uplift is considered to represent the full objectively assessed housing need figure for the Plymouth Housing Market Area, including that part of Dartmoor National Park that is within the districts of South Hams and West Devon.

6.2.2 The full objectively assessed need figure for the HMA is approximately 27,300 dwellings to be delivered over the period 2014-2034.

6.3 Policy implications

6.3.1 This OAN represents the need for housing across the HMA and should be met in full within the HMA.

6.3.2 The robust projections, uplifted for market signals, as set out in this assessment provides for the full market demand for all housing regardless of tenure. It is important to note that affordable housing is not a direct component of an OAN assessment and therefore we do not show it within this report. Instead, Part 2 of the SHMA produced by HDH Planning and Development separately considers the requirements for affordable housing and implications for specific groups of the population, and whether any further additional uplift for affordable housing should be made to help meet the affordable housing need, over and above that already proposed within the market signals adjustment.

6.3.3 It is for the Joint Local Plan to set out how the OAN is to be distributed considering the local circumstances and policy issues that are to be addressed.

Appendix A Devon County Council Local Modelling Report January 2017

Plymouth Housing Market Area Population & Housing Projections

2014 to 2034

Local modelling report

January 2017

FINAL DRAFT

Devon County Council County Hall Topsham Road Exeter Devon	Devon County Council

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Contents

Introduction

Purpose of this report

- Devon County Council (DCC) has produced population and dwelling projections for the Plymouth Housing Market Area (the HMA). These projections have fed into the wider Strategic Housing Market Assessment (SHMA) undertaken by Peter Brett Associates (PBA) as part of the evidence base for the joint Local Plan covering the HMA. Based on the DCC projections, the PBA work provides the most up to date SHMA for the HMA as a whole and includes potential housing requirements for the constituent Local Authority areas. The Local Authorities covered by the HMA are:

    - Plymouth;
    - South Hams; and
    - West Devon.

- The figures included in the report also include the areas within Dartmoor National Park which lie within South Hams and West Devon, although the Local Plan does not cover the Park.

- It should also be noted that previous work on the Plymouth HMA had included a consideration of housing requirements in east Cornwall. However, the Cornwall Local Plan adopted in November 2016 was based on demographic evidence which specifically covered the whole of Cornwall. As such, in order to be consistent with this approach, the assessments undertaken and documented in this report does not consider Cornwall.

- This report provides a detailed description of the methodology used by DCC in undertaking the trend-based population and dwelling projections for the HMA and sets out the outcome of the assessment. In particular, this report:

    - Provides an overview of the modelling methodology used to undertake the population and dwellings projections;

    - Provides details of the assumptions and inputs made in respect of the projections;

    - Specifically relates the methodology used to the requirements of the National Planning Policy Framework (NPPF)[6] and National Planning Practice Guidance (NPPG)[7]; and

    - Illustrates how the methodology adopted develops that used to produce population and household projections undertaken by the Office for National Statistics and the Department for Communities and Local Government respectively. A summary of this analysis is included in Appendix A.

Associated work

[6] The National Planning Policy Framework is available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2

[7] National Planning Policy Guidance is available at: http://planningguidance.planningportal.gov.uk/

- Building on the Office for National Statistics (ONS) and Department for Communities and Local Government (DCLG) methodologies, the projections undertaken by DCC provide the 'starting point' dwelling requirement for the Plymouth HMA as referred to in paragraph 15 of the NPPG. The DCC projections are a robust assessment of trend-based housing requirements founded on sound data and trends.

- Moving on from this 'starting point', there are wider methodological requirements of SHMAs, which are set out within the NPPG, including consideration of additional factors such as employment projections and market signals. Only once all these additional factors have been considered can the Objectively Assessed Housing Need (OAN) for an area be identified, as required under paragraph 47 of the NPPF. These additional factors and final conclusions regarding the OAN for the area are not considered in this report; they are considered within the accompanying reports prepared by PBA. Other related work also includes more detail on affordable housing and requirements on specific house types.

Background

- Population projections based on short term migration trends (5 years) are available from the Office for National Statistics (ONS). The latest data set is the 2014 based sub-national population projections which are developed from the population estimates from 25 June 2014[8] (the 2014 Mid Year estimate). These projections cover the period up to 2039. These projections and the 2015 Mid Year estimate for the Plymouth HMA, and Local Authority areas within it, are available in Appendix B.

- Household projections for Local Authority areas are available from the Department for Communities and Local Government (DCLG). At the time of producing the trend-based Plymouth HMA population and housing projections, the latest dataset available were the 2014-based household projections, covering the period up to 2039. These projections are based upon the 2014 sub-national population projections. The projections undertaken by DCC and therefore included in this report use the 2014 headship rates as these were the most up to date at the time of the assessment. The 2014 national household projections are available in Appendix C.

- In addition to the ONS and DCLG projections outlined above, DCC produces its own, population and dwelling projections for the Plymouth HMA that reflect actual data for factors such as local fertility, mortality and migration. The application of this local level data means that the DCC projections will differ from those produced by the ONS and CLG. It should be noted, however, that the DCC projections are based on nationally produced datasets and therefore are robust.

The Devon County Council projection model

- DCC uses the Popgroup model to produce population and housing projections. The Popgroup model is widely used by Local Authorities in England.

- The DCC model essentially uses a two-stage process:

    - First, the model estimates future population change based on fertility, mortality and migration assumptions. These assumptions are made by using trends from historical data, which is input to the model. Specifically, the DCC Popgroup model

[8] Source: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/subnationalpopulationprojectionsforengland/2014basedprojections

incorporates a cohort component methodology for population projections.

- The cohort component model is a method of estimating or projecting the population by updating the size of each age-sex group in the base population for deaths and migration within each age-sex group during the period between the base date and a given date. New birth cohorts result from births between the base date and the given date. In deriving population projections, the base population is projected forward by calculating the effect of deaths and migration within each age-sex group according to specified mortality and migration assumptions. New birth cohorts are generated by applying specified fertility assumptions to the female population of childbearing age. In deriving population estimates, records of actual births, deaths are generally used instead of assumptions.

    - Second, the population forecasts are inputted to a household projection module. This applies household and housing profiles to the projected population's age-sex composition to produce a dwelling projection. Specifically, the DCC approach uses a headship rate model for *household* projections. The model also takes account of vacancy rates to project *dwellings*.

- The headship rate model is based on the assumption that the number of households is equivalent to the number of householders. The following formula describes the relationship between this and headship rate:

  (no. of households) = (no. of householders) = (no. of population) * (headship rate)

  The headship rate can be defined as the proportion of members of a population (defined by age gender and marital status) who act as heads of specific types of households.

- In summary, the dwellings requirement is calculated directly from the population projection. This is consistent with the approach used by the ONS and DCLG, whereby the population projections are produced by ONS and then the DCLG apply household and housing profiles to the population to create a dwelling projection. The DCC approach produces the population projections based on data from the ONS and uses the same household and housing profiles as the DCLG do in their assessment.

Population projections

Introduction

- This section of the report sets out the DCC model methodology for undertaking trend-based population projections. This is based upon the following key data inputs:

  - Known population (mid-year estimates) - ONS
  - Projected number of births - ONS
  - Projected number of deaths - ONS
  - Migration – calculated using published ONS data

- The DCC population analysis for the Plymouth HMA covers the years 2014 to 2034 inclusive. The 2015 mid-year estimate is the starting point in the projection from which future populations are derived. The main components and calculation for undertaking the projections are set out in the formula below:

Future year population (t+1) = Population (t) + Births - Deaths + Net Migration *(t=year)*

- Projections are made by taking a population estimate for the initial year (t) adding the births, subtracting the deaths and then adding in net migration (which may be a positive or negative number) to project the population for the following year (t+1). The population is presented in single year cohorts by sex. This is the same key calculation in principle used by ONS when projecting future populations[9].

- The approach used by DCC as set out above is consistent with the NPPF. Paragraph 159 of the NPPF states that Strategic Housing Market Assessments should specify housing requirements to meet household and population projections, taking account of migration and demographic change. In addition, the DCC projection methodology is in accordance with paragraph 16 and 17 of the NPPG which identify the need to take account of the latest information and ONS population estimates. The DCC approach refines the methodology used by ONS in preparing their population projections.

- As stated above, paragraph 17 of the NPPG[10] sets out that account should be taken of the most recent demographic evidence, including the ONS population estimates. This paragraph goes on to suggest that local circumstances and alternative assumptions are appropriate if they can be clearly explained and justified. The DCC refinements relate to migration, and not 'controlling' the population to fit in with a national projection. This report sets out in more detail where adjustments have been made and explains why this is the case.

Initial population figures

- The current population estimates for the local planning authority areas in the Plymouth HMA are the 2015 Mid Year Estimates published by ONS (the official set of population

[9] Source: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/nationalpopulationprojections/2015-10-29

[10] Source: http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/

estimates for the UK). The 2015 Mid Year Estimates build on the 2011 Census taking account of population change in the intervening years. The population projections are produced by projecting forward from the 2015 data. Beyond 2015 (i.e. starting in 2016), the population figures in the DCC model are projections. As they are based on the 2015 Mid Year Estimate, the DCC population projections are founded on more up to date data than the most recent ONS sub-national populations; these are based on the 2014 Mid Year Estimates.

- The background population data included in the DCC model (for example, the data for the years 2001 to 2011) uses the previous ONS mid-year estimates for the relevant years. These have been updated by ONS following the publication of the Census 2011 to calibrate the previous estimates against the actual population recorded in 2011. This was necessary because previous mid-year estimates had overestimated the population on an annual basis. ONS published these revised mid-year estimates, which are those used to inform both the ONS and DCC population projection models.

Summary

- The commentary provided in this section of the report explains that the data used in establishing the baseline estimated population for the demographic projections undertaken by DCC is that published by ONS. This approach of using the mid-year estimates is consistent with the methodology used by ONS in developing their population projections.

- The DCC approach is also in accordance with paragraphs 15 and 17 of the NPPG which identify that account should be taken of the most recent demographic evidence, including the ONS population estimates (the Mid Year Estimates).

○ Births

- The DCC population projection model uses births and deaths data as a key component. Together, population change resulting from births and deaths is referred to as natural change.

- The DCC population forecasting methodology directly uses the latest ONS data for births for the local planning authority areas in the Plymouth HMA. This data is published annually and reflects the actual births data which are collected at birth registration. This information is provided on the birth of a child by the healthcare professional present at the birth[11]. The methodology for using this dataset in the DCC projections methodology is broadly the same as the approach taken by ONS in developing the national population projections.

- Both the DCC model and the 2014 ONS projections[12] use births data obtained from the General Register Officer for the years 2001 to 2014. In addition, the DCC model uses births data covering 2015, released in 2016. As the registration of births is a legal requirement, the data is very robust.

[11] Source: http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/health-and-social-care/quality-and-methodology-information-for-conception-statistics.pdf

[12] Source: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/nationalpopulationprojections/2015-10-29

- In addition to using known births, the model used by DCC also requires the application of projected fertility rates to the projected year population. The fertility rates are age-specific.

- Births are calculated by taking the population "at risk" of giving birth (i.e. women aged 15 – 49) and applying the Age Specific Fertility Rate which yields the number of births. Then the gender ratio is applied to give an estimate of births of males or females. The five year average ratio of males to females has been used in the DCC projection.

- The age specific fertility rates used in the DCC model are derived from national data sets at a Local Authority level from ONS.

- With respect to the future trends in fertility rates, a standard ONS factor is applied from 2011 onwards which scales future rates in line with ONS fertility assumptions.

Summary

- As can be seen from the discussion in this section of the report, the births and fertility data applied in the DCC demographic projections are based on data sets which are also used in the ONS projections. As such, the DCC methodology reflects that applied by ONS but use more locally specific fertility rates.

- The DCC approach is also in accordance with paragraph 16 and 17 of the NPPG which identify that account should be taken of the most recent demographic evidence and information.

○ Deaths

- The DCC population projections and the associated model require an estimate of future mortality rates. Up to date data on deaths is vital to this element of the projections. Mortality statistics for England and Wales are based on the information collected when a death is registered by the Local Registration Service and the General Register Officer[13]. As the registration of deaths is a legal requirement, the data is very robust.

- Both the DCC model and the 2014 ONS projections use age-specific annual mortality statistics obtained from the General Register Officer for 2001 – 2014. In addition, DCC uses data covering 2015, released in 2016.

- Deaths in the projected future years are calculated by applying the Age Specific Mortality Rates calculated from national data sets from ONS.

Summary

- As can be seen from the discussion in this section of the report deaths and mortality rate data applied in the DCC population projections are based on data sets which are also used in the ONS projections. As such, the DCC methodology reflects that applied by ONS.

- The DCC approach is also in accordance with paragraph 16 and 17 of the NPPG which identify that account should be taken of the most recent demographic evidence and information.

[13] Source: http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/quality-and-methodology-information-reports-by-theme/population/quality-and-methodology-information-for-mortality-statistics-in-england-and-wales.pdf

○ Migration

- A fundamental component of population projections in the Plymouth HMA is migration. This is particularly relevant here where in some areas, natural increases resulting from the difference between births and deaths are limited.

- The principles behind the use of migration data are common between the DCC and ONS methodologies. However, the DCC approach provides a more appropriate basis for assessing future population change in the local area because it uses a robust calculation to determine migration trends for the HMA using actual published data sets from ONS on population, births and deaths. This also allows a longer migration trend period to be used which reduces the volatility of the figures.

- To put the adjusted DCC methodology into context, the following paragraphs set out how the ONS predict migration compared to the DCC methodology. The ONS uses six separate flows which are:

  - National in-migration (between council areas within England and Wales);
  - National out-migration (between council areas within England and Wales);
  - International in-migration (from outside of England and Wales);
  - International out-migration (to outside England and Wales);
  - Cross-border in migration (to England from the rest of the UK); and
  - Cross-border out migration (from England to the rest of the UK).

- The ONS methodology separately assesses national, cross-border and international migration. For national migration, ONS uses a combination of three administrative data sources as a proxy:

  - The National Health Service Central Register (NHSCR);
  - The Patient Register Data Service (PRDS); and
  - Higher Education Statistics Agency (HESA) data.

- The rate of national out-migration (people leaving a council area for another area within England and Wales) is calculated by ONS by comparing the number of people moving out of that council area by the number of people living there. This is calculated separately for males and females by single year of age for each of the trend years individually and then an average is calculated to produce rates of out-migration. In-migration to council areas is calculated by adding outflows from all the other district authorities.

- ONS population projections use a five year migration trend to inform the population forecast. Currently the trend years considered in the 2014 sub-national population projections are 2009 to 2014.

- The ONS recognises potential weaknesses in the way that it predicts migration and is 'currently researching to improvements to the methods and intent to introduce them in June 2017'[14]. Specifically, the data sets used by ONS to represent national migration can be unreliable because they do not catch all potential migrants. For example, the data sets which include registration at GP surgeries will only collect data for those migrants who register at a new surgery when they move home. There is a recognised lag time for people registering with a GP and therefore the data is likely to be incomplete. This issue

[14] Source: https://www.ons.gov.uk/file?uri=/peoplepopulationandcommunity/populationandmigration/migrationwithintheuk/methodologies/interalmigrationmethodology/internalmigrationmethodology2016.pdf

is more pronounced if the people move a short distance, but between Local Authority areas as they may not change the surgery with whom they are registered.

- In addition, ONS migration data is controlled (or adjusted) to the fit national migration data which can distort local patterns. This process is not applied in the DCC approach because the area of interest is limited to the Plymouth HMA.

- Cross-border migration between England and the rest of the UK is calculated in a similar way to national migration flows.

- ONS calculates international migration using a variety of sources of data because there is no single system in place to capture all movements in and out of the UK[15]. A short term trend period of five years is also used, which can be highly volatile. International migration estimates are based on three sources (which are not specifically designed to capture information solely on international migration). These are the:

  - International Passenger Survey;
  - Labour Force Survey; and
  - Home Office immigration administrative systems.

- As with the data for national migration, there are some challenges in the ONS approach to estimating international migration due to the fact that there is no one 'record' of international movements.

- The DCC methodology for projecting migration largely follows the trend-based approach applied by ONS using national ONS data for base populations, births and deaths. However, the DCC approach is a refinement of the methodology in terms of:

  - How migration is calculated using robust, nationally published data sets;
  - The use of a longer, and therefore less volatile, migration trend period;
  - The calculation of migration figures from up-to-date data which implicitly incorporates all migration flows; and
  - The use of four migration flows which in aggregate equate to a single, net migration figure calculated using mid year estimates, birth rates and death rates.

- For the Plymouth HMA, the assumption made in respect of net migration is important to the overall population projection. Through the DCC methodology, net migration is *calculated* for the Plymouth HMA using robust ONS data and not based upon the proxy data that ONS use to represent migration. The calculation used by the County Council is set out below.

Net migration = (Population in year 2 – Population in year 1) – (Births in year 1 - Deaths in year 1)

- This calculation is a sound basis for assessment because it uses observed and robust data sets published by ONS. The ONS data sets used in this calculation are:

  - ONS Mid Year estimates (used as the population figure);
  - ONS births data; and
  - ONS deaths data.

[15] Source:
https://www.ons.gov.uk/file?uri=/peoplepopulationandcommunity/populationandmigration/internationalmigration/methodologies/internationalmigrationmethodology/ltimmethodologydecember2016v1.0.pdf

- This approach results in the production of a single net migration figure for each year, which takes into account four of the flows that the ONS apply. The single, robust migration figure is divided into four migration flows as stipulated by the model. This is done by splitting the overall migration figure into four different flows, based on the proportions in the ONS migration data. The four migration flows input into the model are:

  - National in-migration;
  - National out-migration;
  - International in-migration; and
  - International out-migration.

- For an area like Plymouth and South West Devon which experiences significant and volatile migration, using a particularly short term migration trend period would mean that future projections could be unduly and inappropriately influenced by short term economic factors affecting migration flows.

- The comparative, annual net-migration averages calculated using different trend periods are shown in Table 1. This data is calculated by DCC. The table does not compare DCC migration trend data to that from ONS.

Area	**5 Year trend**	**10 Year trend**
Plymouth	783	672
South Hams	395	412
West Devon	351	497
Plymouth HMA	1,528	1,582

Table 1: Average annual net migration over different trend periods (DCC migration calculation using national data sets)

- As is shown by the data in the table, the length of the trend period has an impact on average, annual net migration rate. As the aggregate data for the whole HMA shows, the prevailing, longer term migration trend periods currently result in higher average net migration.

- This pattern is broadly the same for the two, more rural Districts within the HMA and the HMA as a whole. Plymouth follows an inverse pattern. This is potentially because, as an urban area, it has significantly different characteristics compared to the other, more rural areas.

- A 10 year trend period better takes account of economic cycles than a 5 year trend, and therefore has a smoothing effect on economic patterns and therefore offers a robust economic scenario which is likely to be experienced in future.

- Considering the volatility of migration into the area, the DCC model for the Plymouth HMA currently projects future net migration patterns based on the average yearly net migration experienced over the past 10 years, between 2005 and 2015. The 10 year average net migration flow is an overall migration rate calculated on the basis of 10 years of Mid Year Estimates and natural change divided by 10. The migration data used in the model, together with a brief explanation, is included in Appendix D.

<u>Unattributable population change</u>

1.1.1 ONS population estimates are based on the census. Additional estimates (the Mid Year Estimates) are released each year between the censuses and are based on birth rates, fertility rates and migration. At the end of the ten year period between censuses there is generally a difference between the population recorded by the census and the mid year estimate for that year. Some of this difference is as result of methodological changes in the population projections. The remaining difference is the unattributable population change. For England as a whole, the unattributable population change in 2011 was 103,700[16]- a small figure in the context of the national population.

1.1.2 Like the ONS methodology, the County Council approach includes an element of unattributable population change because of the way in which it considers migration using the mid year estimates. However, given that on a national level the latest figures for unatttributable population change only total 103,000, it is considered that at a local level for the Plymouth HMA unattributable population change will be minimal. For example, if this is calculated on proportional basis 2011 population figures, the unattributable population change for the area would only be approximately 800 people. This equates to around 0.2 % of the total population for the area. As such, no adjustments have been made for unattributable population change in the local modelling. This is consistent with the national approach which makes no adjustment.

Summary

- In general terms, the DCC approach recognises that migration is a significant component of population change within the HMA and the use of more robust data reflects the latest national government guidance relating to housing assessment which is included in the National Planning Practice Guidance (NPPG)[17]. Paragraph 17 of the NPPG states that estimates of housing need may require adjustment to reflect factors affecting local demography (in this case, migration). DCC's approach reflects this concept as it is effectively a more local adaptation to the principles of ONS trend-based methodology using national data sets.

- The DCC approach regarding the length of the migration trend period is appropriate as over the HMA as a whole it smooths out migration patterns and bases the forward projection on more stable economic performance likely to be replicated in future than the short term recession of recent years.

- The DCC approach also applies more up to date data than the ONS migration methodology as it is based upon mid-year estimates, births and deaths information up to 2015. ONS use a five year migration trend period ending in 2014.

○ Characteristics of the migrant population

- The characteristics of migrants and the impact these will have on future birth and death rates are taken account of in the model. ONS data which is available for each district is used to determine the age-sex profile of the migrant population. This is from the ONS components of population change reports / datasets. This means that whilst the overall number of migrants is derived distinctly from the ONS methodology the population structure of the migrants is consistent with the ONS approach.

[16] Source:

https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/methodologies/2012basedsubnationalpopulationprojectionsquestionsandanswers

[17] Source:

http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/

Other considerations – Special populations

- ‘Special populations’ are people who will only live in the Plymouth HMA for a relatively short proportion of their lives and the ages and numbers of these groups are generally fixed. When they leave they are replaced by people of a similar age/sex profile. Special populations vary in proportions across different districts. In the population projection model, these populations are generally removed from the population initially and added back in after the natural change and migration trends have been applied. This prevents them from ‘ageing’ with the underlying population, which could distort the figures. This approach is taken for armed forces personnel and is consistent with the ONS methodology.

Armed Forces personnel

- Age-sex information on army personnel from the Defence Analytical Services Agency (DASA) was received by DCC through an ONS special request. The approach is to remove the armed forces personnel from the population before projecting to the next year, then add the armed forces population back in. This is consistent with the ONS methodology for calculating population projections.

Students

- Understanding the demand on the housing market from students is an important factor for Plymouth and Plymouth City Council. An issue to consider is the growth in the student population against the amount of accommodation available to meet their housing needs. This will have specific implications for the number of purpose-built student units delivered and the private rented sector and therefore the availability of homes in the city.

- DCC has not investigated student population projections in any detail as this work is being considered elsewhere.

Controlling the local projection to the national projection

- ONS projections are undertaken at Local Authority level, however these sit within a wider national projection. In order to allow regional and national comparisons to take place, a controlling mechanism is applied when producing the ONS projections. This process ensures that there is consistency between the projections so that the sub-regional projections fit in with the more strategic national projections.

- To achieve this, the district level projections are ‘controlled’ to match up with projections that are undertaken at a higher level for all of England and Wales. This essentially results in either reducing or increasing the population projection for each district (depending on region) to match the national projection. The DCC methodology does not apply any such control.

- Omitting the control process ensures that the local projections undertaken by DCC are not adjusted unnecessarily. This approach reflects paragraph 17 of the NPPG as the DCC projections are considered to be more representative of the local circumstances.

Population projection results

- Using the methodology identified in this report, DCC has produced a set of population projections for the Plymouth HMA up to 2034. These are shown in Table 2. These projections show significant growth of between 12% and 16% for all Districts, with growth for the HMA as a whole being 15%.

DCC population projections				
Area	**2014 (MYE)**	**2034**	**Growth**	**Growth %**
Plymouth	261,500	295,300	33,700	12.9
South Hams	84,100	87,300	3,200	3.7
West Devon	54,300	60,200	5,900	10.9
Plymouth HMA	399,900	442,700	42,800	10.7

Table 2: DCC population projections to 2034.

- The DCC projections have been compared to the latest population projections produced by the ONS. The projections are set out in Table 3.

Area	ONS 2014 Projections				DCC Projections			
	2014 (MYE)	**2034**	**Growth**	**Growth %**	**2014 (MYE)**	**2034**	**Growth**	**Growth %**
Plymouth	261,500	282,700	21,200	8.1	261,500	295,300	33,700	12.9
South Hams	84,100	90,600	6,500	7.7	84,100	87,300	3,200	3.7
West Devon	54,300	61,600	7,300	13.4	54,300	60,200	5,900	10.9
Plymouth HMA	399,900	434,900	35,000	8.8	399,900	442,700	42,800	10.7

Table 3: DCC and ONS population projections comparison (up to 2034)

- As can be seen from the population projections listed in Table 4, the DCC and ONS subnational projections vary across the HMA. This reflects the different migration trend periods applied in the different approaches. The DCC approach uses a more robust, 10 year migration trend period which smooths out the volatility of the ONS projections which are based on a short term 5 year migration period. It should be noted that the 2014 figures for both approaches are the same as these are Mid Year Estimates.

- The DCC projections also include more up-to-date evidence on the baseline population – the ONS projection takes account of Mid Year Estimates for 2014 whereas the DCC projection takes account of the 2015 mid-year estimates.

○ Summary

- This chapter has identified and explained the methodology and data sets used by DCC in undertaking demographic projections for the Plymouth HMA. It has been demonstrated that the County Council methodology includes two key refinements in approach. These are:

  - Migration (trend period and data sources); and
  - 'Controlling' overall results.

- In terms of migration, future projections are based on ten years' worth of trend data, compared to only five years as is the case with the ONS. The trend data is also based on more recent years. This approach has been undertaken to produce a more robust long-

range projection than the ONS can provide looking back over a five year period.

- With regards to controlling the overall population projection, this is not undertaken by DCC as there is no need to fit in with a wider demographic projection when only considering the HMA.

- The DCC population projection approach is undertaken in accordance with the principles, requirements and approaches included within the NPPF and NPPG, specifically that the ONS projections are the 'starting point' for projection. Paragraph 17 of the NPPG[18] specifically advises that local planning authorities may adjust projections to take account of matters such as migration.

[18] Source: http://planningguidance.planningportal.gov.uk/blog/guidance/housing-and-economic-development-needs-assessments/methodology-assessing-housing-need/#paragraph_017

Dwelling projections

Introduction

- Following the completion of detailed population projections, dwelling projections can be undertaken to demonstrate the overall housing requirement for an area. Whilst the whole of the future population will require housing, the majority of that housing is already in place in the form of the existing housing stock. In the context of formulating planning policy, therefore, the key output required from dwelling projections is the requirement for *new* dwellings.

- Paragraph 15 of the NPPG states that the DCLG *household* projections should form the starting point for estimating overall housing need. These are produced by taking the ONS population projections and applying various assumptions to determine the number of households which will form based on the future population.

- For the Plymouth HMA, Devon County Council has produced its own set of local *dwelling* projections covering the period between 2014 and 2034 based on DCC population projections and national data sets. This assessment includes an initial assessment of household requirements then translates this into dwelling requirements by applying census-based vacancy rates.

The dwelling forecast procedure

- The procedure used by DCC for forecasting the potential number of households resulting from the future population is broadly the same as that used by DCLG in their projections.

- The general approach taken by DCC is to calculate the number of dwellings required to house the increased population year by year throughout the projection period. These annual, additional housing requirements are then added together to provide the total additional new housing needed throughout the projection period.

- One important aspect of the dwelling forecast is to remove the population that already have homes provided for them as part of 'institutions'. That is, people that do not require a house because one is provided for them. The 'institutional' population is removed from the underlying population to enable an assessment of how many dwellings are actually required. The broad methodology employed in the DCC model is the same as that for the DCLG model.

- Following the removal of the institutional population, a series of headship rates are applied to convert the population structure into households. The DCC approach uses headships rates provided by DCLG.

- Following the calculation of households, the DCC methodology then takes account of the potential for some of the housing stock to be empty, through the application of census vacancy rates produced by ONS. This then generates a dwelling requirement. This process is not undertaken in generating the DCLG *household* projections.

- Figure 1 explains the broad stages of undertaking the dwelling projections undertaken by the County Council.

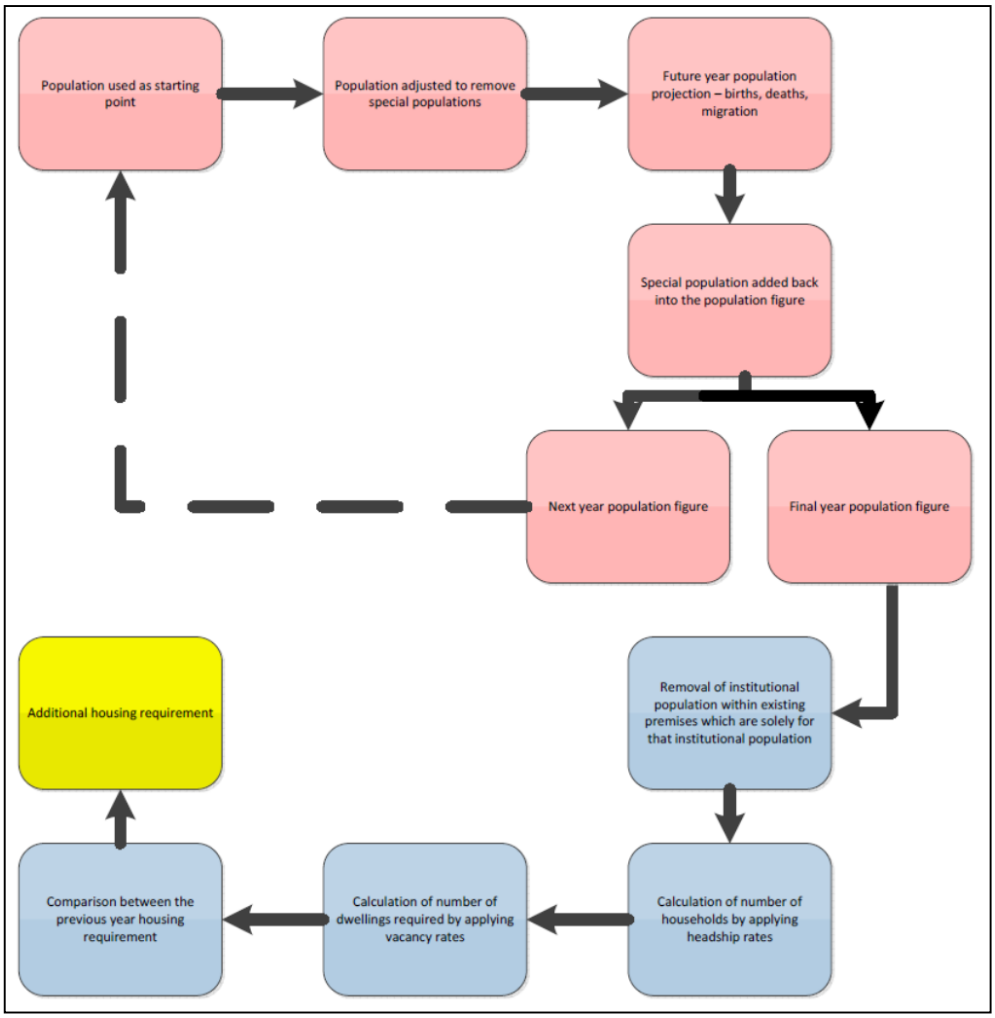

Figure 1: Methodology for calculating additional dwellings requirements

- The following sections detail the methodology used in undertaking the dwelling projections for the Plymouth HMA. The process undertaken through the DCC dwelling projection methodology broadly reflects that undertaken by DCLG in the national projections.

○ Institutional population[19]

- In order to assess the future housing requirements the number of people in institutions (such as army barracks, catered halls of residence, care homes and prisons) are removed from the future population as they do not become heads of households and do not specifically need regular housing. Following this, headship rates are applied to translate the data into future household numbers.

- Removing the institutional population at this stage means that those currently occupying existing spaces in the institutions are not allowed by the projection model to form a household.

[19] Source:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536705/Household_Projections_2014-based_Methdology_Report.pdf

- The 2011 Census provides the detail for incorporating the age, gender and marital status of the institutional population into the model. As a result the inputs to the model in relation to the institutional population are the same as those used in the DCLG projection methodology.

- In summary, the DCC dwelling projection process uses the same approach and datasets for the institutional population as used by DCLG in their assessment. This is considered to be robust due to the assertion in paragraph 17 of the NPPG that the approach used by DCLG is 'statistically robust' – the DCC approach therefore complies with the NPPG in regard to this part of the methodology.

○ Headship rates

- The total number of additional households which will form from the future population is based upon the application of headship rates (sometimes called the household representative rate or household formation rates) to the population. Headship rates can be defined as the number of people per unit of population who are counted as heads of households. Headship rates differ according to age, sex and marital status for each Local Authority. The higher the headship rate, the more people have their own household and the smaller the average household size.

- To accompany each set of household projections DCLG provide yearly historical estimates and future projections of the headship rates by 10 year age bandings and household type (e.g. the rate per 1000 population of 45-54 year olds who are deemed head of a single parent family with 3 children). There are eight individual household types. The 2014 headship rates include variable rates for each year of the projection up to 2038. The rates are then kept constant from 2039 onwards.

- The County Council has undertaken dwellings projections based on the direct application of headship rates from the 2014 DCLG household projections – the most up to date available. As such the model inputs are in accordance with the DCLG methodology and follow the approach advocated in paragraph 15 of the NPPG; to use the DCLG projections and the underlying data as the starting point for dwellings projections.

○ Vacancy rates

- Vacancy rates are an important factor to consider when estimating the number of dwellings that will be required over time. This is because the numbers of dwellings required to house the additional population and the projected number of future households will be partly dependent on the number of vacant units which will be within the housing stock (the vacancy rate). Vacancy rates can have a significant impact on the calculated housing requirement. For example, if the vacancy rate were to be overestimated (i.e. the number of vacant units was overestimated) the resulting dwelling requirement may be too high.

- The vacancy rates used in the assessment are:
  - Plymouth: 3.3%;
  - South Hams: 14.8%; and
  - West Devon: 7.9 %.

- In the Plymouth HMA the reasons for vacancy rates vary across the area, however where the rates are particularly high such as in South Hams, this is likely to be as a result of the numbers of second/holiday homes in the area.

- The household numbers within the DCLG household projections do not take account of

vacancy rates. As such, the DCLG projections do not actually project dwellings requirements directly; they are a projection of households. The DCC methodology projects dwelling requirements taking into consideration the potential number of vacant units using 2011 census vacancy rates. The DCC projection is robust because it assumes that not the whole of the housing stock will be occupied all the time and therefore has built some flexibility into the outputs of housing numbers required. The use of national data sets from the census ensures that the assumptions used are robust.

The local projection and the national projection

- The County Council dwelling projection methodology is based upon DCLG methodological principles and datasets, however the projections derived do not sit directly as part of the wider, regional and national dwelling projections. As such, the projections are not controlled directly to wider, national projections. This is because the County Council and the organisations which use the projections are specifically interested in the local context.

Dwellings projection results

- Using the methodology identified in this report, DCC has produced a set of demographic-based *dwellings* projections for the Plymouth HMA up to 2034. These are included later in this chapter. The CLG projections are for *households*.

- As previously discussed, the DCLG *household* projections do not consistently set out an annual figure for a consistent time period. Table 4 includes the DCC and DCLG household projections (as opposed to dwelling projection, which take account of vacancy rates) for the period 2014 to 2034.

Area	Additional households 2014 – 2034	
	DCLG 2014 household projections Uses 2014 headship rates	**DCC Household Projections** Uses 2014 headship rates
Plymouth	11,700	16,000
South Hams	4,400	2,700
West Devon	4,400	4,000
Plymouth HMA	**20,500**	22,700

Table 4: Household projections for the Plymouth HMA.

- It should be noted that it is challenging to directly compare the DCLG and DCC household projections without acknowledging a series of points. Firstly, the methodologies for considering migration vary; DCC has used a 10 migration trend period and the DCLG projections are based on figures from ONS which use a 5 year trend period. Secondly, the way in which the migration figures are derived varies; DCC uses nationally published data sets to calculate migration whereas the DCLG uses the ONS data from other sources. Thirdly, the base year of the projections is slightly different; DCC uses 2015 as the most up to date Mid Year Estimate available whereas the DCLG projections are based on 2014 Mid Year Estimates. Fourthly, related to the previous point, the first actual projection year is different; 2016 is the first projection year in the DCC methodology (though the population growth figures include growth in 2015), 2015 is the first projection year in the DCLG projections.

- The constituent Local Authority areas within the HMA show different patterns when comparing the sets of projections. The DCC projections for Plymouth are significantly higher than the DCLG figures whilst the projections for South Hams and West Devon are lower.

- For the HMA as a whole, the DCC projections are higher than the equivalent DCLG projections.

- As previously outlined, DCC also produces specific *dwelling* projections as opposed to *household* projections. This further stage of the work is taken forward by applying vacancy rates. Table 5 shows the DCC dwellings projection covering the period up to 2034 using both 2014 headship rates. These form the trend based, starting point projections for the Plymouth area housing market assessment.

Area	Additional Dwellings 2014 - 2034	
	DCC Dwelling Projections Uses 2014 headship rates	**Annual Average**
Plymouth	16,600	830
South Hams	3,100	160
West Devon	4,300	220
Plymouth HMA	**24,000**	**1210**

Table 5: DCC Dwelling projections for the Plymouth HMA.

Further work: economic performance and market signals

- The County Council methodology provides a 'baseline' or 'starting point' number for the housing requirement, as referenced in paragraph 19 of the NPPG. It is acknowledged that it does not specifically include reference to how economic performance or different employment projections would affect dwelling requirements in future. Consideration of the dwelling requirements associated with different economic and employment scenarios and market signals has taken place through further assessments detailed in the wider housing needs assessment work being undertaken by PBA.

- Paragraph 19 of The NPPG specifically states that the starting point should be adjusted to reflect appropriate market signals, as well as other market indicators of the balance between the demand for and supply of dwellings. Although the methodology identified in this report does not specifically adjust for market signals, it does implicitly consider past economic trends through the application of migration rates.

Student housing requirements

- As previously discussed earlier in the report in relation to projections of the student population, DCC has not investigated student housing projections as this work is being undertaken elsewhere.

Summary

- This chapter has identified and explained the methodology and data sets employed in calculating the future housing requirement for the Plymouth HMA. It has been demonstrated that the County Council methodology is in accordance with the principles and approaches included within the NPPF and NPPG, although there are some

refinements made to ensure the approach is more locally robust over and above the DCLG projections.

- The County Council uses the same methodological principles and datasets for household projections as those used by DCLG, with a few local variations, which again serve to make the projection more reliable. This is because:

  - DCC undertakes a more robust local population projections to inform the household forecast;
  - DCC generates a specific dwelling projection from the calculated number of households whilst the DCLG projections are of households;
  - DCC uses the most up to date headship rates from 2014; and
  - DCC uses the most to date Mid Year Estimate (2015).

Conclusion

The Devon County Council modelling approach

- Devon County Council has prepared population and dwelling projections for the Plymouth HMA which includes the Local Planning Authority areas of Plymouth, South Hams and West Devon (including part of Dartmoor National Park).

- This report has been prepared to explain the methodology used by the County Council in developing these projections. It has provided a detailed description of the methodology used, the data sets applied and the assumptions made.

- In covering these points, the report has identified that the broad methodology applied and the data sets directly reflect and build on those employed by ONS and DCLG in the provision of population and dwelling projections respectively.

- The report has also identified that the DCC projections are consistent with the policies of the National Planning Policy Framework and the National Planning Practice Guidance.

- These discussions have specifically demonstrated that the DCC methodology for undertaking the projections are in accordance with national policy and guidance and, as such, provide a robust starting point to which further work can be applied covering issues such as affordable housing, dwelling tenure and market signals. This further work is undertaken as part of the wider housing needs assessment.

APPENDIX A: Comparison between the DCC and national approaches to population and dwelling projections:

Comparison between the DCC and the ONS approaches to population projections

ONS methodology	DCC methodology
Resident population	Resident population
⇩	⇩
Remove static population (armed forces)	Remove static population (armed forces)
⇩	⇩
Age-on civilian population	Age-on civilian population
⇩	⇩
Adjust for natural change (add births, subtract deaths)	Adjust for natural change (add births, subtract deaths)
⇩	⇩
Adjust for migration (internal, cross-border and international) based on proxy datasets	Adjust for migration (all types) based on trends observed in actual migration over time (The age-sex structure and origin / destination of the migrating population is based on ONS proxy datasets)
⇩	⇩
Add back static population (armed forces)	Add back static population (armed forces)
⇩	⇩
Control to National Population Projections	No need to control to national population projections

Comparison of DCC and DCLG approaches to household and dwelling forecasts

DCLG methodology for 2014 household projections	DCC methodology for dwelling projections
Based on 2014 based population projections published by ONS	Based on 2015 based population projections from DCC
⇩	⇩
Remove institutional population	Remove institutional population
⇩	⇩
Calculate change in population between 2014-2034	Calculate change in population between 2014-2034
⇩	⇩
Apply DCLG headship rates from 2014	Apply DCLG headship rates from 2014
⇩	⇩
No vacancies accounted for	Account for potential vacancies in housing stock
⇩	⇩
Result	**Result**
⇩	⇩
Final Result - households	**Final Result - dwellings**

APPENDIX B: 2015 MID YEAR ESTIMATES AND 2014 SUB-NATIONAL ONS POPULATION PROJECTIONS

2015 Mid Year estimates:

Area	Population (2015 MYE)
Plymouth	262,712
South Hams	84,470
West Devon	54,385
Plymouth HMA total	401,567

Source:
ONS:
https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland

2014-based sub-national projections:

Area	2014	2034
Plymouth	261,500	282,700
South Hams	84,100	90,600
West Devon	54,300	61,600
Plymouth HMA total	399,900	434,900

Source:
ONS:
https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/subnationalpopulationprojectionsforengland/2014basedprojections/relateddata

APPENDIX C: DCLG 2014-BASED SUB-NATIONAL HOUSEHOLD PROJECTIONS TO 2034

Area	2034 projection
Plymouth	123,646
South Hams	42,076
West Devon	27,809
Plymouth HMA total	193,531

Source:
DCLG:
https://www.gov.uk/government/statistical-data-sets/live-tables-on-household-projections

APPENDIX D: MIGRATION DATA USED IN THE DCC MODEL FOR THE PLYMOUTH HMA (2005-2015)

District	Natural change (Births Minus Deaths) ONS Data	Population Increase (Mid Year Estimates)	Calculated Total Net Migration	Average Migration Per Annum
Plymouth	8,479	15,196	6,718	672
South Hams	-2,144	1,981	4,125	412
West Devon	-1,070	3,904	4,974	497
Plymouth HMA total	5,266	21,081	15,816	1,582

- 'Natural change' is the term which describes the change in local population which would take place if no migration were to take place. This is calculated by subtracting the total number of deaths from the total number of births.
- Population increases are the recorded increases according to the historic Mid Year Estimates.
- Total net migration has been calculated as the difference between the population increases and the natural change.
- Average migration per annum has been calculated by dividing the calculated net migration by 10 (representing the 10 year migration trend period).