



Isle of Man
Government

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Draft Area Plan for the East
Household size and population projections paper
DP EP5 (Updated June 2019)

Cabinet Office

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1.0 Position Statement

- 1.1 On 24th May 2018, Cabinet Office published (as supporting evidence to the Draft Area Plan for the East), an Evidence Paper titled DP EP5 “Household Size and Population Projections Paper”. This was one of 8 Evidence Papers published during the consultation phase of the Draft Area Plan. In respect of EP5, a number of representations brought into question the reliability of Housing Policy 1 and Housing Policy 3 of the Isle of Man Strategic Plan and consequently the housing need figures for the East.
- 1.2 This Paper is an update to EP5. An Update was always intended but a public commitment was made in Tynwald in both March and April 2019 by the Minister for Policy and Reform, Cabinet Office.¹ This Paper will clarify the Cabinet Office’s view on population and future housing need from a planning perspective but will firstly address an error which was highlighted early in the consultation process.
- 1.3 Cabinet Office accepts, having examined the background data which supported DP EP 5 – specifically the household size change set out under Scenario C – that these figures were inaccurate². The error came about because the change in household size was calculated using the total population/number of households rather than the population in private residence/number of households for 2011. All the other years were calculated correctly and Scenarios A, B and D referred to in DP EP5 remain valid.
- 1.4 To help in the identification of the error, where text/figures in the original DP EP5 referred to Scenario C, such references in the original version (attached to the end of this document) have been struck out to indicate their inaccuracy e.g. ~~Scenario C~~.

2.0 Policy Background

- 2.1 The current Isle of Man Strategic Plan 2016 (‘the Strategic Plan’) identifies figures in terms of overall population, net migration, residents living in private households and household size. The base data – which was used in the population modelling - was taken from the 2011 Census.
- 2.2 In paragraph 8.4 of the Strategic Plan on the ‘Need for Housing’ the population model assumed a scenario of 500 person inward migration per annum. Resident population is stated to grow from the measured 84,497 at Census time in 2011 to a projected number of 93,526 persons in 2026. This figure was used to calculate the number of residents living in private households and, together with an assumption regarding household size, was used to

¹ Hansard Refs March Q and April Statement

² The Economic Affairs Division, Cabinet Office is responsible for the Island’s population modelling and provides the base data for use across Government and the wider public service.

calculate the housing needs of the Island between 2011 and 2026. These are set out in Housing Policy 1 of the Strategic Plan 2016.

- 2.3 The Draft Area Plan for the East was prepared in line with both Housing Policy 1 and Housing Policy 3; the latter sets out how housing need should be distributed across the Island.³ Just prior to the publication of the Draft Area Plan for the East, Cabinet Office – on the back of work prepared by its Economic Affairs Division - published *Meeting our Population Challenges*⁴ ('MOPC'). This set out analysis of some of the data revealed by the 2016 Interim Census.

3.0 The Interim Census 2016 and the MOPC Report 2018

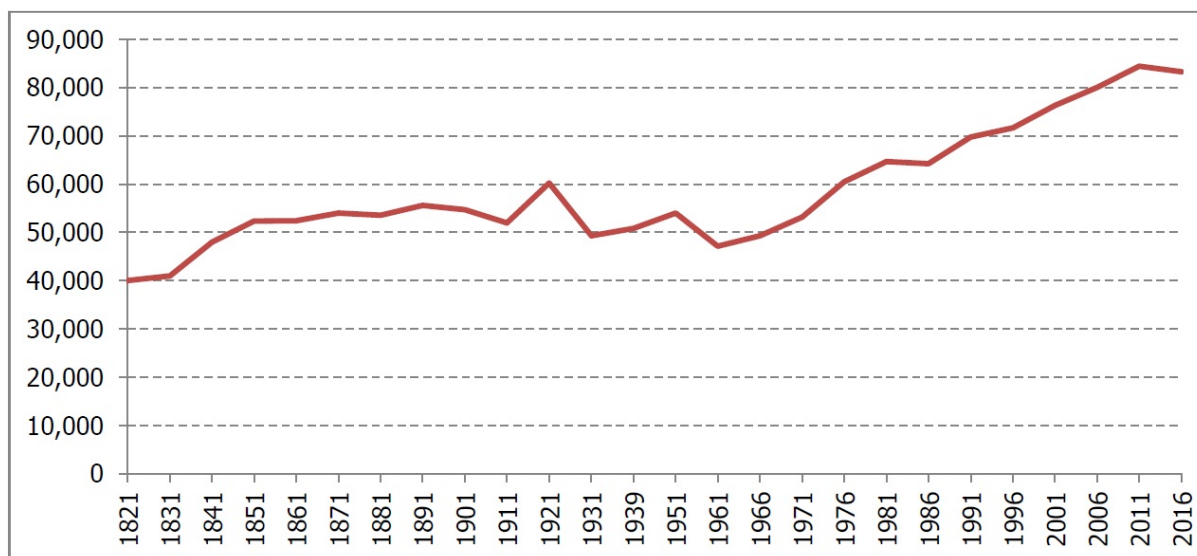
- 3.1 Total population in 2016 was 83,314, which represented a decline in population of 1,183 compared to 2011. The publication stated in its *Foreword* that when the 2016 Census results were published in March 2017, "...they revealed both the first fall in the Island's population since 1986 and significant emigration of young people. They also confirmed the Island's population was naturally declining, with deaths greater than births and a growing number of older people."
- 3.2 At the time of the publication of the Draft Plan for the East and Evidence Paper DP EP5, there was naturally a reliance on Housing Policy 1 and Housing Policy 3 but account was taken of the data which supported the MOPC Report in trying to establish the implications of any new data/projections on planning for housing need both at an Island wide level and at the Area Plan level.

Table 1 is taken from the MOPC Report and shows population on the Isle of Man from 1821 to 2016.

³ Under the TCPA 1999, Part 1, S.2 (4) states that "The proposals in an area plan shall be in general conformity with the strategic plan..."

⁴ GD 2018/0014 - Meeting our Population Challenges - February 2018

Figure 1 Isle of Man Population 1821 to 2016



3.3 The MOPC Report set out revised population projections to the year 2036, based upon three scenarios:

Scenario 1	a 'Zero' variant, which projects total population growth if net migration over the next twenty years (2016-2036) summed to zero;
Scenario 2	a 'Moderate' variant, which projects total population growth if net migration over the next twenty years (2016-2036) adds a net total of 500 persons per year to the Isle of Man population, distributed by sex and age according to the migration patterns observed over the past ten years (2006-2016);
Scenario 3	a 'High' variant, which projects total population growth if net migration over the next twenty years (2016-2036) adds a net total of 1,000 persons per year to the Isle of Man population, distributed by sex and age according to the migration patterns observed over the past ten years (2006-2016). ⁵

3.4 Scenario 2 - 'Moderate' variant of 500 person net population growth - is the same scenario that was used to establish net migration figures in the supporting evidence for the Isle of Man Strategic Plan 2016.

3.5 Using this Moderate scenario, the publication *Meeting our Population Challenges* suggests an estimated population in the year 2036 of 89,872 persons. The same data table which this estimate comes from sets out that the estimated population in 2026 is 87,385 (see Table 2).

⁵ Source: Meeting our Population Challenges 2018 <https://www.gov.im/media/1360674/addressing-our-population-challenges.pdf>

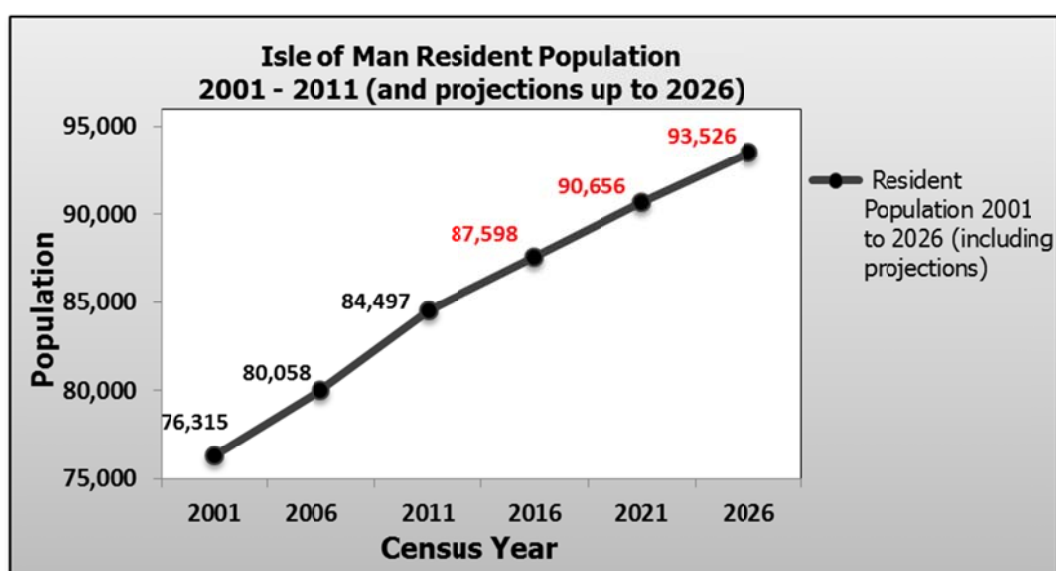
Table 1 – Population projections based on the 2016 Census used to support the Report Meeting our Population Challenges 2018

Total Population Projections											
Variant	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Zero	83,314	83,212	83,092	82,955	82,801	82,626	82,438	82,227	81,999	81,753	
Mig 500	83,314	83,770	84,217	84,652	85,083	85,487	85,887	86,276	86,661	87,021	
Mig 1000	83,314	84,285	85,256	86,240	87,208	88,118	89,071	90,004	90,966	91,888	
Variant	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Zero	81,486	81,203	80,907	80,587	80,258	79,900	79,537	79,146	78,741	78,309	77,875
Mig* 500	87,385	87,722	88,059	88,366	88,646	88,914	89,155	89,366	89,560	89,721	89,872
Mig 1000	92,833	93,768	94,693	95,591	96,445	97,293	98,099	98,881	99,638	100,352	101,051

* Mig = Net Migration

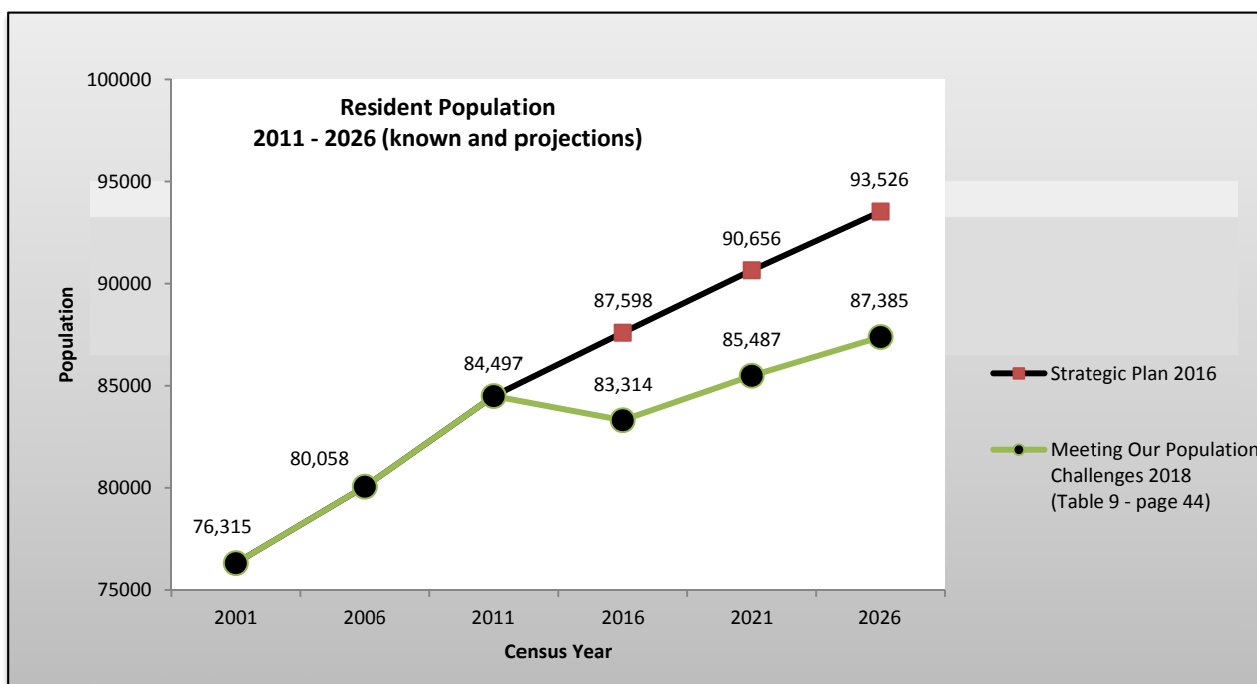
- 3.6 The Strategic Plan sets out the estimated resident population in 2026 to be 93,526. The *known* figures and the *projections* at the time when the Strategic Plan came into force are shown in Figure 2 below (projections are shown in red).

Figure 2: Extract from the Strategic Plan 2016 (Table 8.1b showing Resident Population 2001 - 2011 and projections up to 2026)



- 3.7 The modelling undertaken based on 2016 Census data suggests that the resident population projected for 2026 would be 6,141 lower than that set out in the Strategic Plan, using the same net migration figure of 500 per annum (see Figure 3).

Figure 3: A comparison of the resident population projections using 2011 & 2016 Census data



3.8 Put very simply, the graph above shows that the *actual resident population* in 2016 was lower than that expected and as set out in an approved statutory document, that being the Isle of Man Strategic Plan. However, there are other figures important in calculating housing need:

- i. residents living in private households; and
- ii. household size

4.0 New Data

4.1 Residents living in Private Households (new data)

4.1.1 In 2016, the analysis of the Census revealed that 81,680 people were living in private households, the household size was 2.28 and the number of households was 35,763.

4.2 Household Size

4.2.1 The Isle of Man Strategic Plan addressed the issue of household size at paragraph 8.4.5 in the Strategic Plan and below is an extract from that document:

“Household size is affected by a number of variables and is often difficult to predict, but it is sensible to base calculations on the most up to date information available. The Department⁶ has examined three different Scenarios relating to how household size might change in the

⁶ At the time (2015), this was the Department of Infrastructure

future and also looked at average household size figures across neighbouring jurisdictions. On the basis of this analysis, the Department has judged that a gradual reduction in household size of 0.04 every 10 years (or 0.004 per year) represented the most realistic Scenario; household size in 2026 would be 2.27 according to this assumption. This was based on the actual drop in household size between 2001 and 2011."

Extract from the Isle of Man Strategic Plan 2016 – Chapter 8, paragraph 8.4.5

4.3 Changes in Household Size (new data)

4.3.1 The opening 'Position Statement' in this paper confirmed an error in the data provided in the original Evidence Paper published in May 2018 titled DP EP 5, specifically the 'Scenario C' figures. The Scenario data from that Report is reproduced below omitting Scenario C.

Scenario	Meaning
Scenario A	Average household size per the 2016 census will remain constant through until 2036
Scenario B	Average household size reduces by 0.01 per year from the 2016 level
Scenario D	Average household size reduces by 0.0048 per year from 2016. This is the 20 year annual trend rate between the 1996 and 2016 censuses

In terms of planning for Island's housing needs, Government considers the most suitable scenario for household size is Scenario D⁷. Therefore:

The number of private households in 2026 will be: 38,317

Average household size in 2026 will be: 2.24

5.0 Implications of new data on the approved statutory plan housing need figures, and options going forward

5.1 The Isle of Man Strategic Plan 2016: Summary of Figures re. Households

Expected household increase 2011-2026	4,885 + 'vacancy factor' of 4% = 5,080
Housing need as set out in Housing Policy 1	5,100 new dwellings distributed around the 4 areas - north, south, east and west
Housing need in the East: 2011 - 2026	2,440 new residential units
The Draft Plan was based on satisfying a housing need in the East of 2,440 homes by 2026	

⁷ According to the Economic Affairs Division of Cabinet Office as at May 2019

5.2 Implications of the new data (if doing a simple comparison and using original baseline statistics for vacancy factor and distribution)

Expected household increase (Island): 2011 - 2026	2,718 plus a 'vacancy factor' of 4% = 2,827
Housing need in the East: 2011 – 2026 based on 48% of total (as used in Strategic Plan)	$48/100 \times 2827 = 1,357$ new residential units
If using this data, housing need in the East would be 1,357 homes by 2026	

5.3 Implications of the new data (if doing a simple comparison and using original baseline statistics for vacancy factor but updated distribution figures)

Expected household increase (Island): 2011 - 2026	2,718 plus a 'vacancy factor' of 4% = 2,827
Housing need in the East: 2011 – 2026 based on 45% of total (Latest RLAS data)	$45/100 \times 2827 = 1,272$ new residential units
If using this data, housing need in the East would be 1,272 homes by 2026	

5.4 Implications of the new data (if doing a simple comparison and using a higher vacancy factor of 15% and updated distribution figures)

Expected household increase (Island): 2011 - 2026	2,718 plus a 'vacancy factor' of 15% = 3,126
Housing need in the East: 2011 – 2026 based on 45% of total (Latest RLAS data)	$45/100 \times 2990 = 1,407$ new residential units
If using this data, housing need in the East would be 1,407 homes by 2026	

Even if vacancy factor increased to 15% this would only rise to 135 extra dwellings

6.0 Is the Strategic Plan still relevant?

6.1 According to the Strategic Plan, Housing need in the East is for 2,440 new homes between 2011 and 2026. The latest projections suggest a housing need figure of 1,357. This would represent a reduction of 1,083. Arguments have been presented that the Strategic Plan is flawed and shouldn't be relied upon. In terms of the Area Plan, Cabinet Office would argue that it is not flawed for the following reasons:

- The Isle of Man Strategic Plan is the statutory planning document for the Island approved by Tynwald

- Since the Interim Census data was collected in 2016, monitoring of the migration figures has revealed that numbers are increasing. Using the latest Quarterly Economic and Statistical Update figures, the data between March 16 to March 19, net inward migration is currently at 377 on average for that three year period. The next Quarterly update is due to be published in Autumn 2019.
- Government's general policies in the Programme for Government are beginning to take effect in terms of growing the economically active population. These include the Locate Isle of Man strategy and greater availability of affordable housing.
- It is sensible to plan ahead to ensure that sites are ready for release when the need is there. The 'next sites' are likely to remain the best next sites and doing the infrastructure planning early means that all the preparation can be done ahead of time, when there might be pressure to release sites quickly on there being evidence of need. Having a development plan which has thoroughly explored the suitability of sites even if some are held back until needed, provides certainty for all and can avoid the need to revisit a plan soon after its approval.

Table 2: Population Projections using 2016 Census Data

Data source	Figures	2011	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Strategic Plan 2016	Population in private households	83,026	86,073	86,690	87,298	87,898	88,491	89,078	89,657	90,231	90,797	91,353	91,898
Census 2016 & projections	Population in private households Scenario B Mig. 500		81,680	82,127	82,565	82,992	83,415	83,810	84,203	84,584	84,962	85,314	85,671
Strategic Plan	Household size	2.33	2.310	2.306	2.302	2.298	2.294	2.29	2.286	2.282	2.278	2.274	2.27
Census 2016 & projections	Household size Scenario B		2.28	2.27	2.26	2.25	2.24	2.23	2.22	2.21	2.2	2.19	2.18
Census 2016 & projections	Household Size Scenario D		2.28	2.28	2.27	2.27	2.26	2.26	2.26	2.25	2.25	2.24	2.24
Strategic Plan 2016	Total Households	35,599	37261	37,593	37,923	38,250	38,575	38,899	39,220	39,540	39,858	40,173	40,484
Census 2016 & projections	Total Households Scenario B Mig. 500		35,763	36,117	36,470	36,821	37,174	37,517	37,862	38,205	38,550	38,887	39,228
Census 2016 & projections	Total Households Scenario D Mig. 500		35,763	36,034	36,303	36,568	36,832	37,086	37,339	37,588	37,836	38,075	38,317

*red = known figures

7.0 Vacancy Rates

On Census Night (24/25 April 2016) 6,470 properties were vacant, which represents 15% of the housing stock on the Isle of Man. These properties could be vacant for a number of reasons, including second or holiday homes, properties awaiting sale and those undergoing renovation. Economic Affairs estimates that 14% of the housing stock, or 5,818 properties, were vacant in 2011.

8.0 Summary and Recommendations

- i. The Draft Area Plan for the East was prepared in line with both Housing Policy 1 and Housing Policy 3
- ii. *Meeting our Population Challenges Report* ('MOPC') set out analysis of some of the data revealed by the 2016 Interim Census. Total population in 2016 was 83,314, which represented a decline in population of 1,183 compared to 2011.
- iii. Scenario 2 in terms of net migration is the most appropriate - 'Moderate' variant of 500 person net population growth
- iv. Scenario D in terms of average household size is the most appropriate – a reduction of 0.0048 per year from 2016. This is the 20 year annual trend rate between the 1996 and 2016 censuses.
- v. Residents living in private households in 2026 will be: 38,317
- vi. Average household size in 2026 will be: 2.24
- vii. Housing need in the East based on new data is 1,358 new residential units between 2011 and 2026.
- viii. At a basic level, this suggests the East should be looking to provide 1358 homes between 2011 and 2026 and not 2440 but this shouldn't be taken in isolation as a 'new target'.

8.1 Recommendations

- i. Reliance in the first instance should be on the Isle of Man Strategic Plan 2016.
- ii. Plan for the need in the East for 2440 new homes through the Area Plan area.
- iii. Accept that there will, because of monitoring and new survey analysis, data which may bring into question statutory need figures and that this is an opportunity to 'sense check' approach.
- iv. Acknowledge that it can take time to process and make new projections - there can be a time lag.

- v. There are risks in reacting to new data sets too quickly – this can reduce confidence and make planning difficult.
- vi. Accept migration is increasing and ongoing statistics can monitor until Census 2021 takes place.
- vii. A review of Strategic Plan will take place using 2021 Census data.
- viii. In the meantime, rely on Strategic Plan figures but use the system of phasing sites - through Strategic Reserves if necessary. A methodology for release is needed when 'need' is evident and when all the necessary infrastructure is in place.
- ix. To accept that the Area Plan is in general conformity with the Strategic Plan but Area Plan controls the release of sites.
- x. Housing figures in the Strategic Plan shouldn't be set aside so quickly and whilst there isn't the need now there could be in the future and sites need to be able to be brought forward with ease that have been through an assessment process and have been examined at public inquiry.

Original Evidence Paper - DP EP5 published on 24th May 2018

1 Introduction

- 1.1 As this Draft Area Plan follows after the revision of the Isle of Man Strategic Plan housing numbers in 2016, there are updated and thus different statistical datasets available. Of these, the most important for planning purposes are population and household size data and projections derived from the 2016 Isle of Man Census which was published in March 2017.
- 1.2 Thus it is now necessary and appropriate to review the information available from that census, compare it to the information in the Strategic Plan and consider the implications of this new information.

2 Household sizes and the provision of housing units

- 2.1 In planning terms the purpose of housing units is to provide dwellings for households: people live in households, and these households comprise themselves, other family members and their possessions. These households need housing.⁸
- 2.2 In order to take a population figure and then arrive at the number of dwelling units that that population requires (be they individual houses, flats, etc.) and what variety of sizes and types of dwellings are appropriate, one needs to understand the size of the households being provided for. This is done by calculating an average household size, identifying household size trends over time and then projecting that out to a confidently predictable point in the future.
- 2.3 This point creates an estimate of the number of households. It is only after that estimate is specified that decisions can be made about what types of places should be provided and in what way.

3 Projected number of private households

- 3.1 The projections are based upon the Isle of Man Population Projections which were published in the 'Meeting our Population challenges' discussion document.⁹ These projections are based on the 2016 census results and were derived using standard international methodology, specifically that of the UN Population Division (UNPD).

⁸ Mulder, C.H. *The relationship between population and housing*, Keynote presentation to the 69th Session of the UNECE Committee on Housing and Land Management, 2017.

⁹ Meeting our population challenges, Economic Affairs, Cabinet Office, February 2018
<https://www.gov.im/media/1360674/2018-02-27-meeting-our-population-challenges.pdf>.

An Update to DP EP5 (as originally published) is set out at the start of this document

- 3.2 These projections comprise three component parts: fertility impacts, mortality impacts and net migration. Age specific fertility and single age, sex specific mortality rates which determine these parts have been calculated using data from the ten years between 2006 and 2016.
- 3.3 Three variants of the projections are modelled in the population discussion document, representing three different migration scenarios, of 0, 500 and 1,000 net inward migration respectively.
- 3.4 It has been decided to continue to plan for a net inward migration of 500, the assumption made previously in the 2016 Isle of Man Strategic Plan. The population and demography of the Isle of Man is changing, but the net migration and other demographic assumptions are affected by Government policy decisions and there is a clear strategic objective to grow the economically active population, with an increase in this measure specified as a macro-indicator of growth in an inclusive society.
- 3.5 The persistent decline in average household size is another clear trend which can be derived from census data. This can be attributed to an increase in the number of people living alone, which is partly due to choice (not uncommon in a population with migrant workers) and also an ageing population with increasing numbers of widows and widowers¹⁰.
- 3.6 An additional assumption for the purposes of projecting the number of private households on the Island through to 2036 relates to the number of individuals who will live in a private household. A proportion of the population in each year will reside in communal establishments such as care or nursing homes and the prison. The previous six census have shown that around 98% of people live in private households and therefore this assumption has been continued through to 2036.
- 3.7 Government's planning review concluded there was a requirement for greater amounts of space for households, an increase in space standards. Larger houses require more space.
- 3.8 Four scenarios have been produced based on the number of residents projected to be on the Island and living in private households through to 2036:
- Scenario A where the average household size per the 2016 census will remain constant through until 2036
 - Scenario B where the average household size reduces by 0.01 per year from the 2016 level.
 - ~~Scenario C where the average household size reduces by 0.02 per year from 2016. This was the trend rate of decrease between 2011 and 2016.~~
 - Scenario D where the average household size reduces by 0.0048 per year from 2016. This is the 20 year annual trend rate between the 1996 and 2016 censuses.

¹⁰ Ibid. Mulder, C.H.

An Update to DP EP5 (as originally published) is set out at the start of this document

3.9 Each of these scenarios has been applied to each variant of the population figures.

4. Projections and household size – how does this compare to the Isle of Man Strategic Plan 2016?

4.1 When comparing the household projections in the Strategic Plan and the information available from the 2016 Census, we find some differences at the end of the plan period in 2026.

4.2 In doing so, it is important to be clear that in the Strategic Plan it is assumed that the household size would fall by 0.04 every 10 years or 0.004 every year.

4.3 In the 2016 Isle of Man Strategic Plan, a vacancy factor of 4% was allowed for to represent local market circumstances. This resulted in the following:¹¹

Table 1: Increase in number of households + Vacancy factor to 2026

Strategic Plan 2016		
Increase 2011-2026	Vacancy factor	Increase + vacancy
4,885	4%	5,080

4.4 Applying migration and population assumptions derived from 2016 census data to the same vacancy allowance, the following number of households is projected:

Table 2: 2016 Census projections

	Increase 2011-2026	Vacancy factor	Increase + vacancy
Scenario B projection ¹²	3,629	4%	3,774
Scenario C projection ¹³	5,107		5,311

4.5 Two scenarios can be considered regarding household size, one being more pessimistic about the rate of decline in average household size than the other.

5. Population

5.1 The trend projections for population are similarly calculated, and are as follows.

¹¹ Isle of Man Strategic Plan (2016) Paragraph 8.4.7.

¹² Please see the projections from the 2016 Census at the end of this document.

¹³ Please see the projections from the 2016 Census at the end of this document.

An Update to DP EP5 (as originally published) is set out at the start of this document

Table 3: Population and household projections

POPULATION + HOUSEHOLDS	2011	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Population – 2016 Strategic Plan estimate	84,497	88,226	88,845	89,455	90,059	90,656	91,246	91,829	92,405	92,971	93,526
Population 2016 census projection	N/A	82,127	82,565	82,992	83,415	83,810	84,203	84,584	84,962	85,314	85,671
Household size 2016 Strategic Plan estimate	2.33	2.306	2.302	2.298	2.294	2.29	2.286	2.282	2.278	2.274	2.27
Household size 2016 census projection Scenario B	N/A	2.27	2.26	2.25	2.24	2.23	2.22	2.21	2.2	2.19	2.18
Household size 2016 census projection Scenario C	N/A	2.27	2.25	2.23	2.21	2.19	2.18	2.16	2.14	2.12	2.1
Households 2016 Strategic Plan estimate	35,599	37,593	37,923	38,250	38,575	38,899	39,220	39,540	39,858	40,173	40,484
Households 2016 census projection Scenario B	N/A	36,117	36,470	36,821	37,174	37,517	37,862	38,205	38,550	38,887	39,228
Households 2016 census projection Scenario C	N/A	36,243	36,727	37,214	37,707	38,195	38,690	39,188	39,693	40,194	40,706

An Update to DP EP5 (as originally published) is set out at the start of this document

6. Conclusions¹⁴

- 6.1 Thus using population projections, and assuming a pessimistic trend decline in household size, (at the faster Scenario C rate), there is an under-provision for households in the 2016 strategic plan which is likely to be corrected by other forces of the housing market.
- 6.2 As noted earlier, the Scenario C rate of the decline in household size is the same trend rate of decrease between 2011 and 2016. When making plans for the future management of land, its uses, and the provision of housing and employment choices, this recent trend is important.

¹⁴ (now superseded by June 2019 Update)

Projections from 2016 Census data

Table 4: Projection population living in private households

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Zero	81,580	81,463	81,329	81,177	81,005	80,821	80,614	80,390	80,149	79,888	79,611	79,320	79,007	78,684	78,333	77,977	77,594	77,197	76,773	76,347
Mig. 500	82,127	82,565	82,992	83,415	83,810	84,203	84,584	84,962	85,314	85,671	86,002	86,332	86,633	86,908	87,170	87,406	87,613	87,803	87,962	88,110
Mig. 1,000	82,632	83,584	84,549	85,497	86,390	87,324	88,239	89,182	90,086	91,012	91,929	92,836	93,716	94,553	95,385	96,175	96,942	97,684	98,384	99,070

Table 5: Scenario A - Average household size remains constant from 2016

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Zero	35,719	35,668	35,609	35,543	35,468	35,387	35,296	35,198	35,093	34,978	34,857	34,730	34,593	34,451	34,297	34,142	33,974	33,800	33,615	33,428
Mig. 500	35,959	36,151	36,337	36,522	36,696	36,868	37,034	37,200	37,354	37,511	37,655	37,800	37,932	38,052	38,167	38,270	38,361	38,444	38,513	38,578
Mig. 1,000	36,180	36,597	37,019	37,434	37,825	38,234	38,635	39,048	39,443	39,849	40,250	40,648	41,033	41,400	41,764	42,109	42,445	42,770	43,077	43,377

Table 6: Scenario B - Average household size reduces of 0.01 per year from 2016

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Average Household Size	2.27	2.26	2.25	2.24	2.23	2.22	2.21	2.20	2.19	2.18	2.17	2.16	2.15	2.14	2.13	2.12	2.11	2.10	2.09	2.08
Zero	35,876	35,983	36,083	36,176	36,261	36,342	36,412	36,476	36,532	36,580	36,621	36,656	36,680	36,701	36,708	36,714	36,706	36,692	36,665	36,636
Mig. 500	36,117	36,470	36,821	37,174	37,517	37,862	38,205	38,550	38,887	39,228	39,561	39,896	40,221	40,537	40,849	41,153	41,446	41,733	42,008	42,281
Mig. 1,000	36,339	36,920	37,512	38,102	38,672	39,266	39,856	40,465	41,061	41,674	42,287	42,902	43,510	44,103	44,699	45,282	45,859	46,429	46,985	47,540

Table 7: Scenario C - Average household size reduces by 0.02 per year from 2016

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Average Household Size	—2.27	—2.25	—2.23	—2.21	—2.19	—2.18	—2.16	—2.14	—2.12	—2.10	—2.09	—2.07	—2.05	—2.03	—2.01	—2.00	—1.98	—1.96	—1.94	—1.93
Zero	36,002	36,237	36,468	36,695	36,917	37,136	37,349	37,557	37,761	37,958	38,152	38,342	38,524	38,705	38,876	39,046	39,207	39,363	39,508	39,655
Mig. 500	36,243	36,727	37,214	37,707	38,195	38,690	39,188	39,693	40,194	40,706	41,215	41,731	42,243	42,751	43,261	43,768	44,269	44,771	45,265	45,764
Mig. 1,000	36,466	37,181	37,912	38,648	39,371	40,124	40,881	41,664	42,442	43,244	44,055	44,875	45,697	46,512	47,338	48,159	48,983	49,809	50,629	51,456

Table 8: Scenario D - Average household size reduces by 0.0048 per year from 2016

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Average Household Size	2.28	2.27	2.27	2.26	2.26	2.26	2.25	2.25	2.24	2.24	2.23	2.23	2.22	2.22	2.21	2.21	2.20	2.20	2.19	2.19
Zero	35,795	35,819	35,835	35,844	35,845	35,839	35,824	35,801	35,770	35,730	35,683	35,629	35,565	35,496	35,415	35,331	35,234	35,130	35,014	34,896
Mig. 500	36,034	36,303	36,568	36,832	37,086	37,339	37,588	37,836	38,075	38,317	38,547	38,779	38,998	39,206	39,410	39,603	39,783	39,957	40,117	40,272
Mig. 1,000	36,256	36,751	37,254	37,752	38,227	38,723	39,212	39,716	40,204	40,705	41,204	41,700	42,187	42,656	43,124	43,576	44,019	44,453	44,870	45,282