Housing Growth Indicators

2016-based

Housing Growth Indicators (HGIs)

2016 - 2030

Department for **Infrastructure**
An Roinn **Bonneagair**
www.infrastructure-ni.gov.uk

WHAT INFORMS THE HGIs?
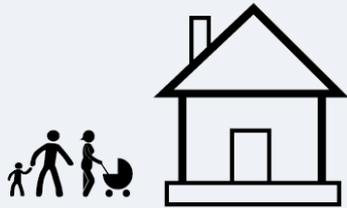
Household projections & current housing stock

Vacant stock, conversions, closures & demolitions

Second homes

Background to the HGIs

Housing Growth Indicators (HGIs) provide an indication of future housing need in Northern Ireland.

The indicators have been updated at the request of Regional and Strategic Planning within the Department for Infrastructure and are produced to provide guidance for those preparing development plans.

Household projections produced by NISRA form the basis of the estimate. The estimates are based on current population & household formation trends with the assumption that these trends will continue into the future.

Using the HGIs

These estimates are purely for guidance & should not be considered as a cap or a target on development, they present a robust starting point which can subsequently be adjusted taking account of the full range of factors that may influence housing requirements over the plan period. Various other factors will also have an influence on housing requirements over longer time periods.

They are intended to support the development process by giving an indication of where development is most likely to be needed given the current trends.

NI STOCK REQUIREMENT ESTIMATE FOR 2030

776,526

2016 NI Housing Stock

861,345

Stock requirement estimate at 2030

NISRA
Northern Ireland
Statistics and Research Agency
Gníomhaireacht Thuaisceart Éireann
um Staitisticí agus Taighde

Contents

1. Background to the HGIs

1.1. Housing Growth Indicators (HGIs) provide an indication of future housing need in Northern Ireland. Household projections produced by NISRA form the basis of the estimate. The estimates are based on current population/household formation trends with the assumption that these trends will continue into the future.

1.2. As population and household formation projections are regularly updated and housing stock data presents the most up to date position annually, the HGIs should be used for guidance. The estimate does not take account of any future policy development or social factors and, as such, should not be considered a target or seen as a cap on housing development in the area.

1.3. Following a public consultation, an agreed methodology was established in 2005. This methodology has been replicated as closely as possible for all HGI updates since, including this latest 2016 based update. The variables that make up the HGI calculations have been updated using the most recently available information from robust sources. The 2012 based update of the HGIs contains more detailed information on the earlier applications of the methodology and can be found at https://www.infrastructure-ni.gov.uk/publications/2012-based-housing-growth-indicators-hgis-and-methodology-paper.

1.4. In addition to the household projections which are considered the main component of the HGIs, data on vacant housing stock, second homes and net conversions/closures/demolitions (net stock loss) are also used to produce the final estimates. As new, updated data was available for household projections, housing stock, vacant stock and second homes, updating the HGIs at this time is in line with the commitment to refresh estimates when updated household projections are published. This update ensures that any decision making or planning taken forward can be supported by the most robust, up-to-date information as evidence.

1.5. A number of updates of the HGIs have been produced, including being part of the first Regional Development Strategy which was published in 2001. Housing Growth Indicators were last published in May 2016 for the time period 2012-2025. The household projections used for these HGIs were based on 2012 data. The latest HGIs use 2016 based household projections and have been calculated for the time period 2016-2030 to align with the timeframe for the majority of Local Development Plans.

1.6. The HGIs have been calculated for Northern Ireland and also for each of the 11 Local Government Districts (LGDs). Further detail on how the HGIs are calculated, user information and methodology is presented throughout this document.

2. Uses of the HGIs

2.1. The indicators have been updated at the request of the Department for Infrastructure Planning Group and in line with the commitment to refresh estimates when updated household projections are published. They are produced primarily to provide guidance for those preparing development plans. They are intended to support the development process by giving an indication of where development is

most likely to be needed given the current understanding of population, current data on the housing infrastructure and expected population growth. As mentioned above, these estimates are purely for guidance and should not be considered as a cap or a target on development and, as such, represent a robust starting point which can considered while also taking account of the full range of factors that may influence housing requirements over the plan period in terms of how many houses are needed in any area.

3. Northern Ireland Housing Growth Indicators 2016-2030

3.1. Following a period of gathering the required data from a variety of sources (detailed on paragraph 3.7 and also section 4); examining the previous methodology; confirming with Planning representatives on a way forward for the 2016-based update; and engaging in various meetings and conversations with subject experts, Analysis, Statistics and Research Branch within the Department for Infrastructure took forward HGI calculations using the most recent available data.

3.2. Once the data analysis was complete, the updated HGI figures calculated for the period 2016-2030 show that the estimated new dwelling requirement in Northern Ireland for the period is:

84,800

3.3. As well as calculating an updated estimate for Northern Ireland, estimated dwelling requirements for the 11 Councils were also produced.

Table 1: Estimate of total housing need in Northern Ireland by Council 2016-2030[1]

Council	2030 estimated dwelling requirement
Antrim and Newtownabbey	4,200
Ards and North Down	5,500
Armagh City, Banbridge and Craigavon	17,200
Belfast	7,400
Causeway Coast and Glens	5,600
Derry City and Strabane	4,100
Fermanagh and Omagh	4,300
Lisburn and Castlereagh	10,700
Mid and East Antrim	5,400
Mid Ulster	10,300
Newry, Mourne and Down	10,000
Northern Ireland	**84,800**

[1] Estimates are rounded to the nearest hundred. Totals may not add due to rounding.

3.4. This report and its appendices provide further detail on the methodologies, data used and further insight into how these estimates have been produced. As mentioned previously, these estimates are an indication of likely need and should not be considered as a definitive target. The social and policy environment is likely to be subject to much change over the next decade and these estimates are modelled from currently available data. There has been no attempt to model future events into these estimates, so the data presented should be considered 'policy neutral'.

3.5. However, these should be considered as 'a best estimate' given the data available at this point in time. Data used has been obtained from professional, reliable sources and the updated HGIs have been developed by NISRA statisticians based on an agreed methodology, in consultation with subject experts. A number of

potential sources were considered and a sound, consistent rationale was employed to make the decisions that formed the final estimate calculations.

3.6. The variables informing the calculation of the Northern Ireland estimate are shown in Table 2 and this largely reflects the methodology that was used in the 2012 based HGIs.

Table 2: Variables that comprise 2016-2030 HGIs[1]

	Variable	Year of data	Value	Notes
(A)	Number of households	2030	**784,600**	2016 based NISRA household projections (occupied stock)
(B)	Second homes	2030	**8,700**	1.11% of occupied housing stock. NISRA Central Survey Unit combined survey sample
(C)	Vacant stock	2030	**57,000**	6.70% of total housing stock. NISRA Central Survey Unit combined survey sample
(D)	Net conversions/ closures/ demolitions	2016 to 2030	**11,100**	Net stock loss estimated using LPS housing stock and new dwelling completions data. Based on 9 year average.
(E)	New stock requirement estimate at end of period	2030	**861,400**	Sum of (A), (B), (C), & (D)
(F)	Total stock at start of period	2016	**776,500**	LPS Northern Ireland Housing Stock data www.finance-ni.gov.uk/publications/annual-housing-stock-statistics - stock at beginning of 2016/17
(G)	Projected new dwelling requirement	2016 to 2030	**84,800**	(E) minus (F)
(H)	Projected new annual dwelling requirement		**5,700**	

[1] Estimates are rounded to the nearest hundred. Totals may not add due to rounding.

3.7. Further information on the data sources used and changes compared to the previous 2012 based HGIs is available in 'User Information – data sources' (page 9) and 'Changes to data since 2012 HGIs' (page 11). However, at a basic level, the detail of each variable listed above is as follows.

Number of households 2030 (A)
The estimate of the number of households in 2030 of 784,600 comes from the 2016 based household projections produced by NISRA, available at this link.

Second homes 2030 (B)
The term 'second home' used in this calculation relates to a dwelling, not permanently occupied, whose owner resides principally in another dwelling. This includes holiday homes and residences used for easy access to business, but excludes dwellings privately rented to other tenants. Following review of the previous potential sources for this update only one robust data source for second homes data was identified: the NISRA Central Survey Unit (CSU) combined survey sample 2016-17, which provides a factor of 1.11% (see 'Changes to data since

2012 HGIs' section (page 11)). Applying the CSU second homes factor (1.11%) to the data gives an estimated second homes figure of 8,700 in 2030.

Vacant stock 2030 (C)
Two possible data sources were identified for these data: the NI House Condition Survey 2016 (NIHCS) and the CSU combined survey sample 2016-17 (see 'User Information – data sources' (page 9)). In the NIHCS 2016, the proportion of vacant properties was 3.65%. In the CSU combined survey sample 2016-17, this proportion was 6.70%.

To maintain consistency with the data used for second homes, the NISRA CSU data was also used as the source for this variable and this results in an estimated vacant stock figure of 57,000 in 2030.

Net conversions/closures/demolitions 2016 to 2030 (D)
Estimates were produced, using housing stock numbers and new dwelling completions data from Land and Property Service (LPS) (see 'Calculation of estimates' section on page 12). These estimates suggest a figure of 741 stock loss per annum.

New stock requirement estimate 2030 (E)
This is calculated by adding the estimated number of second homes (B), vacant stock (C) and stock loss adjustment (D) to the estimated number of households (A). This results in a stock requirement estimate of 861,400 in 2030.

Total stock 2016 (F)
The LPS publication 'Northern Ireland Housing Stock' reports on data from the NI Valuation List (see 'User Information – data sources' on page 9). At April 2016, total NI housing stock was 776,500.

Projected new dwelling requirement 2016 to 2030 (G)
This is calculated by subtracting the 2016 total stock figure (F) from the 2030 total stock estimate (E).

3.8. Development of the updated HGIs based on the variables as outlined above results in a projected new dwelling requirement of 84,800 between 2016 and 2030 (approximately 5,700 per annum). While past trends are not necessarily an indicator of future trends and house building is not a linear, constant development, it is worth considering the projected annual requirement against recent numbers of new dwelling completions in Northern Ireland. In the past 9 years these are as follows (https://www.finance-ni.gov.uk/publications/new-dwelling-statistics-report):

2010-11	6,213
2011-12	5,719
2012-13	5,526
2013-14	5,315
2014-15	5,501
2015-16	5,771
2016-17	6,463
2017-18	7,096
2018-19	7,809

So a figure of around 5,700 per annum is a broadly central point amongst these nine annual figures and as such the updated HGI figure sits within the recent trend of completions over the past decade.

4. User Information – data sources

4.1. This section describes the data sources that were used or considered as part of the development process for the latest 2016 based HGIs. The decision was made early on in this refresh process to replicate the agreed methodology that was used for the 2012 based HGIs and, as far as possible, this is the process that has been employed. However, due to data quality or data availability at the time of this refresh, it is important to note that some data sources may have changed since the previous 2012 based HGIs were derived. This is fully discussed in the section 'Changes to data sources since 2012 based HGIs' on page 11. Generally any changes are due to lack of availability of the original data source or considerations related to consistency of data use across HGI variables.

4.1.1. NISRA household projections

Household projections are formed using population projections and household formation trends. The projected population is assigned into household groups using the trends in household formation from one Census to the next. The 2016 based household projections are based on the most up-to-date trend data on household formation between the 2001 and 2011 Census. 2016 based household projections data have been calculated for the 11 new LGDs.

The 2016 based data were used as the starting point for the HGI calculations.

4.1.2. NI Housing Executive House Condition Survey

The NIHCS is conducted by the NI Housing Executive (NIHE). A detailed technical survey is carried out on the interior and exterior of properties and, in addition, a short interview is conducted with the householder or their partner. The data are weighted and grossed to ensure final figures reflect the actual housing stock. The achieved sample size in 2016 was 2,023.

Data from the NIHCS 2016 were considered as a potential source to estimate the proportion of second homes and proportion of vacant houses. Advice was also sought from the research team in NIHE in support of the development of these updated HGIs and the producers of this report are grateful for that support and expert advice. During the conversations with NIHE, the advice provided was that due to small sample sizes, NIHCS data on second homes was not robust enough to be used to inform the HGIs. Therefore NISRA CSU data was used for second homes estimates. In the interests of consistency across the calculations, this provided a rationale for also using the NISRA CSU data for vacant stock estimates.

4.1.3. Land and Property Services (LPS) publications

Building Control new dwelling completions data

Figures are collected quarterly by LPS from Building Control offices in each council on the number of new dwellings that have been completed during that quarter. The date of a new dwelling completion is the date on which the building control completion inspection takes place. New dwellings include both houses and apartments.

New dwelling completions data were used in the calculations to estimate net stock loss.

Housing stock data - NI Domestic Valuation List

LPS publish housing stock figures based on their domestic valuation list. The data represents housing stock at a point in time usually in April. The download is taken on the first working day of the month. Housing stock data are available from 2008 to 2019 for the 11 LGDs.

Total housing stock data is one of the elements of the HGIs model. The data were also used in the calculations to estimate net stock loss.

4.1.4. NISRA Central Survey Unit combined survey sample

Central Survey Unit (CSU) has amalgamated samples from their main surveys which took place over each financial year from 2013-14. These are the complete samples that were selected from the LPS address database and so the data include properties that were found to be vacant or second homes when the interviewer went to visit. The combined sample for the year used in the HGI calculations (2016-17) includes 25,400 properties.

A sample size of 25,400 allows for data analysis at LGD level. Data on second homes and vacant properties have been used in the HGI calculations at LGD level and to confirm data used at Northern Ireland level. The data source is not an official estimate of data on second homes or vacant properties. It is a by-product of survey research and it is considered to be a representative sample of houses at Northern Ireland level and LGD level.

5. Changes to data sources since 2012 based HGIs

5.1. The changes outlined in this section include where a new data source has been used to calculate the HGIs and also if there have been any significant changes to a data source since the last HGIs were calculated. Looking at each of the 5 key elements in the Northern Ireland level HGI calculations:

5.1.1. Number of households

Data source: NISRA household projections (2016 based).

Changes to data

The latest household projections (2016 based) replaced the previous household projections (2012 based).

The 2016 based figures are lower than the 2012 based figures. As stated in NISRAs methodological paper, the main driving force behind the 2016-based projections being lower than the 2012 based projections is due to a lower population base. Similar findings are also found in household projections for countries in the rest of the UK and indeed for areas within Northern Ireland.

For further details of differences between the 2012 based household projections and 2016 based household projections, see the methodology report on the NISRA website ('Useful links' section on page 19).

5.1.2. Second homes/Vacant stock

Data source: NISRA CSU Combined Survey Sample 2016/17.

Changes to data

2016/17 figures from the NISRA CSU Combined Survey Sample replace the figures from the 2011 NIHCS. 2016/17 was considered the most relevant year for the 2016 based HGI update.

NIHE advice was that the NIHCS sample was considered too small to provide robust data for the second homes variable. Given that issue with regards to second homes and NIHCS data, it was considered that the preferred approach was to ensure consistency of data source across the calculations/relevant variables and as NISRA CSU data informed the second homes variable, the NISRA CSU data was also chosen to inform the vacant stock variable. Additionally, using vacant stock estimates provided by NIHCS and LPS lead to an overall gain in some LGDs, which would lead to an indicator suggesting no additional requirement of homes within these areas over the HGI estimate period. This issue also occurred in aspects of the 2012 based update and was a driver for variable decision making at that time. As this is a refresh of that 2012 method, the issue has been handled similarly.

5.1.3. Net conversions/closures/demolitions

Data source: Estimates produced using published LPS data on new dwelling completions and housing stock.

Changes to data

NIHE advice obtained on net demolitions, conversions and closures across NIHE stock suggested a figure of 200 per annum. Advice was also sought from LPS on available data. The LPS figures that were available represent all Northern Ireland housing stock so the decision was taken to give precedence to these estimates. The latest net stock loss estimate based on the average of the time series available (9 years (2010-11 to 2018-19) is 741 per annum. This results in an estimated stock loss of 11,100 dwellings over the period to 2030. The previous 2012 based HGIs used a 2 year average and an annual estimated stock loss of 1,000 but this update has used the full time series available to provide a more robust average to smooth out any volatility across the period.

Calculation of estimates

Housing stock numbers and new dwelling completions data from LPS were used to give some guidance on approximating net stock loss data. Estimates were produced as follows:
- Take housing stock at the beginning of the year (LPS NI Housing Stock publication) and add in new dwellings completed during the year (LPS NI Building Control Starts and Completions publication). If no net stock loss, this figure would be the total housing stock at the end of the year.
- Compare this estimated 'housing stock if no loss' figure with the actual housing stock at the beginning of the next year (LPS NI Housing Stock publication). If the actual housing stock is less than the estimated 'housing stock if no loss', this would suggest that some stock has been lost during the year.
- Subtract actual housing stock at the beginning of the next year from estimated 'housing stock if no loss' to get an estimate for net stock loss during the year.

Due to the nature of the data and considering these figures are estimates, there can be wide variation from year to year. Therefore, averages have been taken over nine years to smooth the variations in the data and look at longer term trends.

5.1.4. Total stock

Data source: LPS Northern Ireland Housing Stock publication

Changes to data

The LPS NI Housing Stock publication remains the source of housing stock statistics with the most recent statistics available up to 2019. This HGI update has used the relevant data available at the time of update.

6. Local Government District (LGD) level figures – 2016 based Housing Growth Indicators

6.1. Background to LGD level estimates

Each time the HGIs have been calculated, estimates at LGD level have been produced. These are produced by using existing data or estimating LGD level data for each of the key components of the HGIs detailed in Table 2: number of households, second homes, vacant stock, net conversions/closures/demolitions (net stock loss) and total housing stock for start year. The individual components are then combined to produce the HGIs at LGD level.

6.2. Data sources for each of the 5 key components are the same as those listed for the NI HGI figure (see 'User Information – data sources' on page 9) and more detail on the LGD calculations can be found in Appendix 1, page 15.

Table 3: Estimate of total housing need in Northern Ireland by Council 2016-2030[1]

Council / Region	2030 estimated dwelling requirement
Antrim and Newtownabbey	4,200
Ards and North Down	5,500
Armagh City, Banbridge and Craigavon	17,200
Belfast	7,400
Causeway Coast and Glens	5,600
Derry City and Strabane	4,100
Fermanagh and Omagh	4,300
Lisburn and Castlereagh	10,700
Mid and East Antrim	5,400
Mid Ulster	10,300
Newry, Mourne and Down	10,000

[1] Estimates are rounded to the nearest hundred.

6.3. These figures have been used as a starting point for allocating housing land as part of the Local Development Plan process. The figures presented here at LGD level are solely based on the data, are 'policy neutral' and use similar methodology to that used to produce the NI HGI estimate.

6.3.1. Issues when producing LGD level data

There are fewer data sources available to calculate the HGIs at LGD level. Some data that are robust for Northern Ireland are not robust when broken down to LGD level. In addition, some data that were used in the past may no longer be available or not available at suitable quality levels (see 'User Information – data sources' on page 9).

Appendix 1

LGD level Northern Ireland Housing Growth Indicators 2016-2030 - estimating each of the 5 key components

Table A1: Estimate of housing need by Local Government District 2016-2030

District Council	Household projection 2030	Second Homes 2030	Vacant Stock 2030	Net Conversions Closures and Demolitions 2016-2030	New Stock Estimate 2030	Housing Stock at April 2016	Projected New Dwelling Requirement 2016-2030
Antrim and Newtownabbey	59,200	400	3,200	-400	62,400	58,300	4,200
Ards and North Down	70,100	900	4,500	200	75,800	70,300	5,500
Armagh City, Banbridge and Craigavon	90,500	900	6,300	2,000	99,700	82,500	17,200
Belfast	148,200	1,500	13,000	900	163,500	156,100	7,400
Causeway Coast and Glens	58,300	2,700	5,200	2,400	68,600	62,900	5,600
Derry City and Strabane	60,000	200	4,300	100	64,600	60,500	4,100
Fermanagh and Omagh	46,200	500	4,300	1,300	52,400	48,000	4,300
Lisburn and Castlereagh	63,500	400	3,700	1,100	68,700	58,000	10,700
Mid and East Antrim	59,200	200	3,600	1,000	64,100	58,700	5,400
Mid Ulster	57,000	200	3,500	2,300	63,000	52,600	10,300
Newry, Mourne and Down	72,300	800	5,300	300	78,700	68,600	10,000
Northern Ireland	**784,600**	**8,700**	**57,000**	**11,100**	**861,300**	**776,500**	**84,800**

Cells are rounded to the nearest 100. Calculations have been worked out using unrounded data. Therefore summing individual figures in the table above may not add to total.

Household projection 2030

Data source: 2016 based household projections

To produce LGD level data: Household projections data have been calculated for the new 11 LGDs.

Changes to data

The latest household projections (2016 based) replaced the 2012 based household projections. The 2016 based figures are lower than the 2012 based figures (see 'Number of households' section on page 11 for some of the reasons why the figures are lower).

Second homes 2030

Data source: Central Survey Unit combined survey sample 2016-17

To produce LGD level data: As with the NI HGI calculation, the term 'second home' relates to a dwelling, not permanently occupied, whose owner resides principally in another dwelling. This includes holiday homes and residences used for easy access to business, but excludes dwellings privately rented to other tenants. Following review of the previous sources for this update only one robust data source for second homes data was identified: the NISRA CSU combined survey sample 2016-17. The overall NI second homes figure was apportioned across each of the 11 Councils to reflect the distribution present in the NISRA CSU combined survey sample data.

Changes to data source

No change

Vacant stock 2030

Data source: Central Survey Unit combined survey sample 2016-17

To produce LGD level data:
As with the NI HGI calculation, to maintain consistency with the data used for second homes, the NISRA CSU data was also used as the source for this variable. Again, similar to the second homes calculations, the overall NI vacant stock figure was apportioned across each of the 11 Councils to reflect the distribution present in the NISRA CSU combined survey sample data.

Changes to data source

For the 2012 based HGIs, NIHCS data was used. However, as detailed previously, for this 2016-based HGI update it was decided to maintain consistency across data used to ensure a more robust estimate using figures obtained from one source where possible and so, given only one suitable source was available for estimating second homes, that same source was used for vacant stock estimation. Therefore the source for vacant stock estimation has changed from NIHCS to NISRA CSU Combined Survey Sample.

Net conversions/closures/demolitions 2016 to 2030

Data source: Estimates produced using published LPS data on new dwelling completions and housing stock.

To produce LGD level data: Approximations were produced for each LGD as per the estimation of the NI level figure (see 'Calculation of estimates' section on page 12). These LGD level data have been used to apportion the NI level net conversions/closures/ demolitions figure of 11,100.

Change to data source

No change

Issues to note

- *Using average over 9 years*
  As per the NI level figure, due to the nature of the data there can be wide variation from year to year. Therefore averages have been taken over a number of years to smooth the variations in the data and look at longer term trends.

  Previously a 4 year average was used to calculate LGD level estimates. For this refresh, to produce a more robust estimate, the full data available covering the period 2010-11 to 2018-19 was used.

New stock estimate 2030

The new stock estimate for 2030 is calculated by adding the estimated number of second homes, vacant stock and stock loss adjustment to the estimated number of households for each Local Government District area.

Total stock 2016

Data source: LPS NI Housing Stock publication

To produce LGD level data: Data are available for the new 11 LGDs from this publication

Projected new dwelling requirement by LGD for 2016 to 2030

This is calculated by subtracting total stock estimate for 2016 from total stock estimate for 2030 for each LGD.

Appendix 2

Table A2: Comparison of LGD level Housing Growth Indicators 2016-2030 with recent new dwelling completion rates

Local Government District	Projected new dwelling requirement 2016-2030[1]	Comparison 15 year figure using recent completion rates[2]
Antrim and Newtownabbey	4,200 dwellings	8,160 (544 x 15)
Ards and North Down	5,500 dwellings	10,275 (685 x 15)
Armagh, Banbridge and Craigavon	17,200 dwellings	13,755 (917 x 15)
Belfast	7,400 dwellings	10,065 (671 x 15)
Causeway Coast and Glens	5,600 dwellings	8,565 (571 x 15)
Derry City and Strabane	4,100 dwellings	7,680 (512 x 15)
Fermanagh and Omagh	4,300 dwellings	4,935 (329 x 15)
Lisburn and Castlereagh	10,700 dwellings	11,580 (772 x 15)
Mid and East Antrim	5,400 dwellings	6,405 (427 x 15)
Mid Ulster	10,300 dwellings	10,680 (712 x 15)
Newry, Mourne and Down	10,000 dwellings	9,690 (646 x 15)

[1] Estimate of housing need by Local Government District 2016-2030 (see Table 1 and Table 3 on pages 6 and 13 respectively) - derived by estimating each of the key components at LGD level and combining to form the HGI for each LGD.

[2] An approximate figure of new dwelling completions per annum (given in brackets) has been worked out using LPS new dwelling completions data over the time period 2015-16 to 2018-19 (the full time series available at 11 LGD level). 2016 to 2030 is a 15 year period so the calculated average figure has been multiplied by 15 to give a figure that can be compared with the projected new dwelling requirement 2016-2030.

Appendix 3

Useful links

2012 based Housing Growth Indicators and methodology paper are available on the DfI website at:

https://www.infrastructure-ni.gov.uk/publications/2012-based-housing-growth-indicators-hgis-and-methodology-paper

Details of the household projections data and methodology are available on the NISRA website at:

https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/HP16-bulletin.pdf

RDS 2035 available on the DfI website at:

https://www.infrastructure-ni.gov.uk/publications/regional-development-strategy-2035

Details on the NI Housing Executive Northern Ireland House Condition Survey (including results from the survey) are available on the NIHE website:

https://www.nihe.gov.uk/Working-With-Us/Research/House-Condition-Survey

Land and Property Services NI Building Control Starts and Completions publication is available on the DoF website:

https://www.finance-ni.gov.uk/publications/new-dwelling-statistics-report

Land and Property Services NI Housing Stock publication is available on the DoF website:

https://www.finance-ni.gov.uk/publications/annual-housing-stock-statistics