



**Report Title: Choice of Assumptions for the Tool**

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At the last Strategic Housing Group on 27<sup>th</sup> August it was agreed that the three different scenarios discussed at the meeting would be run through the Tool once the household projections had been finalised and sent to the group. The results are included in this paper and also some information on default assumptions made in the tool.

The Housing Need and Demand Assessment Working Group have made a recommendation as to what scenario is the most realistic based on past trends. If you don't agree with the choice the working group have made please let me know.

I also need feedback on assumptions made in the Tool and whether you agree with the following points below. Please see pages 5-7 for more information on these assumptions.

1.	The number of years to clear existing need should be spread over 10 years as is the existing approach
2.	Don't use the affordability filter in the Tool which means that all existing need is apportioned to social rent
6.	Use the default affordability setting in the Tool which assumes that someone can afford to purchase a house priced at the lower quartile – 25% if their lower quartile income is 4x greater than the house price (equivalent to 3.2x income and 75% mortgage)
7.	Use the Tool default for those who can afford to purchase and go on to do so, which is set at 50%
8.	Use the Tool default for the upper income to rent threshold for those who can afford to rent in the private sector which is set at 25%
9.	Use the Tool default for the lower income to rent threshold which assumes that if people need to spend more than 35% of their income on rent they can afford social rent

## Scenarios for the Tool

### Results

It was agreed at the last Strategic Housing Group meeting on the 27<sup>th</sup> August that the three scenarios that were discussed at the meeting would be run through the Tool once the household projections in the Tool were amended. Table 1 below highlights the different scenarios chosen for income growth and income distribution, house price and rent growth.

Table 2, 3 and 4 illustrates the average number of additional units that would be needed each year split into five year periods and also into each tenure.

**Table 1: Different Scenarios chosen for Income, House Price and Rent Growth**

		Scenario 1	Scenario 2	Scenario 3
<b>3 Income, Growth and Distribution</b>	<b>Growth in median income scenario</b>	Flat	Modest increase (core)	Flat
	<b>Change in income Distribution</b>	Creeping Inequality	Creeping Inequality	Flat
<b>4 House Prices and Affordability</b>	<b>House price scenario</b>	Office of Budget Responsibility 2015	No Real Growth	Flat
<b>5 Rent prices</b>	<b>Rent Growth Scenario</b>	Office of Budget Responsibility 2015	No Real Growth	Flat

**Table 2: Scenario 1**

	2014 - 2018	2019 - 2023	2024 - 2028	2029 - 2033
Social rent	274	278	230	232
Below Market	98	77	72	77
PRS	74	48	33	15
Buyers	161	119	99	88
<b>Total</b>	<b>607</b>	<b>523</b>	<b>434</b>	<b>412</b>

**Table 3: Scenario 2**

	<b>2014 - 2018</b>	<b>2019 - 2023</b>	<b>2024 - 2028</b>	<b>2029 - 2033</b>
Social rent	225	175	117	115
Below Market	89	70	56	49
PRS	106	108	106	101
Buyers	187	170	155	146
<b>Total</b>	<b>607</b>	<b>523</b>	<b>434</b>	<b>412</b>

**Table 4: Scenario 3**

	<b>2014 - 2018</b>	<b>2019 - 2023</b>	<b>2024 - 2028</b>	<b>2029 - 2033</b>
Social rent	225	179	121	115
Below Market	106	95	87	82
PRS	91	82	75	71
Buyers	185	166	151	144
<b>Total</b>	<b>607</b>	<b>523</b>	<b>434</b>	<b>412</b>

## HNDA Tool Scenarios and Assumptions to Estimate Need for Affordable Housing

The Scottish Government have devised a Tool to be used to estimate housing need. There are a number of assumptions built into the Tool that can be changed but only if evidence is provided that shows why these assumptions have been changed. The table below shows the various assumptions that can be altered within the HNDA Tool. These assumptions and whether any changes are to be made to them have to be agreed by the Strategic Housing Group.

<b>1 Household Projections</b>	Household Projection	NRS 2012 based Principle Projection
	Household Growth Adjustment	Not used
<b>2 Existing Need</b>	Existing Need Figure Used	767
	Years from 2015 to clear need	10
	Use affordability model to assign need	No
<b>3 Income, Growth and Distribution</b>	Income data	Small Area Income Estimates (Herriot Watt)
	Growth in median income scenario	Scenario 1 – Flat Scenario 2 – Modest Increase (Core) Scenario 3 – Flat
	Change in income Distribution	Scenario 1 – Creeping Inequality Scenario 2 – Creeping Inequality Scenario 3 – Flat
<b>4 Prices and Affordability</b>	House price scenario	Scenario 1 - Office of Budget Responsibility (OBR) estimates (core) Scenario 2 – No Real Growth Scenario 3 – Flat
	Income percentile	25%
	Income ratio	4
<b>5 Split Need into Tenure</b>	Proportion of market who buy	50%
	Upper income-to-rent threshold	35%
	Lower income-to-rent threshold	25%
	Rent Growth Scenario	Scenario 1 – Office of Budget Responsibility OBR estimates (core) Scenario 2 – No Real Growth Scenario 3 - Flat

## **Household Projections**

There is a choice of two different household projections within the Tool and they are the 2010 and 2012-based projections. The 2010-based household projections were produced before the 2011 Census results became available. The 2012-based projections project a slower rate of growth than earlier estimates, the suggestion is that the economic downturn and affordability issues have had an impact on people's ability to form new households, and this is reflected in the latest figures.

The statistical release accompanying the figures says that the main difference between the two sets of projections is that the 2010-based figures showed large increases in the number of young adults living in one-adult households, but this is no longer the case.

Advice from our Information and Research team recommend that the 2012 household projections are used.

## **Existing Need Figure**

At the Strategic Housing Group meeting on the 27<sup>th</sup> August it was agreed that the existing housing need figure of 767 would be used for the Tool. This figure includes the number of live homeless cases averaged over three years as well as concealed and overcrowded households and support/special forms of housing.

## **Number of Years to Clear Existing Need**

The default time to clear existing need within the Tool is 5 years. We think this is too short a time scale to clear existing need and ten years would be a more realistic time scale.

**Please advise if you don't agree with this.**

## **Use Affordability Model to Assign Need**

There is an option in the Tool to use an affordability filter. If this is ticked then the existing need will be apportioned between the different tenures; social rent, below market rent, private rent and owner occupation. If the affordability filter is un-ticked all existing need is apportioned to social rent.

We have assumed that all those in existing need will have their need met in the social rented sector.

**Please advise if you don't agree with this.**

## **Growth in median income scenario**

The Tool is pre-programmed with five scenarios that are designed to offer users a range of options to include higher, lower and midway scenarios. The following three have been picked for the three scenarios

- Scenario 1 – Flat: zero income growth to 2020, then 2.5% growth p.a. to 2032.

- Scenario 2 – Modest Increase (Core): incomes generally rise by 4.0 p.a. to 2023, then drop back to 3.0% to 2032.
- Scenario 3 – Flat: zero income growth to 2020, then 2.5% growth p.a. to 2032

Following analysis at the HNDA Working Group, it is recommended that scenario 2 is chosen as this scenario appears to be the most realistic based on past trends.

**Please advise if you don't agree with this.**

### **Change in income Distribution**

The Tool is pre-programmed with four scenarios that are designed to offer users a range of options to include higher, lower and midway scenarios. The following three have been picked for the three scenarios

- Scenario 1 – Creeping Inequality: The incomes of the most affluent (the 90<sup>th</sup> percentile of the income distribution) increase more steadily compared to the incomes of least affluent (the 10<sup>th</sup> percentile of the income distribution).
- Scenario 2 – Creeping Inequality: see above
- Scenario 3 – Flat: The incomes of the most affluent (the 90<sup>th</sup> percentile of the income distribution) and the least affluent (the 10<sup>th</sup> percentile of the income distribution) do not increase.

Following analysis at the HNDA Working Group, it is recommended that scenario 2 is chosen as this scenario appears to be the most realistic based on past trends.

**Please advise if you don't agree with this.**

### **House Price Scenario**

The Tool is pre-programmed with six future house price scenarios that are designed to offer users a range of options to include higher, lower and midway scenarios. The following three have been picked for the three scenarios

- Scenario 1 - Office of Budget Responsibility (OBR) estimates (core): House prices rise steadily year-on-year from 5.9% in 2015, 4.9% in 2016, 6.4% in 2017 and levelling out to 4.5% per year by 2020.
- Scenario 2 – No Real Growth: House prices rise in line with inflation 2% p.a. to 2020, increasing to 2.5% p.a. to 2032.
- Scenario 3 – Flat: Zero house growth to 2020, then 2.5% growth p.a. to 2032.

Following analysis at the HNDA Working Group, it is recommended that scenario 2 is chosen as this scenario appears to be the most realistic based on past trends.

**Please advise if you don't agree with this.**

### **Income Percentile and Income Ratio**

The default setting in the Tool assumes that someone can afford to purchase a house priced at the lower quartile (25% percentile of the house price distribution) if someone's lower quartile income is 4x greater than the house price.

The four times income is equivalent to 3.2x income with a 75% mortgage

There is no evidence available to suggest that a different income percentile and ratio should be used.

**Please advise if you don't agree with this.**

### **Proportion of market who buy**

The Tool default for those who can afford to purchase and go on to do so, is set at 50%. This assumes, of those who can afford mortgage repayments, only 50% also have the deposit to actually buy. Increasing the percentage would increase the amount of housing need that would be met via owner occupation and reduce the amount met by the rental sector (PRS, below market rent and social rent). Lowering the 50% threshold would have the opposite effect.

There is no evidence available to suggest that the 50% threshold should be increased or lowered.

**Please advise if you don't agree with this.**

### **Upper and Lower income-to-rent threshold**

The upper income-to-rent threshold determines those who can afford to rent in the private sector. This threshold is set at 25% in the Tool. If people are spending less than 25% of their income on rent the Tool assumes they can afford to rent in the private sector. This threshold has been used historically as the threshold for PRS affordability.

The lower income-to-rent threshold determines those that can afford below market rent. It is assumed that if people need to spend more than 35% of their income (including housing benefit) on rent they require social rent.

If people are spending between 25% to 35% of their income on rent the Tool assumes they can afford below market rent.

There is no evidence to suggest that these thresholds should be varied.

**Please advise if you don't agree with this.**

### **Rent Growth Scenario**

The Tool is pre-programmed with six future rental price scenarios that are designed to offer users a range of options to include higher, lower and midway scenarios. The following three have been picked for the three scenarios

- Scenario 1 – Office of Budget Responsibility OBR estimates (core): House prices rise steadily year-on-year from 5.9% in 2015, 4.9% in 2016, 6.4% in 2017 and levelling out to 4.5% per year by 2020.
- Scenario 2 – No Real Growth: Rent prices rise in line with inflation 2% p.a. to 2020, increasing to 2.5% p.a. to 2032.
- Scenario 3 - Flat: Zero rent price growth to 2020, then 2.5% growth p.a. to 2032.

Following analysis at the HNDA Working Group, it is recommended that scenario 2 is chosen as this scenario appears to be the most realistic based on past trends.

**Please advise if you don't agree with this.**

<b>Income Growth</b>	
<b>Reasonable Growth:</b>	Incomes generally rise by 6% p.a. to 2014, then drop back to around 2.5% p.a. to 2032.
<b>Modest Increase (core/default):</b>	Incomes generally rise by 4.0% p.a. to 2023, then drop back to 3% p.a. to 2032
<b>Inflation Target (no real growth):</b>	Incomes rise in line with inflation 2.0% p.a. to 2020, increasing to 2.5% p.a. to 2032.
<b>Flat:</b>	Zero income growth to 2020, then 2.5% growth p.a. to 2032
<b>Slow Decline:</b>	Incomes generally decrease by -1% p.a. to 2022, gradually recovering to a 2.0% increase p.a. by 2032.
<b>Income Distribution</b>	
<b>Higher End Runs Away:</b>	The incomes of the most affluent (the 90 <sup>th</sup> percentile of the income distribution) increase much more steeply compared to the incomes of least affluent (the 10 <sup>th</sup> percentile of the income distribution).
<b>Creeping Inequality:</b>	The incomes of the most affluent (the 90 <sup>th</sup> percentile of the income distribution) increase more steadily compared to the incomes of least affluent (the 10 <sup>th</sup> percentile of the income distribution).
<b>Flat (core/default):</b>	The incomes of the most affluent (the 90 <sup>th</sup> percentile of the income distribution) and the least affluent (the 10 <sup>th</sup> percentile of the income distribution) do not increase.
<b>Creeping Equality:</b>	The incomes of the least affluent (the 10 <sup>th</sup> percentile of the income distribution) increase much more steeply compared to the incomes of least affluent (the 90 <sup>th</sup> percentile of the income distribution).
<b>House Price and Rent Price Choices</b>	
<b>Strong Recovery:</b>	House prices rise strongly from 3.0% in 2011 to 8.0% by 2020, then increase by 2.5% p.a. to 2032.
<b>Modest Increase:</b>	House prices rise moderately from 2.0% in 2011 to 5.0% in 2020, then increase by 2.5% p.a. to 2032.
<b>Office of Budget Responsibility (OBR) Estimates (2015):</b>	House prices rise steadily year-on-year from 5.9% in 2015, 4.9% in 2016, 6.4% in 2017 and levelling out to 4.5% per year by 2020.
<b>SG (LBTT) (core/default):</b>	Scottish Government produced economic house price forecasts/changes signed-off by the Scottish Fiscal Commission for the Scottish budget 2014/15. House prices rise steadily year-on-year from 5.3% in 2015, 5.1% in 2016 and 2.17 and levelling out to 4.5% in 2019.
<b>No Real Growth (Inflation)</b>	House prices rise in line with inflation 2.0% p.a. to 2020, increasing to 2.5% p.a. to 2032.

<b>Target):</b>	
<b>Flat:</b>	Zero house growth to 2020, then 2.5% growth p.a. to 2032.
<b>Gradual Decline:</b>	House prices decline steadily from 0.5% in 2011 to -1.0% by 2020, increasing to 2.5% p.a. to 2032.