

## Household Analysis Review Group: 2008-based low and high migration variant household projections

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**The results presented in this paper are provisional.  
They are likely to differ from the final household projections published.  
Please treat these figures as 'restricted' until after publication in May.**

### 1. Purpose

General Register Office for Scotland (GROS) is planning to publish the 2008-based household projections for Scotland in May. For the first time we are planning to include both low and high migration variant projections at sub-national level. This paper describes how the variant projections are derived and the initial analysis of the provisional figures.

HARG members are asked to note the initial findings and state whether they agree that low and high migration variant projections should be included in the household projection publication.

### 2. Background

Variant projections provide a broad indication of the sensitivity of the household projections to the demographic assumptions. The principal household projections are based on the principal population projections produced by GROS which use assumptions about fertility, mortality and migration which are thought most likely to occur over the next 25 years. Variant projections are based on alternative assumptions of future fertility, mortality and migration.

Low and high migration variant projections use the same assumptions about fertility and mortality as the principal projection but assume varied levels of net in-migration to Scotland<sup>1</sup>. The migration assumptions for the principal as well as the low and high migration variants at Scotland level can be seen in [Table 1](#). The migration assumptions by council area can be found in [Annexes A, B and C](#).

The principal projection shows Scotland's population rising from 5.17 million in 2008 to 5.54 million in 2033. This compares to populations of 5.29 million for low migration and 5.80 million for high migration variants in 2033.

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<sup>1</sup> Only moves to and from the rest of the UK and overseas are affected. The number of people moving between council areas within Scotland does not change from the principal projection. Thus the projections for council areas where the population is most affected by migration within Scotland will not change as much as those where international migration has a greater effect.

**Table 1: Net migration assumptions for the principal, low and high migration variant projections for Scotland (mid-year to mid-year periods)**

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 and beyond
Low migration variant projection	11,750	8,900	7,700	6,600	4,400	3,900	3,500
Principal projection	16,000	17,400	16,200	15,100	12,900	12,400	12,000
High migration variant projection	20,250	25,900	24,700	23,600	21,400	20,900	20,500

**Source:** 2008-based Population Projections for Scottish Areas

<http://www.gro-scotland.gov.uk/statistics/publications-and-data/popproj/2008-based-pop-proj-scottish-areas/index.html>

Low and high migration variant household projections are calculated by replacing the principal population projections with low and high migration population projections and keeping all other inputs (communal establishment rates, headship rates, household estimates) unchanged.

### 3. Results of the provisional variant household projections

The principal migration variant projection shows the number of households in Scotland increasing from 2.3 million in 2008 to 2.8 million in 2033. This compares to 2.7 million households for low migration and 2.9 million households for high migration variants in 2033. [Chart 1](#) illustrates this along with the projected increase in population for the principal and variant projections.

[Table 2](#) shows the projected number of households for each council area under the principal, low and high migration variants for selected years as well as the percentage difference between the principal and variant migration projections in 2033.

The high migration variant has the biggest impact in Edinburgh and Perth & Kinross (where the number of households is 7 per cent higher than under the principal projection). The population in these areas has increased the most under the high migration variant projection since they are areas that gain the most migrants from outwith Scotland. The low migration variant has the biggest impact in Aberdeen City (where the number of households is 10 per cent lower than under the principal projection).

[Chart 2](#) compares the projected percentage change in households from 2008 to 2033 under the principal, low and high migration variant projections. The impact variant migration projections have on different council areas can again be seen here with Edinburgh and Perth & Kinross having the biggest difference between principal and high migration projections whereas Aberdeen City has the biggest difference between principal and low migration projections.

**Chart 3** shows the projected number of households in 2033 under principal, low and high migration variant projections, by household type. All household types show an increase in the number of households from low through principal to high variant projections with the 2+ adults with children category showing the greatest percentage difference (7 per cent) between projection types in 2033.

**Chart 4** shows the projected number of households in 2033 under principal, low and high migration variant projections, by age of head of household. All age groups show an increase in the number of households from low through principal to high variant projections with the 30-44 age group showing the greatest percentage difference (8 per cent) between projection types in 2033.

#### **4. Next steps**

GROS will continue to carry out checks on the provisional 2008-based high migration variant projections. Depending on the outcome of this meeting, GROS will include the variant projections in the draft household projections publication, which will be sent to HARG members for further quality assurance before the final publication is produced.

HARG members are asked to note the initial findings and state whether they agree that the low and high migration variant projection should be included in the household projection publication.

GROS: Household Estimates and Projections branch  
March 2010

Table 2: Comparison between principal, low and high migration variant household projections by council area, 2013-2033

Local authority	2013			2018			2023			2028			2033			% difference between principal and variant migration projections in 2033	
	Low migration	Principal	High migration	Low migration	Principal	High migration	Low migration	Principal	High migration	Low migration	Principal	High migration	Low migration	Principal	High migration	Low	High
	<b>Scotland</b>	<b>2,432,596</b>	<b>2,449,738</b>	<b>2,466,885</b>	<b>2,520,201</b>	<b>2,559,738</b>	<b>2,599,296</b>	<b>2,591,288</b>	<b>2,655,564</b>	<b>2,719,883</b>	<b>2,651,622</b>	<b>2,742,455</b>	<b>2,833,330</b>	<b>2,704,090</b>	<b>2,823,636</b>	<b>2,943,237</b>	<b>-4%</b>
Aberdeen City	106,972	108,900	109,747	108,695	112,978	114,948	109,398	116,258	119,435	109,973	119,633	124,075	110,173	122,915	128,753	-10%	5%
Aberdeenshire	108,386	108,580	109,587	115,566	116,258	118,346	122,555	123,851	127,106	128,879	130,817	135,338	134,738	137,384	143,266	-2%	4%
Angus	51,942	51,983	52,364	53,866	54,021	54,882	55,606	55,888	57,324	57,124	57,539	59,580	58,463	59,042	61,756	-1%	5%
Argyll & Bute	41,516	41,780	41,937	41,770	42,498	43,092	41,739	42,997	44,094	41,321	43,119	44,768	40,537	42,897	45,110	-6%	5%
Clackmannanshire	24,404	24,438	24,643	26,155	26,297	26,694	27,881	28,133	28,721	29,620	30,016	30,772	31,335	31,897	32,833	-2%	3%
Dumfries & Galloway	69,327	69,840	70,366	70,258	71,520	72,736	70,740	72,809	74,795	70,911	73,827	76,635	70,653	74,475	78,193	-5%	5%
Dundee City	69,412	70,358	70,812	69,135	71,007	72,130	68,332	71,206	73,083	67,719	71,644	74,354	66,828	71,860	75,508	-7%	5%
East Ayrshire	54,418	54,794	55,072	55,592	56,350	56,884	56,325	57,481	58,303	56,668	58,264	59,394	56,835	58,906	60,368	-4%	2%
East Dunbartonshire	43,137	43,481	43,515	43,347	43,974	44,101	43,241	44,141	44,395	42,794	43,987	44,383	41,888	43,415	43,949	-4%	1%
East Lothian	44,741	45,160	45,769	47,744	48,579	49,545	50,864	52,112	53,436	53,851	55,525	57,213	56,860	58,962	61,058	-4%	4%
East Renfrewshire	35,930	36,144	36,182	36,256	36,682	36,826	36,461	37,106	37,378	36,486	37,369	37,751	36,439	37,616	38,097	-3%	1%
Edinburgh, City of	232,330	234,701	237,310	244,436	250,736	257,382	254,808	265,578	276,811	265,323	280,909	297,155	275,077	295,894	317,613	-7%	7%
Eilean Siar	12,127	12,148	12,228	12,433	12,562	12,774	12,657	12,907	13,255	12,799	13,193	13,680	12,839	13,373	14,023	-4%	5%
Falkirk	71,519	71,589	72,042	75,476	75,687	76,783	79,206	79,564	81,366	82,667	83,142	85,708	86,112	86,698	90,087	-1%	4%
Fife	167,761	168,486	169,478	175,159	177,181	179,585	181,394	184,905	188,858	186,915	192,025	197,664	191,922	198,762	206,216	-3%	4%
Glasgow City	293,801	297,912	300,075	302,504	310,956	316,040	307,566	320,825	329,171	310,802	329,221	341,027	313,365	337,383	352,871	-7%	5%
Highland	106,012	106,372	107,584	111,889	112,931	115,575	117,188	118,978	123,170	121,886	124,495	130,347	126,373	129,858	137,491	-3%	6%
Inverclyde	36,630	36,865	36,959	36,451	36,876	37,211	35,867	36,461	37,082	34,888	35,664	36,578	33,681	34,645	35,855	-3%	3%
Midlothian	35,245	35,624	35,871	36,103	36,777	37,164	36,805	37,791	38,310	37,242	38,565	39,228	37,530	39,215	40,031	-4%	2%
Moray	40,004	40,358	40,730	40,912	41,744	42,608	41,322	42,670	44,108	41,376	43,288	45,368	41,171	43,675	46,476	-6%	6%
North Ayrshire	63,004	63,402	63,694	64,139	64,960	65,637	64,783	66,049	67,134	64,925	66,657	68,200	64,617	66,856	68,890	-3%	3%
North Lanarkshire	148,962	149,609	149,999	154,237	155,575	156,588	158,604	160,630	162,363	162,126	164,887	167,398	165,484	169,049	172,366	-2%	2%
Orkney Islands	9,663	9,712	9,761	10,205	10,364	10,436	10,632	10,936	11,008	11,023	11,485	11,557	11,328	11,959	12,016	-5%	0%
Perth & Kinross	69,494	69,686	70,827	74,462	74,869	77,233	79,222	79,880	83,496	83,932	84,872	89,810	88,713	89,938	96,324	-1%	7%
Renfrewshire	80,011	80,582	80,861	80,820	81,848	82,537	81,058	82,576	83,721	80,772	82,791	84,460	80,323	82,897	85,142	-3%	3%
Scottish Borders	53,841	54,285	54,929	56,230	57,290	58,510	58,347	60,089	61,918	60,206	62,665	65,145	61,827	65,066	68,229	-5%	5%
Shetland Islands	10,012	10,102	10,185	10,335	10,558	10,767	10,525	10,902	11,254	10,537	11,084	11,591	10,403	11,142	11,823	-7%	6%
South Ayrshire	52,025	52,243	52,448	52,838	53,428	53,895	53,280	54,275	55,042	53,487	54,923	55,998	53,540	55,445	56,844	-3%	3%
South Lanarkshire	141,727	141,797	142,264	148,021	148,648	149,768	153,569	154,829	156,672	158,708	160,680	163,272	163,524	166,221	169,592	-2%	2%
Stirling	38,979	39,209	39,411	40,386	40,981	41,621	41,535	42,562	43,727	42,440	43,920	45,664	43,137	45,116	47,507	-4%	5%
West Dunbartonshire	41,999	42,215	42,333	42,469	42,838	43,194	42,650	43,186	43,785	42,620	43,315	44,177	42,326	43,187	44,371	-2%	3%
West Lothian	77,264	77,381	77,899	82,314	82,765	83,804	87,131	87,991	89,565	91,601	92,932	95,039	96,046	97,889	100,580	-2%	3%

Chart 1: Household and population projections (low, principal and high migration variants), Scotland

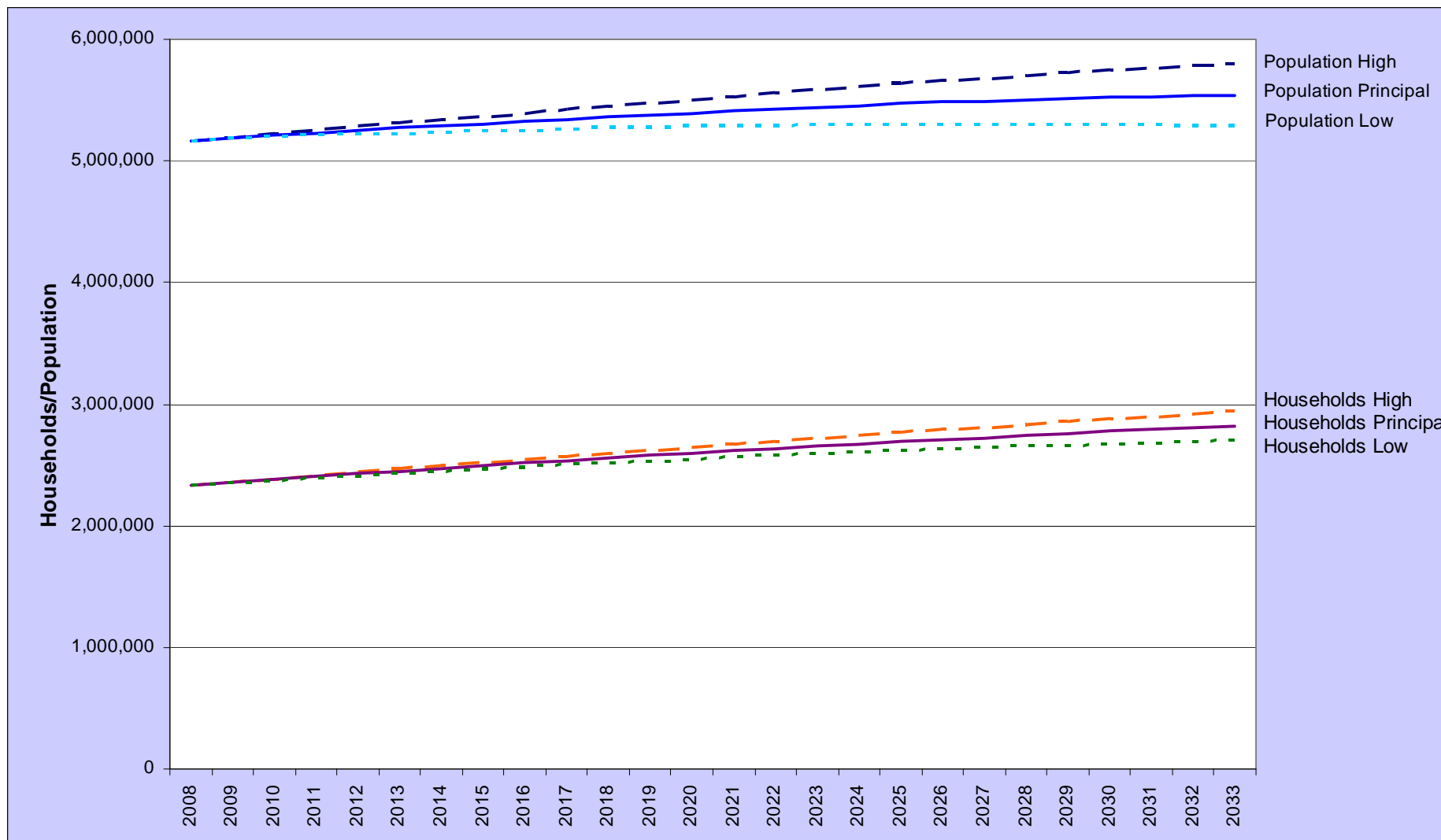
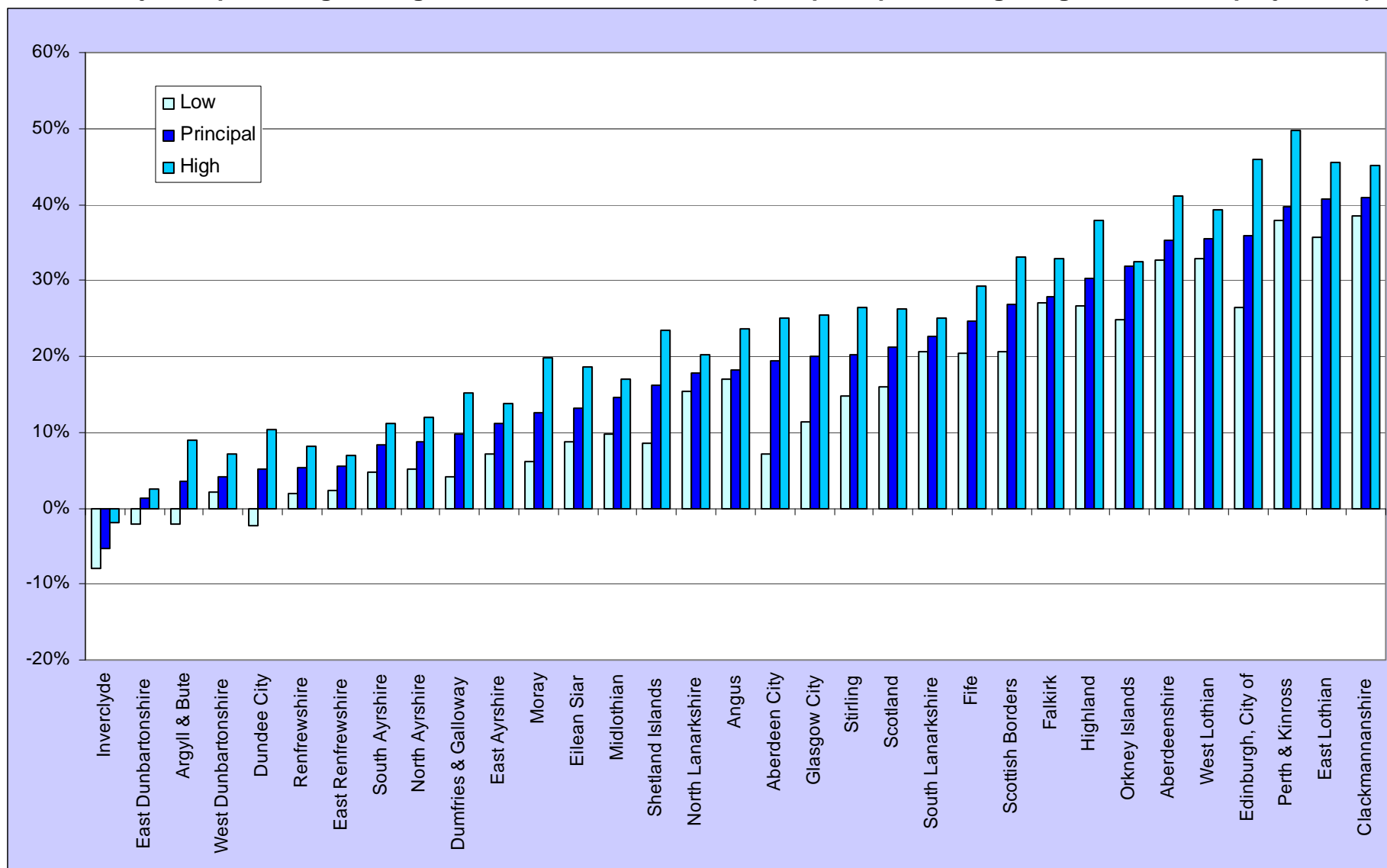


Chart 2: Projected percentage change in households, 2008-2033 (low, principal and high migration variant projections)



**Chart 3: Low, principal and high migration variant projected households in 2033 by household type.**

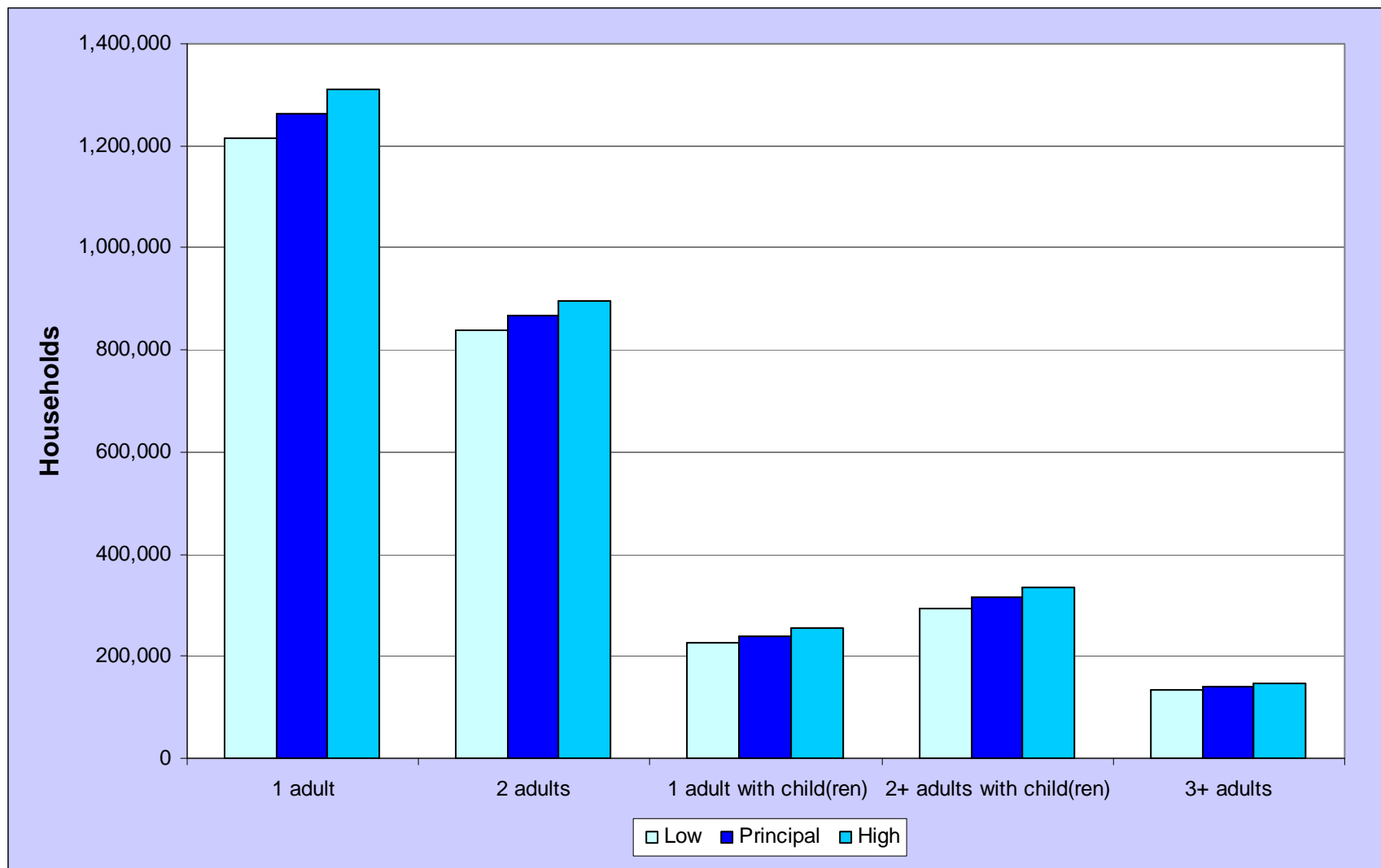
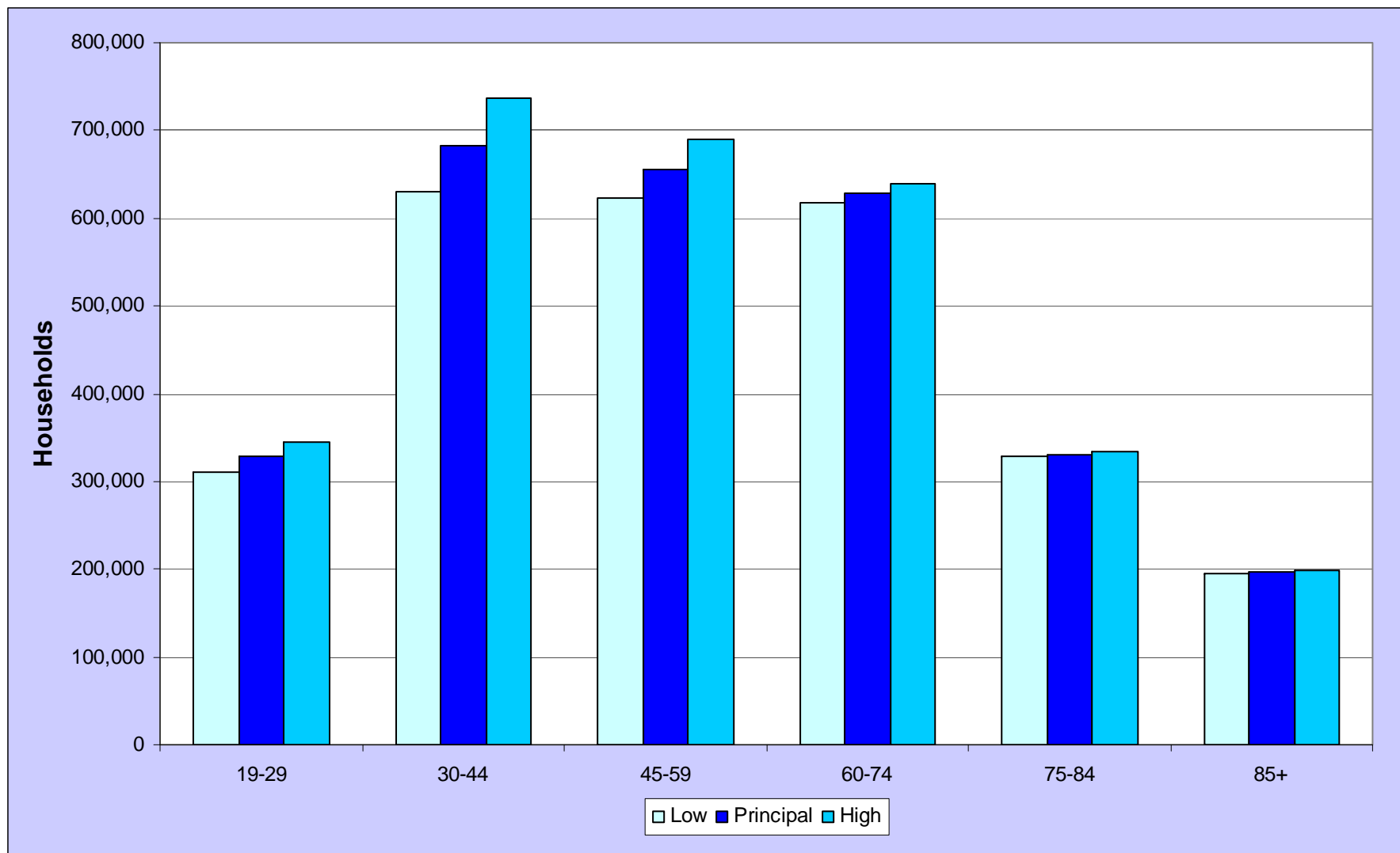


Chart 4: Low, principal and high migration variant projected households in 2033 by age group.





## Annex A: Migration assumptions for the principal projection by council area

	(persons per annum)						
	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 and beyond
<b>SCOTLAND</b>	16,000	17,400	16,200	15,100	12,900	12,400	12,000
<b>Council areas</b>							
Aberdeen City	600	600	500	400	250	200	150
Aberdeenshire	1,550	1,850	1,800	1,800	1,650	1,650	1,700
Angus	450	550	550	500	500	500	500
Argyll & Bute	-50	0	50	50	50	100	100
Clackmannanshire	350	400	400	400	350	400	400
Dumfries & Galloway	500	500	500	450	400	350	350
Dundee City	100	50	-50	-150	-200	-300	-350
East Ayrshire	300	250	200	150	100	100	50
East Dunbartonshire	-150	-250	-300	-350	-350	-400	-450
East Lothian	1,200	1,300	1,200	1,100	950	900	850
East Renfrewshire	-100	-150	-150	-150	-150	-200	-200
Edinburgh, City of	2,200	2,600	2,600	2,550	2,350	2,400	2,450
Eilean Siar	0	50	50	50	50	100	100
Falkirk	500	600	600	650	600	600	650
Fife	1,100	1,300	1,300	1,300	1,200	1,200	1,250
Glasgow City	1,150	900	500	200	-100	-350	-550
Highland	1,650	1,900	1,850	1,800	1,600	1,650	1,650
Inverclyde	-200	-300	-300	-350	-350	-350	-400
Midlothian	300	250	200	100	50	0	-50
Moray	250	250	200	200	150	100	100
North Ayrshire	200	150	100	50	0	0	-50
North Lanarkshire	100	100	50	0	-50	-50	-100
Orkney Islands	100	100	100	150	150	150	150
Perth & Kinross	1,600	1,800	1,750	1,650	1,450	1,450	1,450
Renfrewshire	50	-50	-150	-200	-250	-300	-350
Scottish Borders	900	1,000	950	950	800	800	800
Shetland Islands	0	-50	-50	-50	-50	-50	-50
South Ayrshire	200	250	250	250	250	250	250
South Lanarkshire	500	700	800	900	900	950	1,050
Stirling	100	150	150	150	150	150	150
West Dunbartonshire	-150	-200	-250	-250	-250	-300	-300
West Lothian	700	800	800	800	700	700	700

**Source:** 2008-based Population Projections for Scottish Areas, Annex D

<http://www.gro-scotland.gov.uk/statistics/publications-and-data/popproj/2008-based-pop-proj-scottish-areas/index.html>

## Annex B: Migration assumptions for the low migration variant projection by council area

(persons per annum)

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 and beyond
<b>SCOTLAND</b>	<b>11,750</b>	<b>8,900</b>	<b>7,700</b>	<b>6,600</b>	<b>4,400</b>	<b>3,900</b>	<b>3,500</b>
<b>Council areas</b>							
Aberdeen City	100	-200	-400	-550	-550	-800	-850
Aberdeenshire	1,550	1,850	1,750	1,800	1,400	1,450	1,450
Angus	450	500	550	500	450	450	450
Argyll & Bute	-100	-100	-100	-100	-100	-100	-100
Clackmannanshire	350	350	400	400	350	350	350
Dumfries & Galloway	400	250	200	150	100	50	50
Dundee City	-150	-400	-550	-850	-550	-800	-850
East Ayrshire	150	50	0	-50	-50	-100	-100
East Dunbartonshire	-300	-450	-550	-800	-500	-550	-550
East Lothian	1,100	1,000	1,000	950	700	700	700
East Renfrewshire	-150	-250	-300	-300	-300	-300	-300
Edinburgh, City of	1,700	1,450	1,400	1,350	950	950	900
Eilean Siar	0	50	50	50	50	50	50
Falkirk	500	800	800	850	550	800	800
Fife	1,050	900	950	950	700	700	700
Glasgow City	0	-900	-1,500	-1,900	-1,700	-1,850	-2,000
Highland	1,650	1,800	1,700	1,750	1,350	1,350	1,350
Inverclyde	-300	-400	-450	-500	-400	-450	-450
Midlothian	150	50	-50	-100	-100	-150	-150
Moray	150	50	0	-50	-50	-100	-100
North Ayrshire	50	-50	-100	-150	-150	-200	-200
North Lanarkshire	-50	-200	-300	-350	-300	-350	-350
Orkney Islands	100	100	100	100	100	100	100
Perth & Kinross	1,800	1,800	1,700	1,850	1,350	1,350	1,350
Renfrewshire	-150	-300	-450	-500	-450	-450	-500
Scottish Borders	800	750	750	750	550	550	550
Shetland Islands	-50	-100	-100	-100	-100	-100	-100
South Ayrshire	150	150	150	150	100	100	100
South Lanarkshire	500	700	800	900	750	800	800
Stirling	50	50	50	0	0	0	0
West Dunbartonshire	-250	-300	-350	-400	-350	-350	-350
West Lothian	700	700	750	800	600	600	550

Source: 2008-based Population Projections for Scottish Areas, Annex F

<http://www.gro-scotland.gov.uk/statistics/publications-and-data/popproj/2008-based-pop-proj-scottish-areas/index.html>

## Annex C: Migration assumptions for the high migration variant projection by council area

	(persons per annum)						
	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 and beyond
<b>SCOTLAND</b>	<b>20,250</b>	<b>25,900</b>	<b>24,700</b>	<b>23,600</b>	<b>21,400</b>	<b>20,900</b>	<b>20,500</b>
<b>Council areas</b>							
Aberdeen City	800	950	850	750	650	550	500
Aberdeenshire	1,850	2,450	2,400	2,350	2,150	2,150	2,150
Angus	550	750	750	700	700	700	700
Argyll & Bute	0	50	100	150	200	250	300
Clackmannanshire	400	500	500	500	450	450	450
Dumfries & Galloway	600	800	750	750	650	650	650
Dundee City	200	250	150	100	0	-50	-100
East Ayrshire	350	450	350	300	250	200	150
East Dunbartonshire	-150	-250	-300	-300	-350	-350	-400
East Lothian	1,400	1,700	1,550	1,400	1,150	1,050	950
East Renfrewshire	-100	-100	-150	-150	-150	-150	-150
Edinburgh, City of	2,750	3,750	3,850	3,900	3,750	3,850	4,000
Eilean Siar	50	50	100	100	100	150	150
Falkirk	600	800	850	850	850	850	900
Fife	1,350	1,800	1,800	1,800	1,750	1,750	1,800
Glasgow City	1,800	1,800	1,500	1,200	850	650	400
Highland	1,950	2,550	2,500	2,400	2,250	2,200	2,200
Inverclyde	-200	-250	-300	-300	-300	-300	-300
Midlothian	350	400	300	250	150	50	0
Moray	350	450	450	400	350	350	350
North Ayrshire	250	300	250	200	150	150	100
North Lanarkshire	200	250	200	200	150	150	150
Orkney Islands	100	150	150	150	150	150	150
Perth & Kinross	1,950	2,500	2,350	2,250	2,000	1,950	1,900
Renfrewshire	100	50	0	-50	-100	-150	-200
Scottish Borders	1,100	1,400	1,300	1,200	1,100	1,050	1,000
Shetland Islands	0	0	0	0	0	0	0
South Ayrshire	250	350	350	350	350	350	350
South Lanarkshire	750	850	1,000	1,050	1,100	1,200	1,300
Stirling	150	250	250	300	300	350	350
West Dunbartonshire	-150	-200	-200	-200	-200	-200	-200
West Lothian	850	1,100	1,050	1,000	950	900	900

**Source:** 2008-based Population Projections for Scottish Areas, Annex E

<http://www.gro-scotland.gov.uk/statistics/publications-and-data/popproj/2008-based-pop-proj-scottish-areas/index.html>