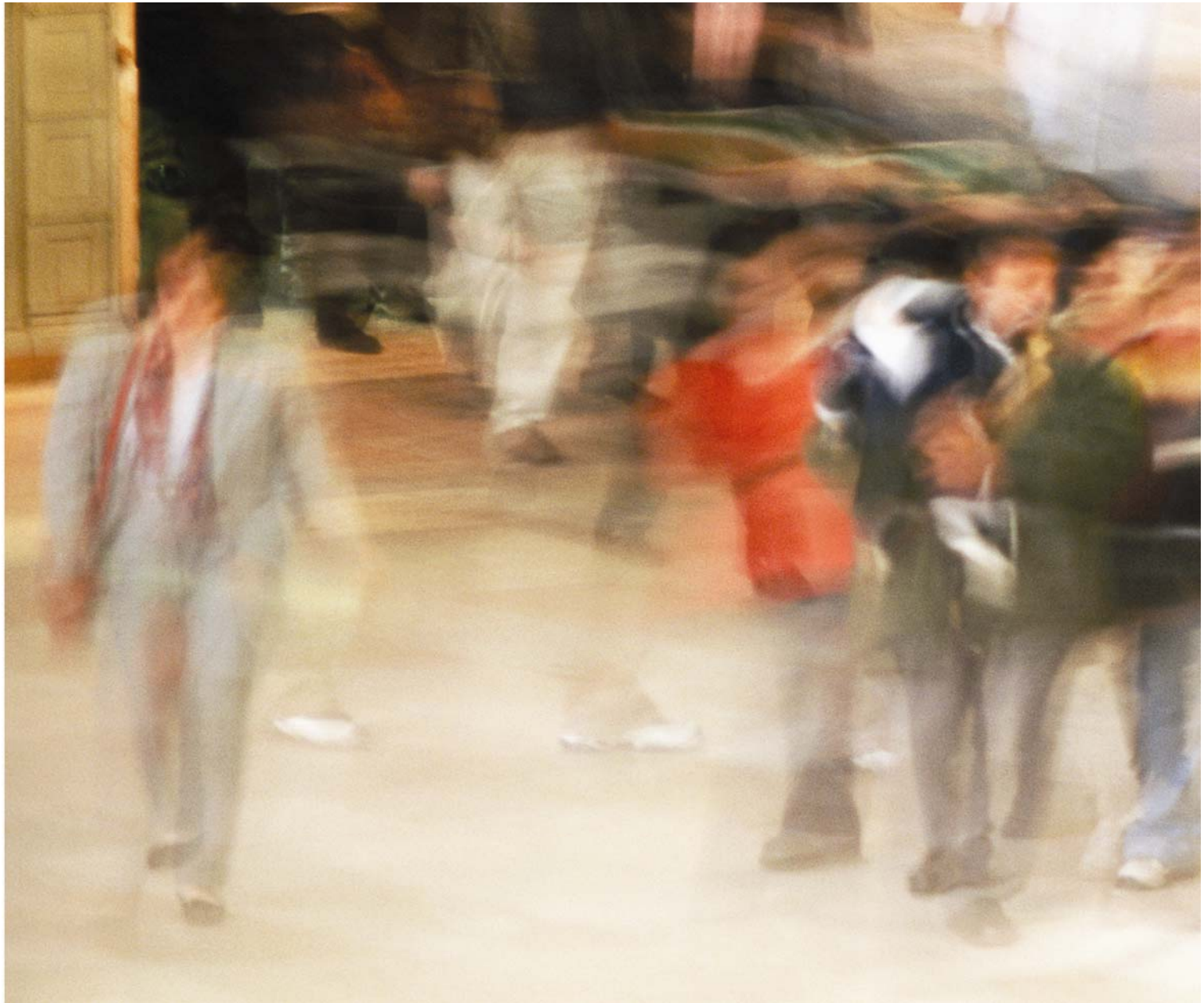


Office of Economic and  
Statistical Research

Queensland Treasury



Queensland Government population projections:

## **Background research**

2011 edition



Queensland Government

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## Executive summary

Data on past trends in the components of population change were considered in order to determine the most appropriate assumptions to be incorporated in modelling the 2011 edition population projections. Based on this consideration, assumptions for the low, medium and high series projections were determined. A summary of trends in each of the components follows.

### Natural increase

Total fertility rates have trended downwards steadily in Queensland since the early 1970s, followed by a short period of stability, at around 1.8–1.9 births per woman, between the late 1990s and 2006. More recently, an increase in the total fertility rate is evident.

There have been significant and sustained improvements in male and female life expectancies at birth in Queensland over a long period of time. Currently, there is no evidence of a slowing in the rate of increase in life expectancy for either males or females.

### Net overseas migration

Net overseas migration has trended upwards since the early 1990s, reaching record levels during 2008–09. Indications are that these levels have started to ease for both Queensland and Australia.

Persons who entered Australia as overseas students, temporary business entrants and New Zealand citizens represented 70.5 per cent of Queensland's net overseas migration in 2007–08. These visa categories are not part of the official migration program.

The contribution of these three visa categories has increased significantly in recent years accounting for 80.1 per cent of the total increase in net overseas migration in the three years to 2007–08.

### Net interstate migration

Net interstate migration has been a major determinant of Queensland's population growth over past decades, contributing 1.0 million persons to the total population increase of 2.7 million persons since 1971.

However, net interstate migration is a volatile component of population change. Since 1986–1987, there have been significant fluctuations with three separate peaks (47,100 in 1988–89, 49,200 in 1992–93 and 38,000 in 2002–03) and a low of 16,700 recorded in 1998–99.

In a historical context, net interstate migration is currently at a relatively low point (18,400 persons in 2008–09) and has been trending downwards steadily from the last peak of 38,000 in 2002–03. Recent data to the December quarter 2009 show that net interstate migration for Queensland is continuing to ease (to 13,500 persons in the 2009 calendar year).





## 1. Introduction

The 2011 edition of Queensland Government population projections were produced under a collaborative, whole-of-government process, with advice provided by the Queensland Government population projections advisory group. A role of the advisory group was to provide input to the assumed projected components of population change (births, deaths, and overseas and interstate migration) used in the model.

This report analyses trends in data on births and deaths, overseas migration and interstate migration in Queensland. These data were prepared in May, June and July 2010 and provided to the projections advisory group to assist with determining the assumptions. As such, the data contained in this report underlie the 2011 edition of population projections. The data are current to the date of the compilation of the background research for the advisory group (mid 2010) and, with one exception, have not been updated with more recent data.

Also included is a summary of the assumptions chosen for each component of population change used in the model to produce the 2011 population projections.

## 2. Natural increase

### 2.1 Fertility

#### 2.1.1 Total fertility rate

One common measure of fertility is the total fertility rate (TFR). The TFR for a reference period represents the number of children a woman would bear during her lifetime if she experienced the age-specific fertility rates prevailing during the reference period at each age of her reproductive life. The TFR is calculated as the sum of the age-specific fertility rates.

A TFR of 2.1 babies per woman is regarded as the replacement level; that is, the number of babies a woman would need to have over her reproductive lifespan to replace herself and her partner. The replacement level is greater than two babies per woman as not all children survive to reproductive age. In a population closed to migration, below replacement level fertility will result in eventual population decline. A population experiencing below replacement level fertility can continue to increase in size, but would require sufficient overseas migration at the national level, and overseas and interstate migration at the state and territory level, to offset these low fertility effects. Essentially, all Organisation for Economic Co-operation and Development (OECD) countries have a TFR below the replacement level of 2.1. Many are currently experiencing greatly reduced rates, some as low as 1.3.

#### 2.1.2 Long-term trends in fertility

Historical data on the TFR show a general decline in Australia and Queensland over the three decades since the early 1970s, with Queensland reaching a record low of 1.77 births per woman in 2003 (Table 2.1 and Figure 2.1). However, in recent years, the decline in rates has reversed and there has been an increase in the TFR in both Australia and Queensland.



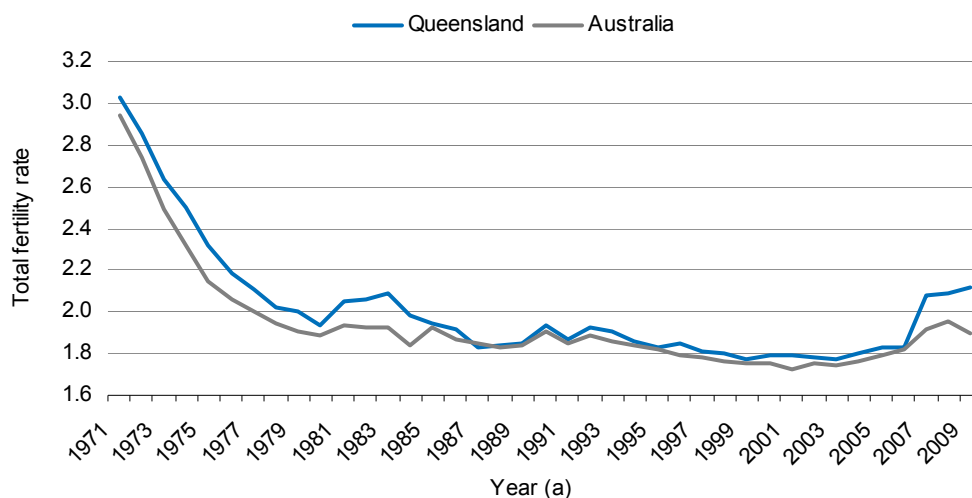
**Table 2.1 Total fertility rates, Queensland and Australia, calendar years 1971 to 2009**

Year	Total fertility rates	
	Queensland	Australia
1971	3.03	2.95
1972	2.85	2.74
1973	2.64	2.49
1974	2.50	2.32
1975	2.32	2.15
1976	2.18	2.06
1977	2.11	2.01
1978	2.02	1.95
1979	2.01	1.91
1980	1.93	1.89
1981	2.05	1.94
1982	2.06	1.93
1983	2.09	1.92
1984	1.98	1.84
1985	1.95	1.92
1986	1.91	1.87
1987	1.83	1.85
1988	1.84	1.83
1989	1.85	1.84
1990	1.93	1.90
1991	1.87	1.85
1992	1.93	1.89
1993	1.91	1.86
1994	1.86	1.84
1995	1.83	1.82
1996	1.85	1.80
1997	1.81	1.78
1998	1.80	1.76
1999	1.77	1.76
2000	1.79	1.76
2001	1.80	1.73
2002	1.78	1.76
2003	1.77	1.75
2004	1.80	1.76
2005	1.83	1.79
2006	1.83	1.82
2007(a)	2.08	1.92
2008(a)	2.08	1.96
2009(a)	2.12	1.90

(a) Data shown for 2007 and 2008 are revised TFRs not available at the time the assumptions were formulated. Data for 2009 are new data not available at the time of the formulation of assumptions for the 2011 edition projections.

Source: ABS 3105.0.65.001, *Australian Historical Population Statistics*; and ABS 3301.0 *Births Australia*

**Figure 2.1 Total fertility rates, Queensland and Australia, calendar years 1971 to 2009**



(a) Data shown for 2007 and 2008 are revised TFRs not available at the time the assumptions were formulated. Data for 2009 are new data not available at the time of the formulation of assumptions for the 2011 edition projections.

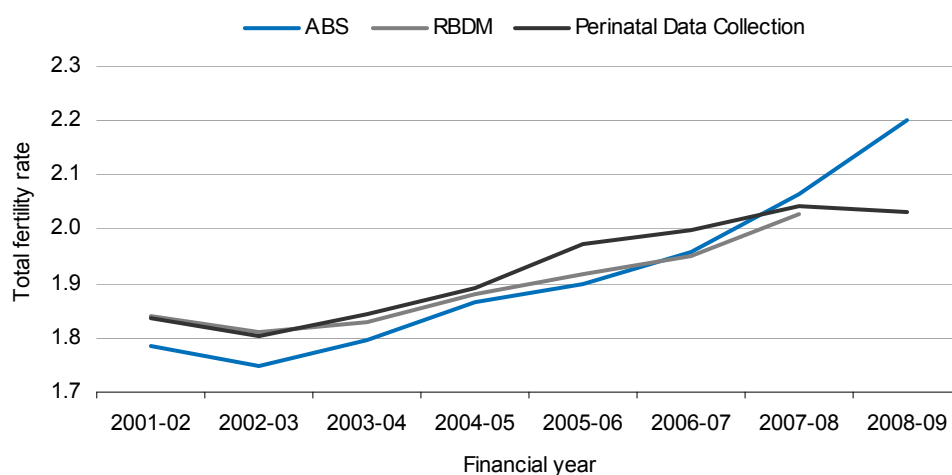
Source: ABS 3105.0.65.001, *Australian Historical Population Statistics*; and ABS 3301.0 *Births Australia*

### 2.1.3 Recent trends in fertility

Recent TFRs (Figure 2.2) are available by financial year from three sources:

- Australian Bureau of Statistics (ABS);
- Queensland Registry of Births, Deaths and Marriages (RBDM); and
- Queensland Health, Perinatal Data Collection (PDC).

**Figure 2.2 Total fertility rates, Queensland, 2001–02 to 2008–09**



Source: ABS 3101.0, *Australian Demographic Statistics*; Queensland Registrar of Births, Deaths and Marriages, unpublished data; and Queensland Health, Perinatal Data Collection



Preliminary estimates of births are published quarterly by the ABS. These data are sourced directly from state and territory Registrars of Births, Deaths and Marriages (RDBM). Preliminary estimates are based on the quarter of registration and are subject to underestimation or overestimation due to the accumulation or lag of registrations. These preliminary estimates are revised from a quarter of registration basis to a quarter of occurrence basis, up to two years after the reference quarter.

Currently available data on rates between 2001–02 and 2007–08 have been calculated using births on an occurrence basis, while the rates for 2008–09 are calculated using births on a registration basis. It has been acknowledged by ABS that in recent years, as a result of improved processing of registrations by the Queensland RDBM, the number of births registered has included a number of previously unregistered births relating to earlier periods. Therefore the 2008–09 TFRs as published by ABS are expected to be revised downwards when births on an occurrence basis are released in 2012. This was considered when determining the assumptions in relation to future TFRs.

The other two sources of available births data are unpublished data sourced directly from the Queensland RDBM and the Queensland Health Perinatal Data Collection. As these two sources provide more up to date information, they are considered to be a more reliable indicator of the current level of births occurring in Queensland and were used to formulate the fertility assumptions outlined below.

#### **2.1.4 Assumed future fertility**

There have been recent increases in fertility, following a long period of decline. Based on the research material and the latest available intelligence detailed in this paper, three assumptions have been made about future fertility for Queensland to generate the 2011 edition of the Queensland government population projections.

For the medium series projections, the TFR is assumed to be between the low levels of 1.8, which were recorded around 2000, and the recent higher rates of 2.1. The low series assumes fertility will fall to just below the 2003 rate and the high series assumes fertility rates similar to that recorded recently.

##### **Low assumption**

Queensland total fertility rate of 2.0 babies per woman in 2008–09, declining linearly over a five year period to 1.7, and held constant thereafter.

##### **Medium assumption**

Queensland total fertility rate of 2.0 babies per woman in 2008–09, declining linearly over a five year period to 1.9, and held constant thereafter.

##### **High assumption**

Queensland total fertility rate of 2.0 babies per woman in 2008–09, increasing linearly over a five year period to 2.1, and held constant thereafter.

## 2.2 Mortality

### 2.2.1 Long-term trends in mortality

Life expectancy at birth can be used as a measure of mortality. Life expectancies at birth for male and female Queenslanders, shown in Table 2.2, reveal that there have been significant improvements since the late 19<sup>th</sup> century. Figure 2.3 illustrates the sustained nature of improvements in life expectancy at birth since 1981.

**Table 2.2 Life expectancy at birth, males and females, Queensland, 1881 to 2008**

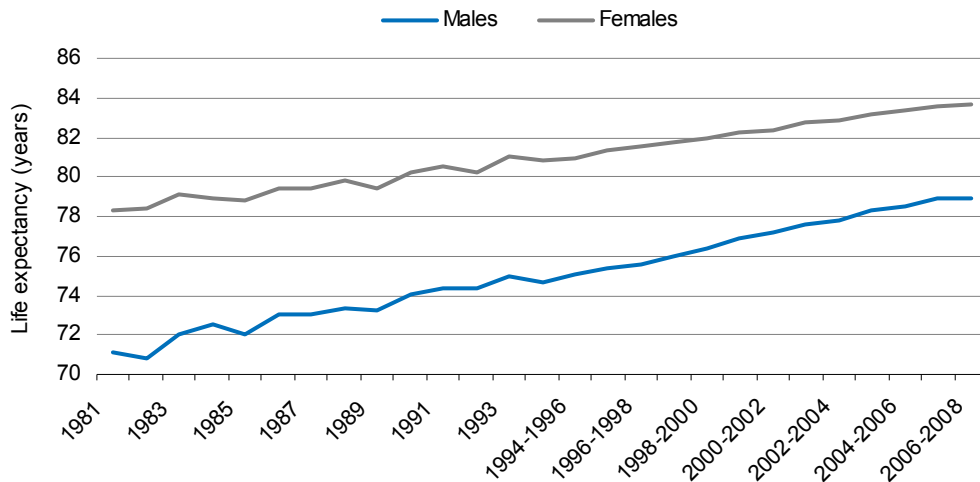
Period/year	Life expectancy at birth — years —	
	Males	Females
1881-1890	41.3	49.8
1891-1900	49.5	55.8
1901-1910	54.2	59.3
1971	67.8	74.7
1976	69.0	76.1
1981	71.1	78.3
1982	70.8	78.4
1983	72.0	79.1
1984	72.5	78.9
1985	72.0	78.8
1986	73.0	79.4
1987	73.0	79.4
1988	73.3	79.8
1989	73.2	79.4
1990	74.1	80.2
1991	74.4	80.5
1992	74.4	80.2
1993	75.0	81.0
1994	74.7	80.8
1994-1996	75.1	80.9
1995-1997	75.4	81.3
1996-1998	75.6	81.5
1997-1999	76.0	81.7
1998-2000	76.4	81.9
1999-2001	76.9	82.3
2000-2002	77.2	82.4
2001-2003	77.6	82.8
2002-2004	77.8	82.9
2003-2005	78.3	83.2
2004-2006	78.5	83.4
2005-2007	78.9	83.6
2006-2008	78.9	83.7

Note: Data since 1996 are based on three years of death registrations and estimated resident population data. This is designed to reduce the impact of year-to-year statistical variations, particularly at younger ages where there are small numbers of deaths and at very old ages where the population at risk is small.

Source: ABS 3102.0, *Australian Demographic Trends* (for 1881–1890 to 1994); ABS 3311.3, *Demography, Queensland* (for 1994–1996 to 1999–2001); and ABS 3302.3.55.001, *Life Tables, Queensland* (for 2001–2003 onwards)



**Figure 2.3 Life expectancy at birth, males and females, Queensland, 1981 to 2006–2008**



Note: Data since 1996 are based on three years of death registrations and estimated resident population data. This is designed to reduce the impact of year-to-year statistical variations, particularly at younger ages where there are small numbers of deaths and at very old ages where the population at risk is small.

Source: ABS 3102.0, *Australian Demographic Trends* (for 1881–1890 to 1994); ABS 3311.3, *Demography, Queensland* (for 1994–1996 to 1999–2001); and ABS 3302.3.55.001, *Life Tables, Queensland* (for 2001–2003 onwards)

### 2.2.2 Assumed future life expectancy

Life expectancy, for both males and females, has been increasing for many years. However, it is generally thought that there will be a biological limit to life expectancy, so future improvements in life expectancy are assumed to reduce over the projection period for the low and medium series.

Based on the research material and the latest available intelligence detailed in this paper, three assumptions have been made about future life expectancies at birth for males and females for Queensland, and these assumptions have been used to generate the 2011 edition of the Queensland Government population projections.

**Low assumption**

Moderating improvements in life expectancy at birth in Queensland, to reach 85.0 years for males and 88.2 years for females by 2055–56.

**Medium assumption**

Moderating improvements in life expectancy at birth in Queensland, to reach 89.4 years for males and 92.2 years for females by 2055–56.

**High assumption**

Continued improvements in life expectancy at birth in Queensland, to reach 93.9 years for males and 96.3 years for females by 2055–56.

### 3. Net overseas migration

Net overseas migration (NOM) is the net gain or loss of population through immigration to Australia and emigration from Australia<sup>1</sup>.

The Australian Bureau of Statistics states that NOM is:

- based on an international traveller's duration of stay being in or out of Australia for 12 months or more; and
- the difference between the number of incoming travellers who stay in Australia for 12 months or more and are added to the population (NOM arrivals) and the number of outgoing travellers who leave Australia for 12 months or more and are subtracted from the population (NOM departures).

The current method for estimating final NOM is based on a traveller's actual duration of stay or absence using the 12/16 rule. This rule was introduced from the September quarter 2006. Under the 12/16 month rule, overseas travellers must have been resident in Australia for a total period of 12 months or more during the 16 month follow-up period to be included in the estimated resident population.

Overseas migration to Australia comprises official migration program arrivals (new permanent residents) and temporary entrants. Australian residents and temporary entrants comprise the outflow. Under the 12/16 month rule, these arrivals (or departures) must be resident in Australia (or absent from Australia) for a total period of 12 months or more during the 16 month follow-up period to be included in estimates of overseas migration and estimates of the resident population.

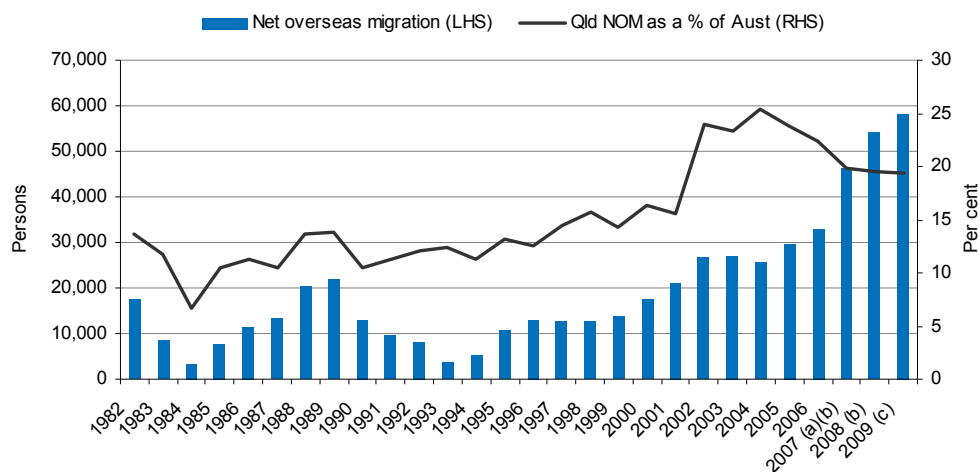
#### 3.1 Long-term trends

The contribution of NOM to population change has varied considerably in recent decades. NOM has trended upwards since the early 1990s and in 2008–09 was at record levels for both Queensland (Figure 3.1) and Australia (Table 3.1)<sup>2</sup>. The Queensland proportion of the national NOM has trended upwards and in 2008–09 was 19.4 per cent, just below parity with Queensland's share of the national population at 30 June 2009 of 20.2 per cent.

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<sup>1</sup> Australian Bureau of Statistics (2009). *Population Estimates: Concepts, Sources and Methods, 2009* (cat. no. 3228.0.55.001). Canberra: Commonwealth of Australia.

<sup>2</sup> The higher proportions estimated between 2002 and 2005 should be treated with caution, as these figures are affected by problems identified by the ABS with the calculation of migration adjustment (previously known as category jumping) and the measurement of the status of travellers who spend broken extended periods in Australia. These issues were addressed with the introduction of the new overseas migration methodology in the year ending 30 June 2007.

**Figure 3.1 Net overseas migration, Queensland, 1981–82 to 2008–09**


(a) Introduction of the new overseas migration methodology, including the 12/16 rule.

(b) Revised.

(c) Preliminary.

Source: ABS 3101.0, *Australian Demographic Statistics*

**Table 3.1 Net overseas migration, Queensland and Australia, 1981–82 to 2008–09**

Year to 30 June	Queensland	Australia	Queensland as a proportion of Australia
	— number —		%
1982	17,565	128,117	13.7
1983	8,621	73,295	11.8
1984	3,267	49,098	6.7
1985	7,665	73,708	10.4
1986	11,382	100,359	11.3
1987	13,171	125,730	10.5
1988	20,442	149,341	13.7
1989	21,776	157,436	13.8
1990	13,142	124,647	10.5
1991	9,743	86,432	11.3
1992	8,250	68,580	12.0
1993	3,719	30,042	12.4
1994	5,241	46,549	11.3
1995	10,580	80,125	13.2
1996	13,051	104,137	12.5
1997	12,620	87,079	14.5
1998	12,490	79,162	15.8
1999	13,710	96,483	14.2
2000	17,514	107,275	16.3
2001	21,003	135,673	15.5
2002	26,488	110,556	24.0
2003	27,122	116,498	23.3
2004	25,399	99,966	25.4
2005	29,555	123,763	23.9
2006	32,952	146,753	22.5
2007 (a)(b)	46,263	232,824	19.9
2008 (b)	54,052	277,332	19.5
2009 (c)	58,035	298,924	19.4

(a) Introduction of the new overseas migration methodology, including the 12/16 rule.

(b) Revised.

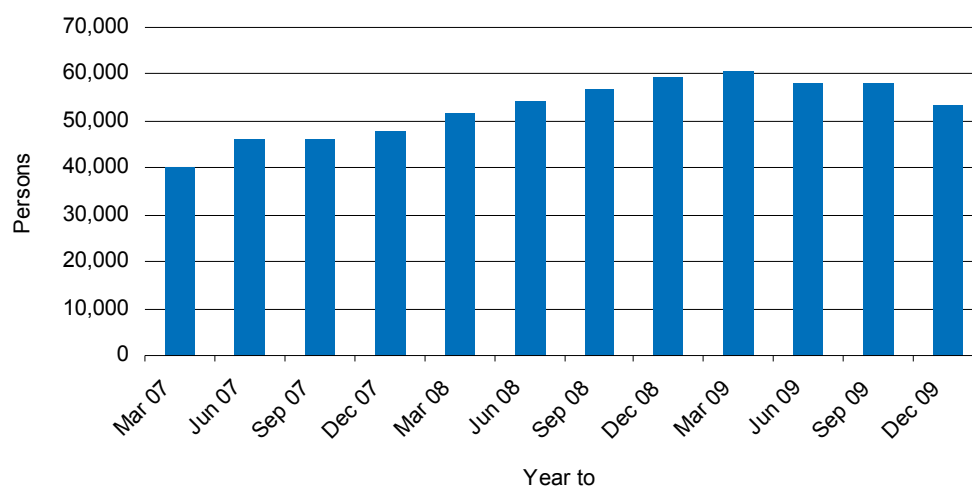
(c) Preliminary.

Source: ABS 3101.0, *Australian Demographic Statistics*

## 3.2 Recent data

Estimates up to the December quarter 2009 showed that Queensland's NOM had eased slightly from the record level reached in the 12 months ending March 2009 (Figure 3.2).

**Figure 3.2 Net overseas migration, Queensland, year to March 2007 to December 2009**



Source: ABS 3101.0, *Australian Demographic Statistics*

### 3.2.1 Official migration program

As indicated above, NOM is the result of arrivals and departures under the official migration program and the allocation of temporary visas. Recent trends, including both planning levels and actual outcomes, of the official migration program are reported in Table 3.2.

Between 2004–05 and 2008–09 the number of persons entering Australia under the official migration program increased by 51,582 people or 38.7 per cent. However, the planned level for 2009–10 was slightly lower than the figure for the previous year, a point noted when formulating assumptions for the future.

Australia's permanent immigration program has two main categories: migration (for skilled, family and special eligibility stream migrants) and humanitarian (for refugees and others in humanitarian need). Skilled migration was the largest component of the migration program in 2008–09, accounting for two-thirds of the total. Between 2004–05 and 2008–09 there was a large increase in the number of skilled entrants (from 77,880 to 114,780) while arrivals under the family program recorded a smaller increase (from 41,740 to 56,370 persons). In contrast, the number of persons entering Australia under the humanitarian program has been relatively stable over recent years at around 13,000 to 14,000 people.



**Table 3.2 Actual outcomes and planning levels for migration programs<sup>(a)</sup>, Australia, 2004–05 to 2009–10**

Migration component	— Outcome —					Planning level
	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10
<b>Migration program</b>						
Family	41,740	45,290	50,080	49,870	56,370	60,300
Skill	77,880	97,340	97,920	108,540	114,780	108,100
Special eligibility	450	310	200	220	180	300
<i>Total</i>	<i>120,060</i>	<i>142,930</i>	<i>148,200</i>	<i>158,630</i>	<i>171,320</i>	<i>168,700</i>
<b>Humanitarian program</b>						
Refugees	5,510	6,020	6,000	6,000	6,500	6,000
Other	7,670	8,120	7,010	7,010	7,000	7,750
<i>Total</i>	<i>13,180</i>	<i>14,140</i>	<i>13,010</i>	<i>13,010</i>	<i>13,500</i>	<i>13,750</i>
<b>Total</b>	<b>133,240</b>	<b>157,070</b>	<b>161,210</b>	<b>171,640</b>	<b>184,820</b>	<b>182,450</b>

(a) Excludes New Zealand citizens or holders of selected humanitarian visas.

Note: Numbers have been rounded.

Source: [www.immi.gov.au](http://www.immi.gov.au), Department of Immigration and Citizenship (Australian Government); and [www.minister.immi.gov.au](http://www.minister.immi.gov.au), Minister for Immigration and Citizenship, both accessed October 2009

Table 3.3 shows the number of settler arrivals to Queensland between 1996–97 and 2008–09 under the official migration program. Data for non-program migration are also included.

The largest category is the non-program migration category, mainly comprising New Zealand citizens (who indicate an intention to migrate permanently) and a smaller number of persons who are otherwise eligible to settle (for example, overseas-born children of Australian citizens). In 2008–09, there were 15,260 arrivals in this category, or 46.2 per cent of the total settler arrivals to Queensland.

The second largest number of settlers arrived under the skilled stream component of the migration program (10,810 in 2008–09), followed by the family stream (5,790 in 2008–09) and the humanitarian program (1,159 in 2008–09). There has been a significant increase in the number of settlers arriving under the skilled stream, up from 3,155 in 1996–97 to 10,810 in 2008–09, an increase from 21.6 per cent to 32.7 per cent of all settler arrivals.

In formulating the assumption regarding future levels of net overseas migration, it was considered likely that growing requirements for skilled workers would contribute to a recovery in levels of overseas migration to both Australia and Queensland in the coming years.

**Table 3.3 Settler arrivals by eligibility category, Queensland<sup>(a)</sup>, 1996–97 to 2008–09**

Year	Eligibility category								
	Migration program						Non-program migration(b)		Total(c)
	Family		Skilled		Humanitarian		Persons	% of total	
Persons	% of total	Persons	% of total	Persons	% of total	Persons	% of total	Persons	
1996–97	3,737	25.5	3,155	21.6	605	4.1	7,070	48.3	14,640
1997–98	2,411	16.0	3,578	23.7	718	4.8	8,342	55.3	15,095
1998–99	2,370	14.8	3,643	22.7	724	4.5	9,254	57.7	16,028
1999–00	2,321	13.4	3,925	22.7	550	3.2	10,479	60.6	17,286
2000–01	2,418	12.4	4,426	22.7	677	3.5	12,005	61.5	19,535
2001–02	3,022	19.1	4,803	30.4	626	4.0	7,336	46.4	15,825
2002–03	3,453	21.3	5,204	32.2	950	5.9	6,549	40.5	16,182
2003–04	3,893	19.2	7,421	36.6	990	4.9	7,940	39.1	20,284
2004–05	4,185	18.5	7,243	32.0	1,506	6.6	9,698	42.8	22,660
2005–06	4,511	18.1	8,101	32.6	1,432	5.8	10,803	43.5	24,862
2006–07	4,969	17.3	8,899	31.1	1,398	4.9	13,355	46.6	28,640
2007–08	5,054	15.6	10,132	31.2	976	3.0	16,306	50.2	32,496
2008–09	5,790	17.5	10,810	32.7	1,159	3.5	15,260	46.2	33,029

(a) Based on Queensland as intended residence at time of arrival only. There can be no guarantee that the settler actually settled in Queensland.

(b) Includes New Zealand citizens and children born to Australian citizens overseas.

(c) Includes Special Eligibility.

Source: Department of Immigration and Citizenship, *Settler Arrivals 2008–2009*, Table 1.6

### 3.2.2 Temporary visas

In recent years, New Zealand citizens<sup>3</sup>, overseas students and temporary business entrants have increased their contribution to NOM significantly. Table 3.4 shows the top ten visa types for Queensland (and comparable data for Australia), indicating the relatively large contribution to NOM made by people arriving on temporary visas. In Queensland, the contribution of the three main temporary visa categories (New Zealand citizens, overseas students and temporary business entrants) increased from 16,250 persons (or 60.6 per cent of NOM) in 2004–05 to 38,090 persons (or 70.5 per cent of NOM) in 2007–08, accounting for 80.1 per cent of the total increase.

The Federal Government recently tightened entry conditions for some categories of temporary entrants. However, it was considered very likely that the number of both New Zealand citizens and temporary business entrants arriving in Queensland would increase in coming years. This is based on an expectation of recovering economic conditions and anticipated jobs growth associated with planned resource activity.

<sup>3</sup> Movements of New Zealand citizens into and out of Australia are governed by the Trans-Tasman Agreement and are relatively unrestricted.



**Table 3.4 Net overseas migration by main visa category<sup>(a)(b)</sup>, Queensland and Australia, 2004–05 to 2007–08**

Visa type	2004–05	2005–06	2006–07	2007–08
	Queensland			
310111 New Zealand Citizen	8,810	10,270	14,020	16,550
110211 Student (reported code)	5,760	5,300	7,800	14,230
110111 Temporary Business Entrant (Long stay)	1,680	4,500	6,530	7,310
220611 Skilled Independent	2,480	3,050	3,940	4,790
110411 Tourist	3,010	2,750	3,520	4,110
110911 Working Holiday Maker	1,490	2,680	3,320	4,550
210111 Spouse	1,750	1,950	2,370	2,260
320111 Australian Citizen	-3,200	-3,070	-1,150	-2,150
240111 Refugee	740	870	900	790
210121 Fiance	650	780	810	770
<i>Total top 10 visa types</i>	<i>23,150</i>	<i>29,090</i>	<i>42,070</i>	<i>53,200</i>
<b>Total visas</b>	<b>26,800</b>	<b>32,820</b>	<b>46,260</b>	<b>54,050</b>
	Australia			
310111 New Zealand Citizen	20,630	23,100	29,830	36,090
110211 Student (reported code)	44,930	46,990	78,250	107,690
110111 Temporary Business Entrant (Long stay)	9,850	19,220	26,420	33,350
220611 Skilled Independent	16,760	19,020	22,810	25,950
110411 Tourist	17,790	16,700	20,870	23,270
110911 Working Holiday Maker	9,270	13,900	16,240	20,830
210111 Spouse	15,100	16,720	17,990	18,080
320111 Australian Citizen	-21,440	-18,940	-17,160	-20,310
240111 Refugee	5,280	5,190	6,240	5,650
210121 Fiance	4,670	5,120	5,600	5,490
<i>Total top 10 visa types</i>	<i>122,830</i>	<i>147,000</i>	<i>207,080</i>	<i>256,090</i>
<b>Total visas</b>	<b>142,500</b>	<b>171,450</b>	<b>232,820</b>	<b>277,330</b>

(a) These estimates use the improved methodology (12/16 rule) for calculating net overseas migration and have been used in compiling Australia's official estimated resident population (ERP) from September quarter 2006 onwards.

(b) Top 10 visa categories based on absolute value contribution to net overseas migration in Queensland in 2007–08.

Source: ABS, unpublished data; and Office of Economic and Statistical Research (Queensland Treasury)

### 3.3 Assumed future net overseas migration

Net overseas migration assumptions for Queensland are derived by making assumptions for Australia, and then applying a projected Queensland share to these assumed levels. Australia's net overseas migration had been trending upwards, but recent data indicate declining numbers since mid 2008. As a result, assumed net overseas migration for the projections has been modelled at levels lower than recent figures, similar to the 2006 level of 182,000 people per annum. The medium level assumption for net overseas migration for the 2011 edition projections is similar to the numbers assumed for the Commonwealth's 2010 Intergenerational Report.

Based on the research material and the latest available intelligence detailed in this paper, three long-term assumptions have been made about Australia's future net overseas migration and the Queensland share. These assumptions have been used to generate the 2011 edition of Queensland Government population projections.

#### **Low assumption**

Net overseas migration for Australia declining to 130,000 by 2011–12 and remaining constant for the remainder of the projection period (to 2056). Queensland share increasing from 19.4 per cent to 24.0 per cent<sup>4</sup> over the projection period.

#### **Medium assumption**

Net overseas migration for Australia declining to 180,000 by 2011–12 and remaining constant for the remainder of the projection period (to 2056). Queensland share increasing from 19.4 per cent to 24.4 per cent<sup>4</sup> over the projection period.

#### **High assumption**

Net overseas migration for Australia declining to 230,000 by 2011–12 and remaining constant for the remainder of the projection period (to 2056). Queensland share increasing from 19.4 per cent to 24.9 per cent<sup>4</sup> over the projection period.

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<sup>4</sup> In 2008–09 the Queensland share of net overseas migration (NOM) for Australia was 19.4 per cent compared with 20.2 per cent of the national estimated resident population. The assumed Queensland share of national NOM in 2056 for each of the three projection series has been calculated using the 19.4/20.2 ratio.



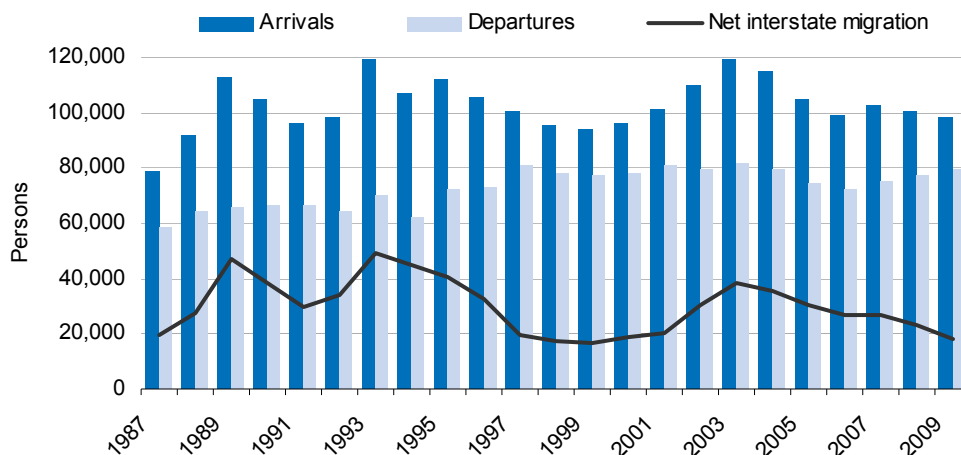
## 4. Net interstate migration

### 4.1 Long-term trends

Figure 4.1 and Table 4.1 show interstate arrivals and departures and net interstate migration (NIM) for Queensland between 1986–87 and 2008–09. The key points are:

- NIM varies greatly over time (ranging from a low of 16,700 persons in 1998–99 to a high of 49,200 persons in 1992–93). Interstate migration is inherently volatile because movement between states is unrestricted and both economic and amenity factors can be strong drivers of population mobility<sup>5</sup>.
- NIM has trended downwards in recent years (from a high of 38,000 persons in 2002–03 to 18,400 persons in 2008–09), largely as a result of a decrease in arrivals, with the current net level not at historically low levels but similar to levels reached during the late 1990s.
- There have been three temporary upward movements in net interstate migration – in the late 1980s, the mid 1990s and, to a lesser degree, the mid 2000s.
- NIM is affected by the volatility of both arrivals and departures, with arrivals more variable than departures.
- The absolute number of departures, and to a lesser extent arrivals, appears to be trending marginally upwards over time (reflecting the larger Australian and Queensland population).

**Figure 4.1 Interstate migration, Queensland, 1986–87 to 2008–09**



Source: ABS 3101.0, *Australian Demographic Statistics*

<sup>5</sup> Australian Bureau of Statistics (2009). *Australian Social Trends, March 2009: Future Population Growth and Ageing* (cat. no. 4102.0). Canberra: Commonwealth of Australia.

**Table 4.1 Interstate migration, Queensland, 1986–87 to 2008–09**

Year to 30 June	Arrivals	Departures	Net interstate migration
1987	78,464	58,746	19,718
1988	91,835	64,115	27,720
1989	112,568	65,506	47,062
1990	104,860	66,758	38,102
1991	96,359	66,650	29,709
1992	98,378	64,279	34,099
1993	118,967	69,805	49,162
1994	107,060	62,124	44,936
1995	112,261	72,037	40,224
1996	105,861	73,247	32,614
1997	100,236	80,631	19,605
1998	95,574	78,150	17,424
1999	93,716	77,034	16,682
2000	96,503	78,050	18,453
2001	101,345	81,321	20,024
2002	109,621	79,586	30,035
2003	119,551	81,567	37,984
2004	114,954	79,456	35,498
2005	104,988	74,617	30,371
2006	98,757	72,150	26,607
2007	102,350	75,306	27,044
2008	100,554	77,466	23,088
2009	98,182	79,794	18,388

Source: ABS 3101.0, *Australian Demographic Statistics*



## 4.2 Recent data

Latest data available at the time of formulating the assumptions showed that net interstate migration to Queensland continued to ease in 2009 (Table 4.2).

**Table 4.2 Interstate migration, Queensland, selected periods**

Year/period	Arrivals	Departures	Net interstate migration
2003–04	114,954	79,456	35,498
2004–05	104,988	74,617	30,371
2005–06	98,757	72,150	26,607
2006–07	102,350	75,306	27,044
2007–08	100,554	77,466	23,088
2008–09	98,182	79,794	18,388
2005	102,330	73,189	29,141
2006	98,419	72,460	25,959
2007	102,638	76,979	25,659
2008	100,260	79,032	21,228
2009	91,675	78,156	13,519
2007			
December	27,939	20,996	6,943
2008			
March	25,250	20,063	5,187
June	24,117	18,774	5,343
September	22,587	17,317	5,270
December	28,306	22,878	5,428
2009			
March	23,768	19,831	3,937
June	23,521	19,768	3,753
September	20,332	17,467	2,865
December	24,054	21,090	2,964

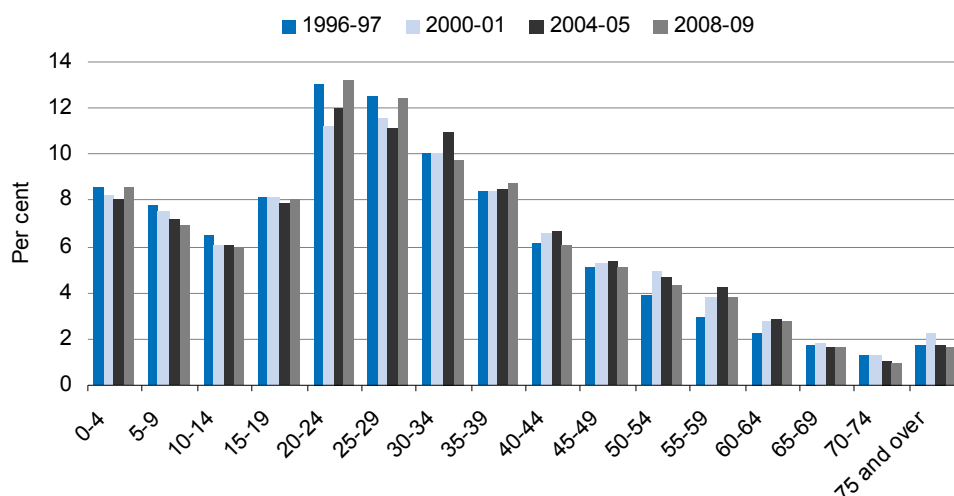
Source: ABS 3101.0, *Australian Demographic Statistics*

## 4.3 Age of interstate movers

Figures 4.2 and 4.3 reveal that:

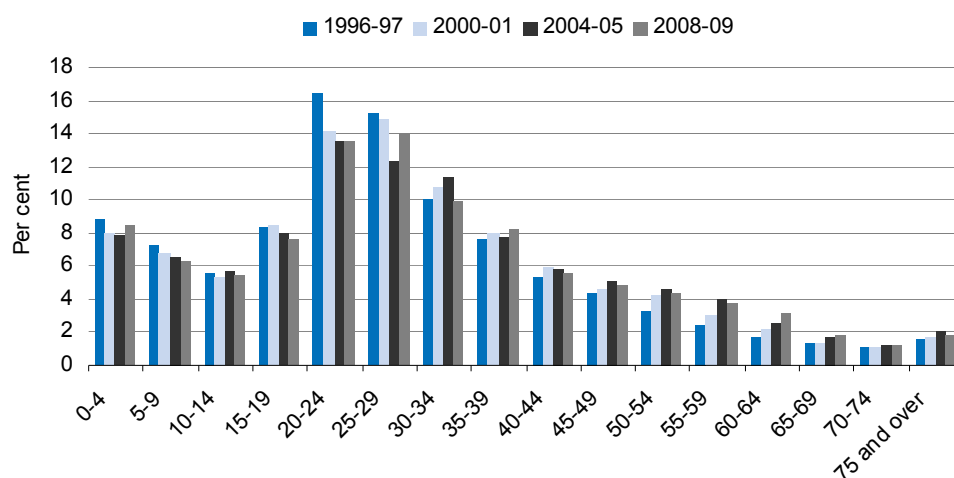
- Interstate arrivals and departures are heavily weighted toward the younger working age groups.
- The number of interstate movers in the older age groups is comparatively small (contrary to the sometimes popularly held view that a large number of interstate migrants to Queensland are older people).
- The age profiles are relatively stable over time (and most volatility is in the age groups comprising the largest share of movement).

**Figure 4.2 Interstate arrivals by age group, proportion of arrivals, Queensland, 1996–97 to 2008–09**



Source: ABS 3412.0, *Migration, Australia, 2007–08*

**Figure 4.3 Interstate departures by age group, proportion of departures, Queensland, 1996–97 to 2008–09**



Source: ABS 3412.0, *Migration, Australia, 2007–08*

#### 4.4 Assumed future net interstate migration

Net interstate migration fluctuates significantly and has ranged from under 20,000 to almost 50,000 annually in the last 30 years. It is assumed that net interstate migration will recover from the recent low figures, to levels just below the average of the last 30 years of 28,000 people per year.

Based on the research material and the latest available intelligence detailed in this paper, three assumptions have been made about future net interstate migration levels for



Queensland and these assumptions have been used to generate the 2011 edition Queensland Government population projections.

**Low assumption**

Net interstate migration for Queensland of 8,500 persons in 2009–10, increasing to 17,500 persons in 2012–13, then constant thereafter.

**Medium assumption**

Net interstate migration for Queensland of 11,000 persons in 2009–10, increasing to 25,000 persons in 2012–13, then constant thereafter.

**High assumption**

Net interstate migration for Queensland of 21,000 persons in 2009–10, increasing to 32,500 persons in 2012–13, then constant thereafter.

## Queensland Government Population Projections, 2011 edition

### *Projection results*

- Queensland Government population projections to 2056: Queensland and statistical divisions, 2011 edition
- Queensland Government population projections to 2031: local government areas, 2011 edition

### *Background papers*

- Queensland Government population projections: methodology, assumptions and scenarios for Queensland, 2011 edition
- Queensland Government population projections: methodology for local government areas, 2011 edition
- Queensland Government population projections: background research, 2011 edition

The population projections reports and data tables can be found at the Office of Economic and Statistical Research website: [www.oesr.qld.gov.au/population-projections](http://www.oesr.qld.gov.au/population-projections).