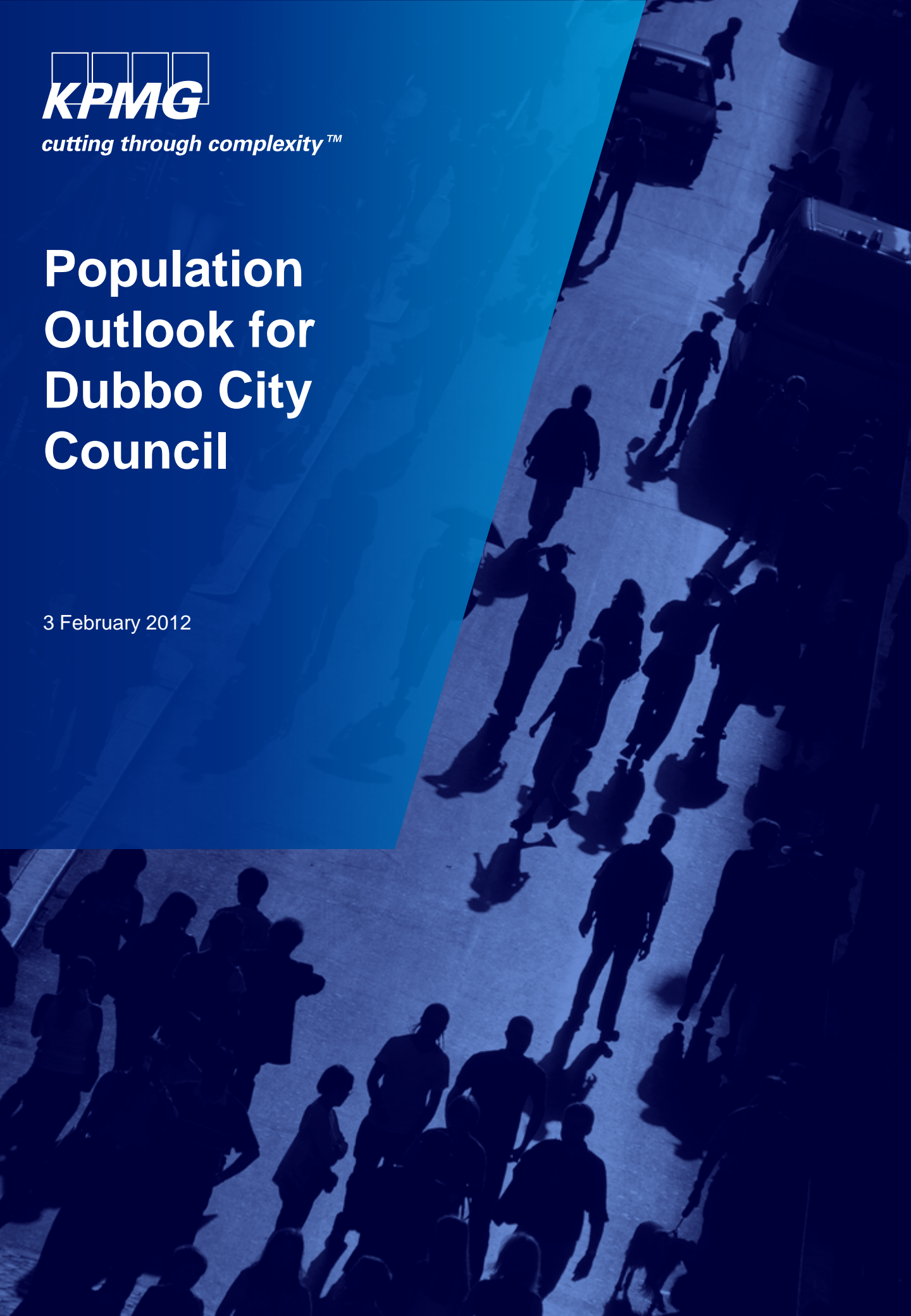




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Population Outlook for Dubbo City Council

3 February 2012



Inherent Limitations

This report has been prepared as outlined in the Scope Section of the engagement contract dated 26 October 2011. The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Australian Auditing and Assurance Standards Board and, consequently no opinions or conclusions intended to convey assurance have been expressed.

No warranty of completeness, accuracy or reliability is given in relation to the statements and representations made by, and the information and documentation provided by, Dubbo City Council consulted as part of the process.

KPMG have indicated within this report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the report.

KPMG is under no obligation in any circumstance to update this report, in either oral or written form, for events occurring after the report has been issued in final form.

The findings in this report have been formed on the above basis.

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Population Outlook for Dubbo City Council

Introduction

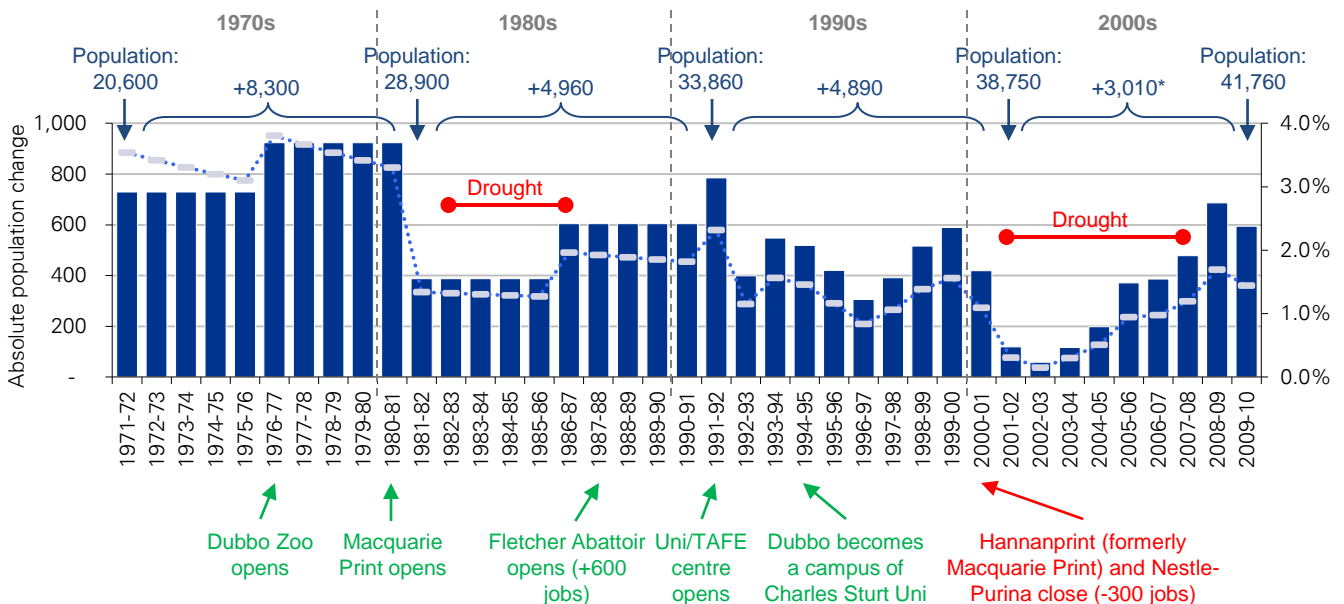
Dubbo is a regional town in central NSW located approximately 300km north west of Sydney. As at June 2010 the population of Dubbo was 41,760. According to the most recent state government figures produced by the NSW Department of Planning (DOP) in 2008, Dubbo's population is projected to reach 45,500 by 2036. The population outlook projected for Dubbo by the DOP in 2008 is thought to be conservative in nature. This is for two reasons. Firstly because some of the assumptions underpinning the DOP's projections were partly based on data recorded during the NSW drought (2001-2008) which was a period of uncharacteristically low growth for Dubbo. Secondly because there is more recent data now available which shows that since the breaking of the drought in 2008, Dubbo's rate of population growth has returned to pre-drought levels and Dubbo's population as at June 2010 has already exceeded the DOP's 2008 projection for June 2011 by 760 persons. KPMG believes that Dubbo's population is more likely to reach 51,550 by 2036, a growth of 9,790 persons from 2010, and is a number similar to that projected by the NSW DOP in their 2005 projections. Continued employment opportunities (for example the opening of new mines) and relative housing affordability are also likely to bolster Dubbo's population into the future.

Background

The most recent official data from the Australian Bureau of Statistics (ABS) estimates the population of the Local Government Area (LGA) of Dubbo to be 41,760 in June 2010. Dubbo is a significant service centre to the smaller surrounding communities and is thought to service a population close to three times the size of its own population.

Dubbo has experienced a period of sustained population growth in the 39 years to June 2010. Over this period Dubbo's population has more than doubled in size from a base of 20,600 in 1971 (estimates prior to 1971 are not available). Historically, significant local events have had a major impact on Dubbo's population change, (**Figure 1**).

Figure 1 – Absolute and percentage change in the population of Dubbo, 1971-2010



Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics; Dubbo City Council

Population Outlook for Dubbo City Council

In the 1970s Dubbo's population grew by 8,300, a period which saw the opening of the Dubbo Zoo and Macquarie Print (one of the largest employers in town). The early 1980's was marked by a drought across regional NSW including Dubbo. Across regional NSW rates of population growth slowed to 1.0% p.a. from 1981-1986 compared to 1.2% p.a. in the previous five year period. Contrastingly population growth rates in metropolitan NSW increased from 0.6% p.a. in the five years to June 1981 to a growth of 1.2% p.a. from 1981-1986 as people moved from rural areas to metro areas in association with employment opportunities. The impact of the drought on population growth was particularly evident in Dubbo, where population growth dropped from 3.5% p.a. in the five years to 1981, to 1.3% p.a. during the first half of the decade to 1991, and finally recovering to 1.9% p.a. in the second half of the decade.

The 1990's was characterised by moderate levels of population growth across NSW. The average population growth rate was 1.1% p.a. for the state during this time, while metropolitan NSW was 1.2% p.a. and regional NSW 0.9% p.a. Dubbo's population grew at a faster rate than the state at an average of 1.4% p.a. over the decade, adding an additional 4,890 persons.

Drought struck NSW once again from 2001-2008, bringing with it limited population growth for Dubbo over this period. Coupled with the drought in the early 2000's were the closures of Hannanprint (formerly Macquarie Print) and Nestle-Purina which accounted for 300 job losses. During the drought, in the year to June 2003, Dubbo experienced its lowest recorded annual population growth of only 60 persons. The modest rates of growth experienced during this second drought period are thought to be an anomaly however, and in years following the breaking of the drought, Dubbo's rate of population growth has again picked up, evidenced in the 12 months to June 2009 and June 2010 which saw Dubbo add 690 persons and 590 persons respectively.

Dubbo's population growth has experienced peaks and troughs, however has arguably shown a sustained period of growth since 1971. During the period of drought from 2001-2008 Dubbo recorded its lowest levels of population growth in almost four decades.

Population projections

The NSW Department of Planning (DOP) is the body responsible for developing population projections for all Statistical Local Areas in NSW. Typically the DOP projects population 30 years into the future, with the most recent projections produced in 2008 which project for the period 2006-2036. The 2008 projections were released to the public in April 2010 and take into consideration the 2006 Census and 2006 Estimated Resident Population (ERP) as well as the latest information on fertility, mortality and migration. Prior to 2008, the DOP's most recent edition was the 2005 projections which were based on the 2001 Census and ERP data to 2004.

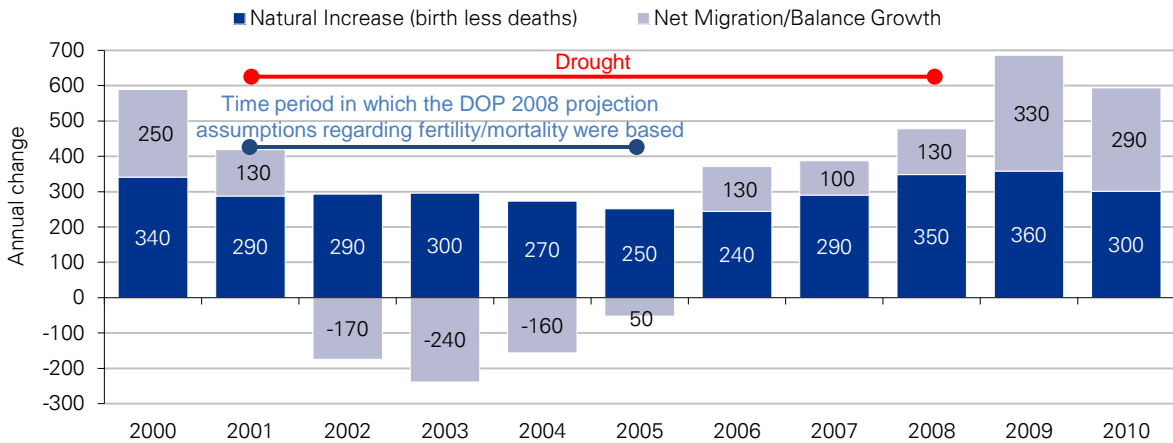
Due to the difficulty in anticipating future trends, most population projections, including those produced by the DOP, are based on historic trends and the outlook at the time regarding trends in fertility, mortality and migration. The DOP considered historic population back 20 years when producing their 2008 projections, however considered fertility and mortality over the previous five-year period, which in this case was the period 2001-2006. To that end it is important to recognise that short-term population fluctuations immediately preceding a projection, including uncharacteristically high or low growth, may have a significant impact on the resulting projections.

Under the DOP's 2008 projections, Dubbo's population will reach 45,300 by 2031 and 45,500 by 2036. This compares to their 2005 projections which projected Dubbo's population to reach 48,540 in 2031 (the 2005 projections covered the period 2001-2031). Besides the fact that the DOP used different projection models for their 2005 and 2008 projections, the discrepancy of

Population Outlook for Dubbo City Council

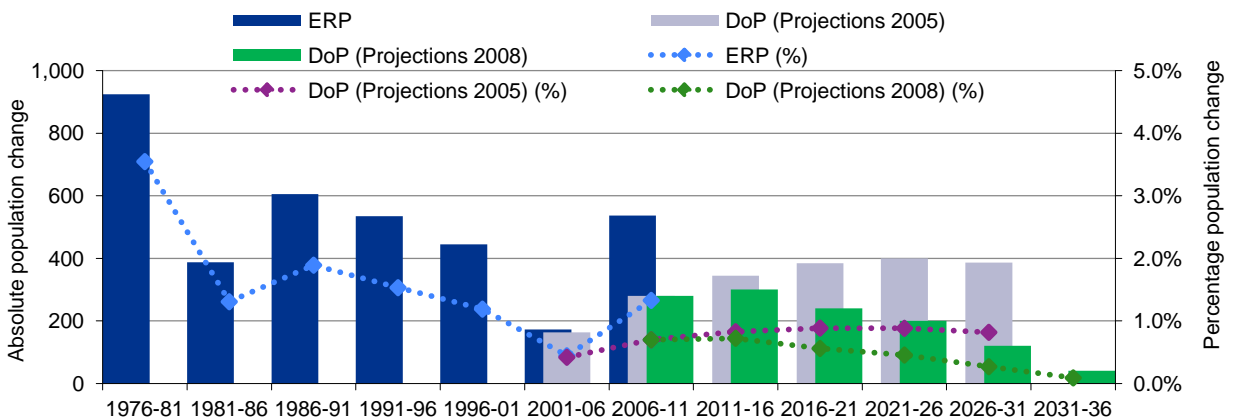
3,240 persons may be explained by the short-term population trends preceding each projection period. The DOP's 2008 projection assumptions regarding fertility and mortality were based on data recorded at a time when there was a drought in NSW (**Figure 2**), while the 2005 projections were based on fertility and mortality trends that are more in line with Dubbo's longer-term trends. As seen below (**Figure 3**) the DOP's 2008 projections show a rapidly declining growth rate from 2011-2036, whereas the DOP's 2005 projections show a relatively stable growth rate during this same period.

Figure 2 – Components of population change in Dubbo, 2000-2010



Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics

Figure 3 – Average annual change in the population of Dubbo, 1976-2036



Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics; Department of Planning (2009) New South Wales Statistical Local Area Population Projections, 2006-2036; Department of Planning (2006) New South Wales Statistical Local Area Population Projections, 2001-2031

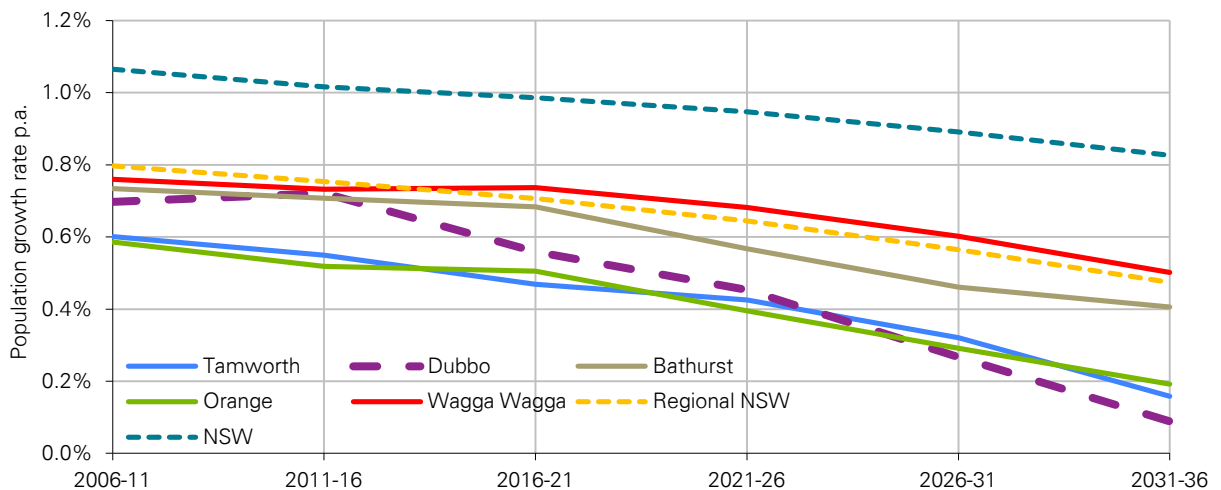
According to the most recent population figures released by the ABS, Dubbo contained 41,760 residents as at 30 June 2010. This is 760 residents more than the 41,000 residents projected by the DOP 2008 projections for June 2011. It is therefore reasonable to assume that Dubbo's population is currently tracking above the DOP's 2008 projections.

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From a statewide perspective, NSW is projected to experience a marginally slowing rate of growth under the 2008 projections, slowing from 1.1% p.a. from 2006-2011 to 0.8% p.a. from 2031-2036. However growth is expected to be considerably higher in metropolitan NSW than it is in regional areas. Regional NSW is also projected to have a marginally slowing rate of growth under the 2008 projections, however it starts from a lower base, slowing from 0.8% p.a. from 2006-2011 to 0.5% p.a. from 2031-2036.

The DOP's 2008 projections assume Dubbo will have a slowing growth rate, tracking at 0.7% p.a. from 2006-2011 and slowing to 0.1% p.a. by 2031-2036. A growth rate of 0.1% p.a. for Dubbo from 2031-2036 equates to an addition of 40 persons p.a. While it is reasonable to assume that Dubbo's rate of population growth will slow over time in association with an ageing population, KPMG believes that the rate of this slow down will not be as severe as that projected by the DOP in their 2008 projections. For example, during the 2001-2008 drought, Dubbo's population grew by an average of 270 persons p.a., with a record low rate of population growth of 60 persons p.a. in 2003. Since the breaking of the drought in 2008, Dubbo's rate of population growth has resumed to levels more consistent with the long-term trend, with Dubbo adding an average of 640 persons p.a. since 2008. According to the DOP's 2008 projections, Dubbo's population is projected to grow by 1,500 in the five years to 2016, or an average of 300 persons p.a. This compares to 590 persons that were added in the 12 months to June 2010.

Figure 4 – Comparison of growth rates under the DOP's 2008 projections by region



Source: KPMG Property & Demographic Advisory; Department of Planning (2009) New South Wales Statistical Local Area Population Projections, 2006-2036

Dubbo's rate of population growth is projected to decline at a faster rate than the regional NSW average and also at a faster rate than benchmark towns, particularly between 2016-2021. Comparisons with the DOP's 2008 projections for other regional centres in NSW (**Figure 4**), highlight the degree to which the rate of population growth in Dubbo is projected to decline. As at June 2010, the populations of Bathurst and Orange were 39,920 and 39,330 respectively, similar to that of Dubbo (41,760). Under the DOP's 2008 projections, Bathurst's growth rate is expected to decline from 0.7% p.a. from 2006-2011 to 0.4% p.a. from 2031-2036. Orange's growth rate is expected to decline from 0.6% p.a. from 2006-2011 to 0.2% p.a. from 2031-2036.

Tamworth and Wagga Wagga are slightly larger regional centres than Dubbo, with estimated populations of 59,460 and 63,500 respectively as at June 2010.

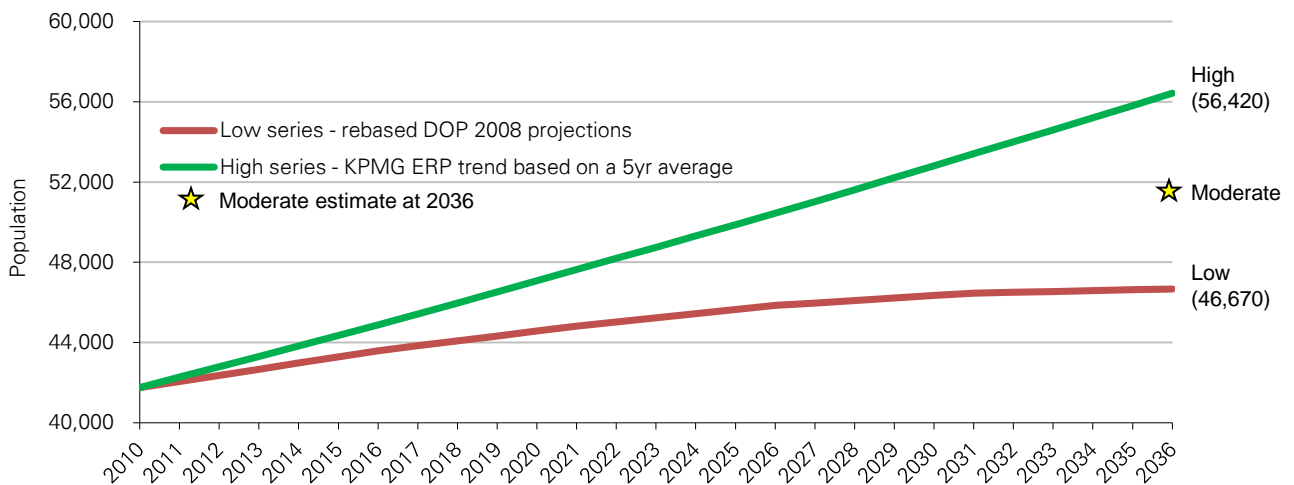
Population Outlook for Dubbo City Council

Similar to Orange, Tamworth's growth rates are expected to drop from 0.6% p.a. from 2006-2011 to 0.2% p.a. from 2031-2036 under the DOP's 2008 projections. Wagga Wagga's growth is projected to decline from 0.8% p.a. from 2006-2011 to 0.5% p.a. from 2031-2036. In each of these cases the decline in growth rates is projected to be between 0.3 and 0.4 percentage points from 2006-2011 and 2031-2036. Dubbo's growth rate is projected to decline 0.6 percentage points over the same period. Under the DOP's 2008 projections, NSW is projected to experience declining growth rates, particularly in regional areas. Large regional centres are expected to experience declines in growth rates consistent with regional NSW, however Dubbo's growth rate is projected to have a much steeper decline than the other benchmark regions. The DOP projects an ageing population for Dubbo, a decline in the number of women of childbearing age and a small net loss in migration.

Population Outlook Scenarios

KPMG has developed high and low series population scenarios for Dubbo (**Figure 5 and Figure 6**). The low series is the DOP's 2008 projections rebased to 2010 ERP and the high series is based on a 5 year ERP average. Based on these, Dubbo's population is projected to reach 46,670 under a low series scenario and 56,420 under a high series scenario. KPMG believes that a moderate estimate of 51,550, based on current and historic trends, would be a more realistic population estimate for Dubbo by 2036.

Figure 5 – Dubbo's population based on projection scenarios



Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics; Department of Planning (2009) New South Wales Statistical Local Area Population Projections, 2006-2036

Figure 6 – Dubbo's population based on projection scenarios in 5 year intervals

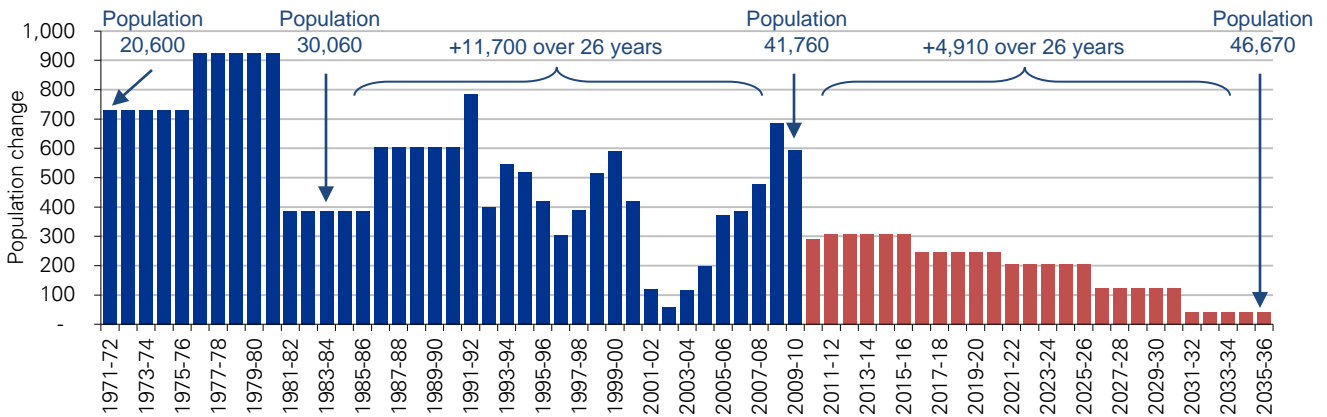
	2010	2011	2016	2021	2026	2031	2036
Low series – rebased DOP 2008 projections	41,760	42,050	43,590	44,820	45,850	46,470	46,670
High series – KPMG ERP trend based on a 5 year average	41,760	42,290	44,890	47,650	50,450	53,420	56,420

Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics; Department of Planning (2009) New South Wales Statistical Local Area Population Projections, 2006-2036

Population Outlook for Dubbo City Council

The latest population estimates from the ABS suggest that the DOP's 2008 projections are on the low side. With that in mind, KPMG have updated the DOP's 2008 projections to take into account the most up-to-date data available; 2010 ERP. This forms the low series scenario. KPMG has applied the growth rates developed by the DOP to a 2010 base year, effectively rebasing the projections. The low scenario (**Figure 7**) projects a population of 46,670 by 2036, rather than DOP's original projection of 45,500. This is a growth of 4,910 persons from 2010.

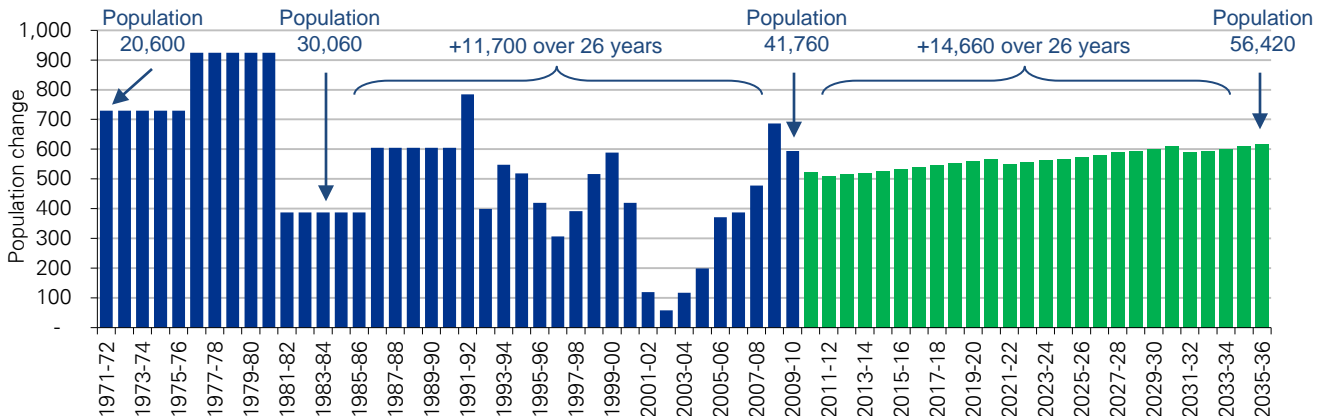
Figure 7 – Low scenario: historic and projected change in the population of Dubbo, 1971-2036



Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics ; Department of Planning (2009) New South Wales Statistical Local Area Population Projections, 2006-2036

The high series scenario (**Figure 8**) models population growth from 2010-2036 based on a 5-year population growth trend. In this scenario KPMG has projected population based on ERP data from 2005-2010, which included three years of tapered growth during the drought from 2005-2008 and two years of renewed growth in 2009 and 2010. KPMG has also taken into consideration slowing rates of growth due to the ageing population. Under the high scenario, the population of Dubbo is projected to reach 56,420 by 2036, a growth of 14,660 persons from 2010.

Figure 8 – High scenario: historic and projected change in the population of Dubbo, 1971-2036

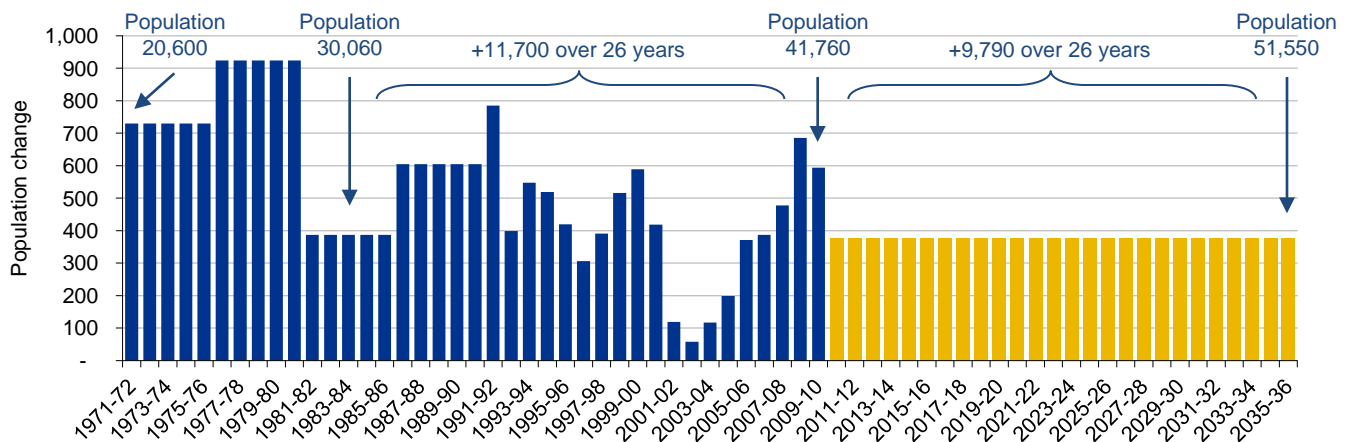


Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics ; Department of Planning (2009) New South Wales Statistical Local Area Population Projections, 2006-2036

Population Outlook for Dubbo City Council

Thus KPMG have developed a low scenario which projects growth of 4,910 persons from 2010-2036 and a high scenario which projects growth of 14,660 persons over the same period. A moderated approach is that growth is more likely to fall in the middle of that range, growing by 9,790 persons over the same period, which would bring Dubbo's population to 51,550 by 2036. This forms the moderate scenario (**Figure 9**). Interestingly this view is more or less in line with the DOP's 2005 projections rebased to 2010 which are calculated using 2010 ERP and applying the DOP's 2005 growth rates. Under the rebased 2005 projections, Dubbo's population is projected to reach 49,830 persons by 2031, growing by an average of 400 persons p.a. from 2026-2031. Even if this growth were to slow to an average of 350 persons p.a. from 2031-2036, Dubbo's population would be projected to reach 51,580 by 2036, 30 people higher than KPMG's medium scenario. It is KPMG's view that the DOP 2008 projections for Dubbo were based on rates of growth inconsistent with longer-term population trends due to the drought that occurred in the five years preceding the projection period and which a number of population growth assumptions were based. Based on this it is KPMG's view that the population of Dubbo is likely to reach a moderate population of 51,550 by 2036 (just 30 people below the DOP's 2005 projections rebased to 2010 and based on a growth of 350 persons p.a. from 2031-2036).

Figure 9 – Moderate scenario: historic and projected change in the population of Dubbo, 1971-2036



Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics ; Department of Planning (2006) New South Wales Statistical Local Area Population Projections, 2001-2031

Other factors which may impact Dubbo's population outlook

Whilst an analysis of historical and projected population data may go some way in establishing what Dubbo's population may look like in 25 years, it is important to note that population change is also impacted by a number of factors that make a region more or less attractive to live (particularly in rural towns), such as employment opportunities and relative housing affordability.

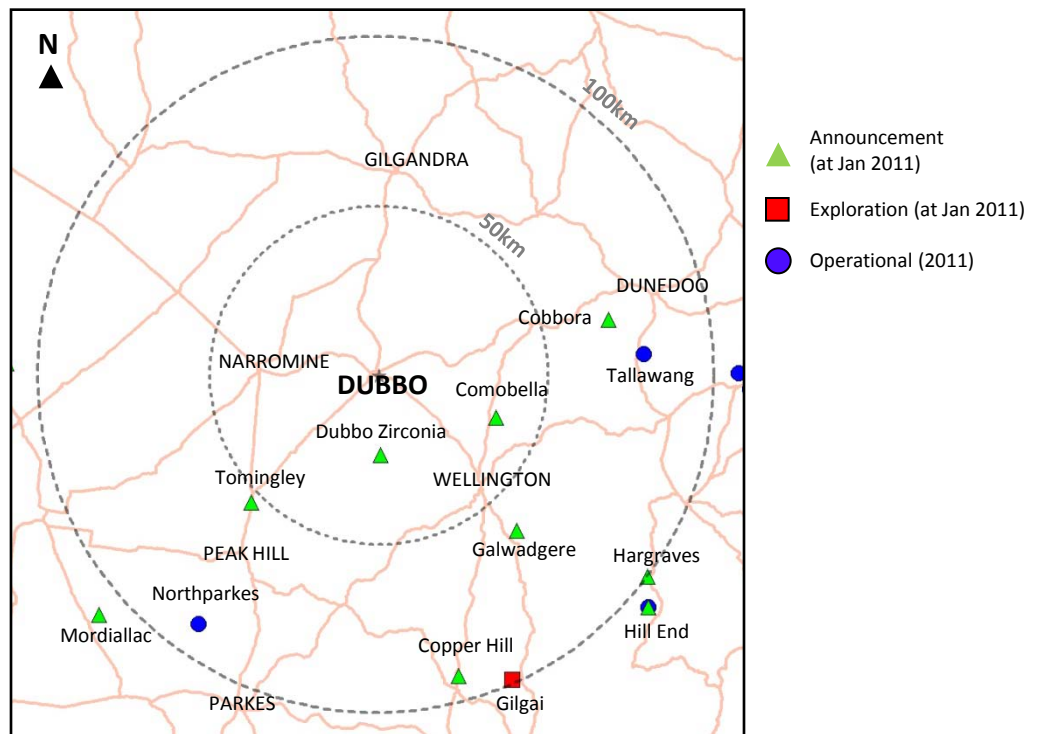
Rates of unemployment provide an indication of how tight a labour market is at any particular point in time. The tighter the labour market (ie. the lower the unemployment rate) the greater the evidence of strong employment opportunities in a region. Compared to Sydney and Regional NSW, Dubbo has historically had significantly lower rates of unemployment (4.5% compared to 5.4% in Regional NSW and 4.9% in Sydney as at June 2011). Lower than average rates of unemployment coupled with the presence of major community infrastructure including educational and health facilities are major pull factors to a regional centre like Dubbo.

Population Outlook for Dubbo City Council

As the largest boom industry in Australia, mining is bringing additional employment and consequently population growth to minerals-rich regions around the country. There are a number of mines, operational and proposed, surrounding Dubbo that bring with them opportunities for Dubbo. There are currently three operational mines within a 100km radius of Dubbo and a further nine mines that will continue to generate employment opportunities in the region (**Figure 10**). For example the expected 2014 opening of the Dubbo Zirconia mine is expected to generate the demand for 300-400 jobs during its construction phase and 200 jobs over its planned operations. In addition to this the Cobbora mine which is planned to begin construction in 2013 will initially generate 300 jobs during construction and then 400 jobs during operations. Construction is expected to take two years for both of these mines, while their operations are expected to continue until at least 2036. Each new mine brings with it not only jobs, but induced growth in terms of workers' families and additional labour required to service the growing population.

Housing affordability is another factor which may draw people into Dubbo. For those people looking to live in a regional centre, Dubbo is also more affordable in terms of housing compared with its NSW peers. According to Residex in June 2011, the median house price in Dubbo was \$252,000. This compares to \$292,000 in Bathurst, \$309,000 in Orange, \$328,000 in Tamworth and \$350,000 in Wagga Wagga.

Figure 10 – Mining activity surrounding Dubbo, November 2011



Source: KPMG Property & Demographic Advisory; Based on data from NSW Government, Department of Primary Industry; Dubbo City Council.

Population Outlook for Dubbo City Council

Conclusion

Dubbo has experienced four decades of sustained population growth, impacted by a number of major events including droughts and the subsequent opening/closing of significant businesses. The population of Dubbo as at June 2010 was 41,760. The current population of Dubbo has already exceeded the DOP 2008 projections 12 months ahead of time. Under the DOP's 2008 projections Dubbo's population was projected to be 41,000 by June 2011. The DOP's 2008 projections are conservative based on current population estimates and due to the period of data on which some assumptions underpinning the projections were made.

Based on an analysis of historic rates of growth, taking into account slowing rates of growth (due to an ageing population and a larger population base), KPMG estimate the population of Dubbo to range from a low of 46,670 to a high of 56,420 by 2036. The most likely, moderate scenario is a population of 51,550 by 2036, an additional 9,790 persons from 2010-2036. Dubbo is a significant regional service centre and is expected to remain so, as the population ages and moves in from surrounding farms and smaller communities to access services. Dubbo's relative housing affordability and employment prospects are also likely to continue to make Dubbo an attractive rural centre.

Appendices

- **Table 1**
Estimated Resident Population of Dubbo, 1971-2010
- **Table 2**
Comparison of the DOP's population projections for Dubbo
- **Table 3**
Components of population change in Dubbo, 2000-2010
- **Table 4**
Population outlook scenarios for Dubbo, 2011-2036

Population Outlook for Dubbo City Council

Table 1

Estimated Resident Population of Dubbo, 1971-2010

	1971	1976	1981	1986	1991	1996	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Population	20,630	24,280	28,900	30,840	33,860	36,530	38,750	38,870	38,930	39,050	39,250	39,620	40,010	40,480	41,170	41,760
Absolute change (p.a)		730	924	388	604	534	444	120	60	120	200	370	390	470	690	590
Percentage change (p.a)		3.3%	3.5%	1.3%	1.9%	1.5%	1.2%	0.3%	0.2%	0.3%	0.5%	0.9%	1.0%	1.2%	1.7%	1.4%

Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics

Table 2

Comparison of the DOP's population projections for Dubbo

	DOP 2005			DOP 2008			DOP 08 – DOP 05	
	Population	Change		Population	Change		Variance	
	No.	No.	%	No.	No.	%	No.	%
2001	38,750							
2006	39,570	820	2.1%	39,600			30	0.1%
2011	40,970	1,400	3.5%	41,000	1,400	3.5%	30	0.1%
2016	42,690	1,720	4.2%	42,500	1,500	3.7%	-190	-0.4%
2021	44,610	1,920	4.5%	43,700	1,200	2.8%	-910	-2.0%
2026	46,610	2,000	4.5%	44,700	1,000	2.3%	-1,910	-4.1%
2031	48,540	1,930	4.1%	45,300	600	1.3%	-3,240	-6.7%
2036				45,500	200	0.4%		

Source: KPMG Property & Demographic Advisory; Department of Planning (2009) New South Wales Statistical Local Area Population Projections, 2006-2036; Department of Planning (2006) New South Wales Statistical Local Area Population Projections, 2001-2031

Population Outlook for Dubbo City Council

Table 3

Components of population change in Dubbo, 2000-2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ERP	38,340	38,750	38,870	38,930	39,050	39,250	39,620	40,010	40,480	41,170	41,760
Annual change in ERP	590	420	120	60	120*	200	370	390	480	690	590
Natural increase (births less deaths)	340	290	290	300	270*	250	240	290	350	360	300
Net migration/balance growth	250	130	-170	-240	-160*	-50	130	100	130	330	290

*Annual change in ERP is not equal to the sum of natural increase and net migration in this case due to rounding

Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics

Table 4

Population outlook scenarios for Dubbo, 2011-2036

Year	DOP 2005	Rebased DOP 2005 (2010 jump off)	DOP 2008	Low scenario: Rebased DOP 2008 (2010 jump off)	High scenario: KPMG 5 year trend (2005-10)
2011	40,970	42,050	41,000	42,050	42,290
2016	42,690	43,820	42,500	43,590	44,890
2021	44,610	45,790	43,700	44,820	47,650
2026	46,610	47,850	44,700	45,850	50,450
2031	48,540	49,830	45,300	46,470	53,420
2036	N/A	51,580*	45,500	46,670	56,420

*assumes a growth of 350 persons p.a. from 2031-2036

Source: KPMG Property & Demographic Advisory; Based on data from the Australian Bureau of Statistics; Department of Planning (2009) New South Wales Statistical Local Area Population Projections, 2006-2036; Department of Planning (2006) New South Wales Statistical Local Area Population Projections, 2001-2031



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