



JUNE 2006

BRICKLAYER: OCCUPATIONAL SKILL SHORTAGE ASSESSMENT

2004 Situation: Genuine skill shortage

Current Situation: Genuine skill shortage

Short-term Outlook: Genuine skill shortage

1 Executive Summary

1.1 Results from the 2005 Survey of Employers who have Recently Advertised suggest employers still have difficulty in filling bricklayer positions in New Zealand. Only 42% of positions were filled within ten weeks of advertising and there was an average of only 9 suitable applicants for every 10 bricklayer vacancies. While this fill rate is an improvement on the 2003 fill rate, it indicates there is still a shortage of bricklayers in New Zealand. This report considers these survey results in the context of trends in the demand for and supply of bricklayers.

Table 1: Employer Survey Indicators, 2005

	Fill Rate	Average Number of Suitable Applicants
Bricklayers	42%	0.9
All Trades Surveyed	37%	1.0

Source: Survey of Employers who have Recently Advertised, Department of Labour.

1.2 During the past four years, demand for bricklayers has risen in response to the booming construction industry and the increasing use of brick masonry in new buildings. Even though activity within the construction sector is starting to cool, the current level of demand for bricklayers is expected to remain at high levels through 2006. This is due to the increased use of brick in residential construction as well as the continuing strength of non-residential building activity.

1.3 The formal training system appears to have contributed little to the supply of skilled bricklayers in New Zealand, with an average of only 30 trainees achieving the National Certificate in Masonry (Level 3) qualification over each of the last three years. The current level of training is only just managing to replace the retiring workforce, let alone meet existing levels of demand.

- 1.4 Due to the on-going disparity between the levels of supply and demand, the Department of Labour has assessed the bricklayer occupation as experiencing a **genuine skill shortage**.
- 1.5 Over the period 2001 to 2005 there has been a steady increase in new enrolments for the National Certificate course, which will feed through to a modest increase in the supply of fully qualified bricklayers in the next few years. This seems unlikely to match demand in the brick and block building sector which grew more steeply and will probably fall more slowly than overall demand in the construction sector. The Department of Labour therefore considers that shortages will ease only slightly in the short-term.

2 Introduction

- 2.1 The purpose of this report is to investigate skill shortages for bricklayers in New Zealand.
- 2.2 The following section presents key findings from the Department of Labour's (the Department's) *Survey of Employers who have Recently Advertised* (SERA). This survey provides an indication of employer's success in filling advertised vacancies for bricklayers as well as other information on their recruiting experiences. The next two sections investigate trends in the demand for, and supply of, bricklayers. The penultimate section presents some of the issues that arise from the matching of demand and supply in the labour market, such as wage rates. Finally, the 'Assessment' section considers all the information presented in the report and provides a view on whether the occupation is in shortage, and if so, the type of shortage being experienced. A short-term outlook for the shortage situation is also offered.



- 2.3 Further background to this occupational report, including a discussion of the methodology; a glossary of terms; and an overview of the Department's *Survey of Employers who have Recently Advertised*, including the survey questionnaire, can be found in the 'Background and technical note' at <http://www.dol.govt.nz/publications/jvm/trades/2005/background.asp>.

2.4 **Bricklayers in New Zealand**

- 2.4.1 Bricklayers (code 71111 in the New Zealand Standard Classification of Occupations) lay bricks, tiles and building blocks outside and within a variety of residential and commercial building structures.
- 2.4.2 The Department estimates that there were about 3,300 bricklayers employed in New Zealand in 2005. Census figures indicate that 97% of the bricklaying workforce is male and most bricklayers (60%) are self-employed. At present

there is no requirement to be registered or certified in order to work as a bricklayer in New Zealand.

2.5 **Note on Occupational Classification**

- 2.5.1 Household Labour Force Survey and External Migration data from Statistics New Zealand are only available at a broad (3-digit) occupational level. As bricklayers comprise only a very small proportion (7% in the 2001 Census) of the broader parent group *building frame and related trades workers*, trends cannot be assessed through these sources.

3 **Survey of Employers who have Recently Advertised**

- 3.1 This section presents the key SERA findings of employers' experiences in recruiting bricklayers.
- 3.2 The SERA allows the Department to gain insights into skill shortages by investigating how difficult it is for employers to fill vacancies. A 'fill rate' is calculated for each occupation – this being the proportion of vacancies included in the SERA sample which were filled with an adequately qualified and experienced person within ten weeks of advertising. Occupations with fill rates lower than 80% are typically regarded as being in shortage, while fill rates lower than 40% usually indicate that the occupation is in acute shortage.

Table 2: SERA Results for Bricklayers and All Trades Surveyed, August 2005

	Number of Employers	Number of Vacancies	Fill Rate¹	Average Number of Suitable Applicants per Vacancy¹
Bricklayers	16	26	42%	0.9
All Trades Surveyed	885	1480	37%	1.0

Source: Survey of Employers who have Recently Advertised, Department of Labour.

1 The 'All Trades Surveyed' fill rate and average number of suitable applicants per vacancy figures were both weighted to compensate for any under or over sampling of individual trade worker occupations in the 2005 survey.

- 3.3 Results from the 2005 SERA show that only 42% of bricklayer vacancies included in the survey were filled within ten weeks of being advertised, up from 23% in 2004. This reveals that bricklayers have moved out of acute shortage, but employers still have considerable difficulty filling bricklayer vacancies. The fill rate for bricklayers was above that for all surveyed trade occupations (37%). However, there was an average of only 0.9 suitable applicants for each bricklayer vacancy compared with an average of one per vacancy for all trade occupations surveyed.

4 Demand for Bricklayers

4.1 This section investigates trends in the demand for bricklayers and the factors underlying these trends. Demand is measured by the number of bricklayers required by employers at current wage rates.

4.2 *Historical Demand*

4.2.1 Between 1991 and 2001 there was a growth of 3.3% per annum in the number of bricklayers employed, according to the Census of Population and Dwellings. This was considerably higher than employment growth across all construction trades (0.5% per annum). This suggests that there has been increasing use of brick, and hence bricklayers, in construction in New Zealand. The increasing popularity of brick-based construction is due in part to the leaky building issue, as well as the increasing cost competitiveness of bricks. Growth in demand for bricklayers is therefore driven by two factors: growth in the construction industry and a shift towards the use of brick masonry.

4.2.2 Demand for bricklayers has continued to grow rapidly over the past few years on the back of a booming construction industry. The value of building work put in place grew by 44% between late-2001 and late-2005. Given the growing preference towards masonry-based construction in residential buildings, the demand for bricklayers has probably grown at an even faster rate.

4.3 *Future Demand*

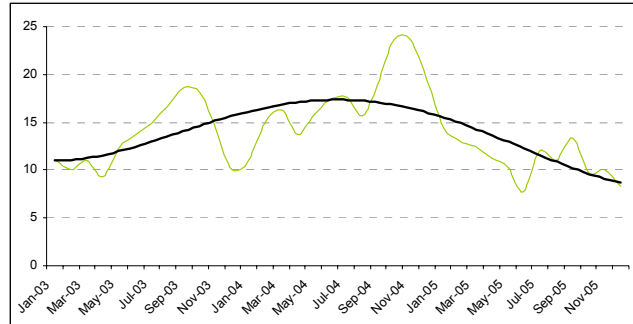
4.3.1 The Department's demand overview for the construction sector, (which is given in Appendix 1), suggests that while there is not likely to be any growth in overall construction activity in 2006, activity is still forecast to remain at a high level, mainly due to the strength in the non-residential sector (which requires more concrete block construction). The shift towards more brick usage in residential construction as well as continued growth in the non-residential sector means that demand for bricklayers is likely to remain high during 2006. A number of employers surveyed in the 2005 SERA said they faced a large backlog in work, so the absence of growth in the construction sector may only lessen the delay in getting work done.

4.3.2 Although bricklayers do not currently need a license to operate, under the Building Act 2004, by November 2009 certain building work will be defined as "restricted work" and will need to be carried out or supervised by an appropriately licensed building practitioner in order for a Certificate Code of Compliance to be issued. Should a concrete block or masonry constructed building's structure be part of "restricted work", such work will have to be done by or under the supervision of a licensed bricklayer. Over time, this is likely to stimulate increased demand for fully qualified, rather than partially trained, bricklayers to participate in all masonry building projects.

4.4 **Changes in Market Conditions**¹

- 4.4.1 Data from the Department's Job Vacancy Monitor suggests that recruitment conditions for bricklayers are improving. Figure 1 shows that advertised vacancies for bricklayers increased sharply in late 2004 but have been in decline since early 2005. In the three months to December 2005 there were 57% fewer advertised vacancies for bricklayers compared to the three months to December 2004. This is in line with a slowing in growth in the construction sector. Caution should be taken in interpreting total job advertising trends in this instance, as there is a high degree of self-employment amongst bricklayers in New Zealand.²

Figure 1: Number of Advertised Vacancies for Bricklayers



Source: Job Vacancy Monitor, Department of Labour.

5 **Supply of Bricklayers**

- 5.1 This section investigates the various sources contributing to the supply of bricklayers. Supply is measured by the number of people willing and able to work as bricklayers at current wage rates.
- 5.2 **Training - National Certificate (Level 3) Qualifications and Equivalent**
- 5.2.1 This section investigates the growth in supply of *fully qualified* bricklayers through the award of the National Certificate in Masonry (Brick and Block Laying) Level 3 by the New Zealand Painting Contractors Association of Employers Industry Training Organisation (PDITO). This is the nationally recognised qualification for bricklayers which is designed by PDITO to meet the needs of employers of bricklayers. The Level 3 National Certificate is not awarded by other providers such as polytechnics.
- 5.2.2 Table 3 shows new enrolments for this qualification have increased from about 30 per annum in 2001-2002 to about 60 per annum in the three years to 2005, while total enrolments have also grown over the same period. Due to the lag between enrolments and achievements, this upturn has only recently begun to yield an increase in the number of National Certificate Level 3 qualifications achieved, which were twice as high in 2005 than in 2001. There were no non-national certificate qualifications at the equivalent level of the National Certificate Level 3 awarded over this time period.

¹ Analysis of the Job Vacancy Monitor suggests that it is an indicator of change in labour market tightness, or change in the degree of difficulty of recruiting staff. An increase in vacancies typically indicates increasing difficulty in recruiting staff and vice versa. While changes in demand usually dictate changes in labour market tightness, it can also be affected by changes in supply conditions, such as a rise in net migration.

² Census figures indicate that about 60% of bricklayers are self-employed and are therefore unlikely to consider applying for advertised positions.

Table 3: Number of Trainees Enrolled in and Achieving the National Certificate in Masonry (Brick and Block Laying) Level 3

	Total Enrolled	New Enrolments	Achievements
2001	104	22	16
2002	99	38	16
2003	130	58	32
2004	126	35	26
2005	120	79	32

Source: New Zealand Painting Contractors Association of Employers Industry Training Organisation, Weltec.

5.2.3 The training rate for bricklayers is given in Table 4. This indicator provides an approximate measure of the rate at which the supply of fully qualified bricklayers can potentially grow through training. The training rate is calculated by expressing the number of trainees achieving the relevant qualification as a percentage of total employment in that occupation. The training rate for bricklayers was estimated to be 1.0% in 2005, and has risen only slightly since 2001. The training rate for bricklayers is very low compared with the average training rate of 3.3% for all trades analysed by the Department. By way of comparison, the average training rate for bricklayers in New South Wales, Australia³ in the three years to June 2005 was 1.3%. This was also noticeably lower than the average for all trades in NSW, yet is still more than a third higher than the training rate in New Zealand over the last three years.

Table 4: Training Rate for Bricklayers, 2001-2005

	Bricklayers	All Trades⁴
2001	0.8%	2.0%
2002	0.7%	2.2%
2003	1.0%	2.2%
2004	0.8%	2.7%
2005	1.0%	3.3%

Source: Department of Labour.

5.2.4 These training indicators show that formal training programmes continue to contribute very little to the growth in the supply of bricklayers. Moreover, many employers surveyed in the 2005 SERA said they value experience above qualifications and that they are willing to take on unskilled workers who have the right attitude and train them up informally. For instance, four of the five employers who were asked how they cope with staff shortages said they would provide more training to existing staff. This practice appears to be the norm, as information from the 2001 Census shows that only 14% of bricklayers held a relevant vocational qualification in that year.

³ Australian national level estimates of training rates are not available.

⁴ The training rates for 'all trades' were calculated for the 14 trade occupations that were examined in-depth using data from the SERA Intensive 2005. As the composition of occupations being examined changes from year-to-year, so will the training rates.

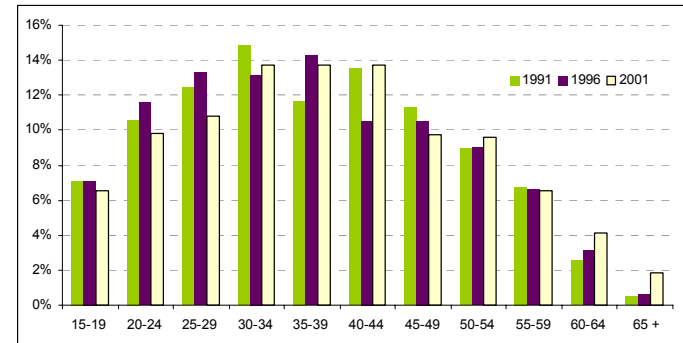
5.3 Migration

5.3.1 Migration trends are difficult to determine for bricklayers as they comprise only a small part (7%) of a much larger grouping (*building frame and related trades workers*) in the official migration statistics. Some employers surveyed noted that migrants from places like the U.K. and Australia lacked appropriate experience of New Zealand brick and block laying techniques.

5.4 Retirements

5.4.1 Based on 2001 Census data, it is estimated that approximately 0.8% of the bricklayer workforce retires each year (assuming a retirement age of 65). This equates to about 30 bricklayers per annum, and is lower than the average retirement rate for all trade occupations (1.3%), and the average retirement rate for all occupations (1.5%).

Figure 2: Age Profile of Bricklayers, 1991-2001



Source: Census of Population and Dwellings, Statistics New Zealand.

Although relatively low, this figure is still high enough to cancel out the annual number of trainees achieving the National Certificate in Masonry (Brick and Block Laying) Level 3.

5.5 Occupational Detachment⁵

5.5.1 No firm data exists on the number of bricklayers who decide to move into other work. Some employers surveyed in the 2005 SERA mentioned that the physical demands of the work encouraged people to move to other work in later life, and the low retirement rate supports this by showing that the number who continue doing this work at an older age is relatively low. However, the money to be made as a skilled bricklayer and the option of moving into self employment keep some people on. The current absence of registration may encourage more mobility in and out of this work as the entry and exit costs are lower than in many other trades.

5.5.2 Employers were evenly divided when asked if they thought bricklayers left the occupation to go and do something different more or less than in other occupations. Of the eight employers who answered this question, two thought they left at a higher rate than in other occupations, four thought they left at the same rate, and two thought they left at a lower rate.

⁵ 'Occupational detachment' refers to individuals who choose not to continue practising in their occupation but retain a connection to the occupation (e.g. move into a management or supervisory role, or retain professional registration), or who leave the occupation entirely (e.g. by changing occupation or withdrawing from the labour market).

6 Matching of Supply and Demand

6.1 This section considers some of the issues that arise from the labour market matching of the supply of bricklayers with the demand for bricklayers.

6.2 *Salaries*

6.2.1 The Labour Cost Index (LCI) showed an average hourly wage of \$19.91 for bricklayers compared with an average wage of all trade workers of \$19.81 (see Table 5). While their wages appear to be slightly above average for trades, the difference is narrowing. According to the LCI, wages of bricklayers rose by just 1.1% in the twelve months to June 2005, compared with 4.8% in all trades. Many bricklayers (such as those self employed) are paid on a piece-rate basis (i.e. per square metre) which means the most experienced, skilled workers can command a considerable pay premium in this trade.

Table 5: Average Hourly Wage Rates for Bricklayers⁶

	June 2004	June 2005
Bricklayer	\$19.69	\$19.91
All Trades	\$18.90	\$19.81

Source: Labour Cost Index, Statistics New Zealand.

7 Assessment

7.1 This section considers all the information presented in this report on employers' recruiting experiences, supply and demand trends, and matching issues, and offers a view on whether there is a shortage of bricklayers and the type of shortage. A short-term outlook for the shortage situation is also offered.

7.2 Demand for bricklayers has grown rapidly over the past few years on the back of a booming construction industry. The value of building work put in place has grown by 44% between late 2001 and late 2005 and the demand for bricklayers has probably even exceeded this given the shift towards more brick usage in residential construction. In contrast to the rapid growth in demand, the supply of fully qualified bricklayers grew only slowly. In 2005 the supply grew by 1.0% through training and growth through training was even lower in previous years. This suggests a considerable disparity between the growth in demand and the growth in supply. This is reflected in the low (though improving) fill rate of 42% and there being only nine suitable applicants per ten vacancies. The disparity that has developed as demand has outgrown supply indicates that the shortage of bricklayers is a **genuine skill shortage** (see Box 1 for definition).

⁶ The data shown from the LCI are unadjusted mean hourly rates. Caution should be taken with interpreting this information due to the relatively small sample sizes, particularly at the occupational level. Furthermore, the LCI is designed to measure changes in, rather than the actual level of, wage and salary rates.

- 7.3 While the number of trainees achieving the relevant National Certificate qualifications is expected to increase over the next few years, training output still appears to be too low to eliminate the current shortfall of fully qualified bricklayers. This is because demand in the brick and block building sector grew more steeply and will probably fall more slowly than overall demand in the construction sector. The Department therefore foresees shortages, at best, easing only slightly in the short-term.

Box 1: Skill Shortage Definitions**Genuine Skill Shortage**

Occurs when employers have difficulties filling their job vacancies because there are not enough individuals with the required skills in the potential labour market to fill the positions on offer.

Recruitment and Retention Difficulty

Occurs when there is a considerable supply of individuals with the required skills in the potential labour market but they are unwilling to take up employment at current levels of remuneration and conditions of employment. Retention problems are often a major contributor to this condition.

For queries regarding this report please contact robert.haig@dol.govt.nz or info@dol.govt.nz.

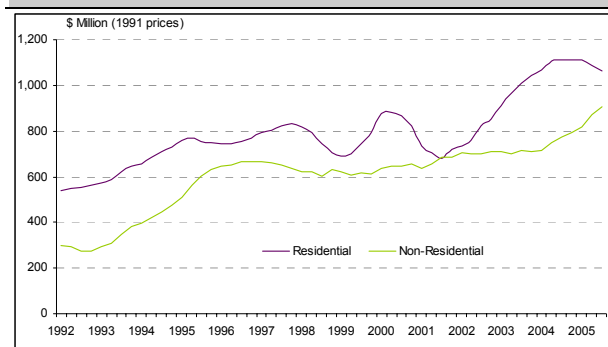
Disclaimer: The Department of Labour has made every effort to ensure that the information contained in this report is reliable, but makes no guarantee of its accuracy or completeness and does not accept any liability for any errors. The information and opinions contained in this report are not intended to be used as a basis for commercial decisions and the Department accepts no liability for any decisions made in reliance on them. The Department may change, add to, delete from, or otherwise amend the contents of this report at any time without notice. The material contained in this report is subject to Crown copyright protection unless otherwise indicated. The Crown copyright protected material may be reproduced free of charge in any format or media without requiring specific permission. This is subject to the material being reproduced accurately and not being used in a derogatory manner or in a misleading context. Where the material is being published or issued to others, the source and copyright status should be acknowledged. The permission to reproduce Crown copyright protected material does not extend to any material in this report that is identified as being the copyright of a third party. Authorisation to reproduce such material should be obtained from the copyright holders.

Appendix 1: Construction Industry Demand Overview

New Zealand has experienced four years of strong growth in construction activity, and although the rate of growth has recently slowed, growth remains high. Figure A1 shows the rapid (44%) growth in building work put in place which occurred between late 2001 and late 2005. The boom has resulted in construction industry employment growth of 42% over the same period. While growth in total building work put in place still remains strong (4% in the year to September 2005), it has slowed from an average growth rate of 11% per annum in the previous three years.

The strong growth in the construction industry has been driven predominantly by activity in the residential sector, although in the last year the non-residential sector has begun to catch up. Until recently, growth in the residential sector has been driven by a range of factors. These include: low real interest rates from early 2001 to early 2004, high population growth caused by record net immigration, strong wage and job growth, a

Figure A1: Building Work Put in Place, Residential and Non-residential



Source: Statistics New Zealand.

previous lull in building activity, and falling household sizes. However, in the year to September 2005, there has been a 4% decrease in the value of residential building work put in place. In contrast, there has been a 17% increase in the value of non-residential building work put in place driven most strongly by growth in commercial buildings. It is likely that the slowdown in the residential sector has freed up resources for growth in the non-residential sector.

Table A1: Construction Activity and Employment, Years to September, 2001-2005

	Year to Sep 2001	Year to Sep 2002	Year to Sep 2003	Year to Sep 2004	Year to Sep 2005
Work Put in Place (1991 \$m)	5,461	6,088	6,898	7,544	7,869
% Change		11.5%	13.3%	9.4%	4.3%
Residential Building Consents (number)	19,533	24,408	30,139	31,864	27,092
% Change		25.0%	23.5%	5.7%	-15.0%
Non-residential Building Consents (number)	16,680	17,143	15,799	16,432	16,647
% Change		2.8%	-7.8%	4.0%	1.3%
Construction Employment (Four Quarter Moving Average)	113.0	119.1	135.8	150.1	160.3
% Change		5.4%	14.1%	10.5%	6.7%

Source: Statistics New Zealand.

Outlook for the Residential Sector

The residential sector has slowed down in the last year after a sustained period of high growth. This slowdown is likely to continue because all the key drivers of that growth have turned. Interest rates have risen⁷, lower levels of net inward migration⁸ have slowed population growth, the downturn in international students coming to New Zealand may negatively impact apartment building, and the high exchange rate may discourage offshore investors. Figure A2 shows there has been a downward trend in the number of residential consents issued since mid-2004. In the 12 months to September 2005 there was a 15% decrease in the number of consents issued for residential buildings, indicating that residential activity will continue to weaken. In addition, December 2005 Consensus Forecasts from the New Zealand Institute of Economic Research predict that residential investment will fall by 8.9% in the year to March 2007.

Figure A2: Quarterly Building Consents Issued, Residential and Non-residential (Number)



Source: Statistics New Zealand.

Outlook for the Non-residential Sector

Non-residential building activity grew strongly over 2005. This is reflected by a sharp increase in the number of non-residential building consents issued in 2004 (see Figure A2). Although the number of non-residential building consents issued began to slow over the second half of 2004, it has shown an upward trend in the first three quarters of 2005. The Department expects non-residential building activity to remain strong as construction resources are freed up from the downturn in the residential sector. An increase in the number of non-residential consents combined with increasing government and infrastructure expenditure indicates construction activity will increase in the sector over 2006.

Overall Outlook

The slowdown in the residential sector in 2006 is likely to be compensated by continued growth in the non-residential sector. Activity in the overall construction sector is consequently expected to remain at historically high levels. This will maintain the demand for labour at equally high levels.

⁷ The Reserve Bank of New Zealand increased its Official Cash Rate to 7.25 per cent in December 2005, a rise of 2.25 percentage points since the beginning of 2004.

⁸ Net inward migration (permanent and long-term arrivals less departures) fell to 7,000 in the year to December 2005 from a peak of 42,500 in the year to May 2003.