

Surveying and Cartographic Associate		New South Wales (NSW)
ASCO Code: 3121-15	December 2006	
Labour market rating	No shortage	
Comment <i>Although the supply of qualified and experienced surveying associates is limited, no significant shortages were reported in Sydney or regional NSW.</i>		

Occupational demand

Demand for surveying and cartographic associates has been subdued over the last year due to the weak residential building sector. In NSW, the downturn in residential construction was partly offset by increased activity in non-residential and engineering construction. The Department of Employment and Workplace Relations (DEWR) Skilled Vacancies Index indicates a substantial decline in vacancies for surveying associates from the last peak in 2003. This is consistent with the consensus of employers and industry contacts surveyed for this report that demand for the occupation had been patchy over the last year.

Occupational supply

Supply to the occupation from relevant certificate and diploma courses increased to 54 in 2005 which was slightly above the average of 40 a year for the previous five years. DEWR estimates that completions were at a similar level in 2006 but are projected to fall back to the medium-term average in 2007. Separate immigration data are not available for this occupation but net immigration for the combined occupations of building, architectural and surveying associates over the last five years has been stable at an average of only 16 a year.

Employer and industry comments/current labour market

A survey of employers of surveying associates was conducted for this report. A majority of the surveyed employers had not advertised for this occupation in the preceding six months, citing low staff turnover and limited activity in their sector of the industry. Some used contractors or firms specialising in drafting services when the need arose while others preferred to recruit school leavers or students who had part-completed relevant courses and train them in survey drafting.

Of the minority which had advertised vacancies, all managed to fill them within six weeks of the surveyed vacancy. There was an average of over eight applicants per vacancy and an average of three applicants per vacancy was considered suitable by employers. The response to advertisements varied considerable. Most employers who had advertised filled their vacancies with few difficulties and had a choice of several suitable applicants. A minority filled their vacancies with more difficulty, having to compromise on the skills or experience level they had hoped for. Employers in some locations (for example the Central Tablelands) stated that building activity in their region was still strong and that many firms were short of staff. Nevertheless, these employers had not advertised positions recently and had no immediate intention of doing so. Those regional employers who had recently recruited survey associates, either after advertising or through word of mouth, were successful in filling their vacancies, although most said that there were few quality applicants available.

Labour market outlook

The Construction Forecasting Council expects little real growth in residential building activity in 2006-07 but forecasts a strong recovery in this sector in 2007-08. Non-residential construction is expected to remain firm in 2006-07 and 2007-08. No significant increase in supply from course completions or net immigration is expected in the short term. Although some recruitment difficulties for surveying drafters may emerge as residential building recovers, no significant shortage is likely in 2007.

Surveying and Cartographic Associate		Victoria
ASCO Code: 3121-15	March 2007	
Labour market rating	No Shortage	
Comment:		

Occupational demand

Demand for surveying and cartographic associates is primarily determined by business levels within the overall economy and more specifically by the level of construction activity. Population growth and rising interest rates impact upon the level of investment being made into construction. Building activity in Victoria has decreased over the last two years. The value of new residential building fell by around seven per cent during this period and the number of housing commencements fell by approximately 13 per cent between 2004 and 2006. However, construction activity may improve in the short to medium term, indicated by a rise in dwelling units approved during the last seven months. The Housing Industry Association has also forecast a three per cent increase in dwelling commencements in 2006-2007. DEWR Skilled Vacancies Index data suggests demand for surveying and cartographic associates fell between 2000 and 2005. No vacancies have been recorded for 2006.

Occupational supply

DEWR Job Outlook educational profile data suggest over 30 per cent of employed building, architectural and surveying associates have Certificate III or Certificate IV qualifications. According to data from the Department of Education, Science and Training the number of persons who were enrolled in an architecture and building diploma (AQF) in Australia decreased by over 50 per cent from 2004 to 2005. The supply of building, architectural and surveying associates from net immigration has decreased by around 60 per cent from last year. Net immigration to Victoria during 2005-2006 was more than 10 building, architectural and surveying associates.

Employer and industry comments/current labour market

The Victorian surveying and cartographic associate labour force is very small and there were no advertised vacancies located during the survey period. Alternatively, employers in the industry were cold canvassed to gain their perceptions and comments of the occupation. Employers commented when recruiting for vacancies the main reason applicants were deemed unsuitable was a lack of experience. Due to the small pool of suitable applicants, many employers commented they have hired school leavers and trained them on the job, or supported them whilst completing university. The majority of employers described the occupational turnover of surveying and cartographic associates to be low amongst existing employees. Employers commented a significant issue amongst surveying and cartographic associate professionals is the ageing workforce, where according to employers the average age is 50. The concern is once the current pool of qualified people retires, along with fewer younger people being attracted to the occupation, there will be a skills shortage. Employers perceived the changing nature of the cartographic field as a major factor when trying to recruit suitable applicants. They had much less difficulty finding GIS trained employees than the more traditional cartographic associate. Retaining staff trained in the new modernised technologies such as GIS was more difficult as such staff had greater mobility to change employers.

Labour market outlook

The relatively balanced labour market for surveying and cartographic associates in Victoria is expected to continue over the next six months.

Surveying and Cartographic Associate	Queensland
ASCO Code: 3121-15	December 2006
Labour market rating	No Shortage
Comment: <i>Surveying associates with computer aided drawing skills are most in demand.</i>	

Occupational demand

Demand for surveying and cartographic associates is driven by the general pace of urban and commercial development in the State. More recently, rapid expansion in both exploration and production activity in the mineral resources sector in Queensland has also been an important driver of demand. Queensland's relatively high rates of economic and population growth over recent years have kept these factors at elevated levels. The resulting demand for surveying and cartographic associates has been lifted further by a deepening shortage of qualified surveyors, with employers maximising their use of staff at associate professional level to reduce their reliance on professionally qualified staff.

Occupational supply

Surveying and cartographic associates are often trained on-the-job while employed in the occupation, and this training may be combined with further study. While formal qualifications such as the Associate Degree in Spatial Science are available, employers in Queensland commonly recruit persons who have some relevant skills or work experience but do not hold formal qualifications. Such recruits may then be supported through formal studies while they perform a number of associate-level tasks. Consequently, the supply of new entrants to the occupation is more dependent on the availability of suitable and interested persons who wish to enter the surveying and cartographic associate occupation than on completions of formal education or training courses. Both industry and employer contacts confirm many students undertaking formal studies are already employed in the role of surveying and cartographic associates.

Employer and industry comments/current labour market

Employers contacted for this year's survey reported that success in filling their vacancies mainly depended on the work readiness of applicants. While some reported that previous experience in the area is highly advantageous, most were willing to take people with little or no skill level who are eager to learn and, where relevant, have the ability to gain the generic tickets and licences needed to work in the Queensland construction industry. Some employer contacts reported that recruitment of surveyor's associates is done primarily by word of mouth and in-house. More than eighty per cent of the vacancies included in the survey were filled within six weeks of advertising and well over half of the applicants overall were regarded as suitable by employers. While positions can often be filled by a suitable worker who does not have specific previous experience in the area, contacts reported that those jobseekers with computer aided drawing (or CAD) skills are very highly regarded and these skills are usually sought when advertising. Employers reported offering potential employees career development and incentives to start work as a surveying and cartographic associate and then progress to tertiary study with the support of the employer.

Labour market outlook

Demand for surveying and cartographic associates remains high, and industry and employer contacts report that demand is likely to continue at present levels over the short to medium term. However, given the approach to recruitment that many Queensland employers seem to have adopted and the relative ease of vacancy filling, this occupation is not regarded as being in shortage.

Surveying and Cartographic Associate		South Australia (SA)
ASCO Code: 3121-15	October 2006	
Labour market rating	Shortage	
Comment		

Occupational demand

The 2001 ABS Census recorded around 160 employed surveying and cartographic associates in South Australia. Over 40 per cent are employed in the property and business services industry with a further 30 per cent employed in government administration and defence. Building and construction activity levels significantly impact on the demand for the occupation. The value of SA building 'work done' increased 2.8 per cent in the June quarter 2006 to around \$910 million, the highest level on record. However, the value of building approvals – a useful indicator of forward demand and activity levels – declined for six consecutive months up to August 2006, and was 5.1 per cent lower compared to August 2005. There has been a substantial increase in engineering construction activity in the State over the past few years and the value of engineering work 'yet to be done' is at a historically high level.

Given growth in both engineering and building construction activity, demand for surveying and cartographic services has increased, yet employers contacted for this research reported no change in their workforce size over the past 12 months. In part, this was due to their inability to fill vacant positions when they arose.

Occupational supply

Almost 80 per cent of surveying and cartographic associates have Certificate III level qualifications or higher. Around 40 per cent have diplomas or advanced diplomas and a further 10 per cent have degrees. TAFE SA offers a Diploma and Advanced Diploma in Spatial Information Services and graduates may be eligible for Associate Membership with the Institution of Engineering and Mining Surveyors (Australia). TAFE student statistics recorded 13 commencements in 2005 and 20 in 2006, with 10 completions in 2005. Although these data only cover the past two years, they suggest there has been an increase in training levels which would translate in additional supply to the occupation in the next year or so. Occupational supply to this occupation from net migration is insignificant.

Employer and industry comments/current labour market

A survey of employers who had recently advertised for surveying and cartographic associates showed that most vacancies remained unfilled after six weeks of advertising. These results were consistent with employer comments regarding the difficulties they experienced in recruiting for this occupation. Of the total applicants, only a small percentage were deemed by employers to be suitable and the ratio of suitable applicants per vacancy was 0.3. The main reasons given by employers for rejecting unsuitable applicants were lack of experience and relevant qualifications. Employers generally report no difficulties in recruiting graduates and appear to be pursuing this option in response to the tight labour market.

Labour market outlook

The level of engineering construction activity is likely to increase over the next few years due to a number of large projects including the possible expansion of the Olympic Dam mine and the Air Warfare Destroyers project. The Housing Industry Association has forecast a 15 per cent increase in the value of engineering construction 'work done' in South Australia for 2006-07. As a consequence, demand for surveying and cartographic associates is expected to continue to grow and current shortages are likely to persist.

Surveying and Cartographic Associate		Western Australia (WA)
ASCO Code: 3121-15		November 2006
Labour market rating:	Shortage	
Comment		

Occupational demand

Demand for surveying and cartographic associates has continued to increase due to the buoyant WA economy. Australian Bureau of Statistics data shows that there was an increase of 70 per cent in the value of all engineering construction work done in WA to June 2006, compared with the same period to June 2005. The total value of work remaining to be done at June 2006 is 73.1 per cent higher than a year ago. ABS data shows that there was an increase of 22.7 per cent in the value of all building construction work done in WA in the 12 months to June 2006. Building construction work remaining to be done at September 2006 was 0.2 per cent lower than in the previous quarter. Mineral exploration in WA decreased by 2.2 per cent over the same period.

This occupation is too small for quarterly Australian Bureau of Statistics' Labour Force Survey figures to be reliable, however the number of surveying and cartographic associates recorded in WA decreased by 37.2 per cent to 214 over the five years to the 2001 Census. Given the strong demand from the building industry since then, the number is likely to have increased significantly.

The Department of Employment and Workplace Relations' Skilled Vacancy Count shows that newspaper vacancies for surveying and cartographic associates from January to November 2006 decreased by 25 per cent over the number for the same period last year. However, it is possible that an increasing number of surveying and cartographic associate vacancies are being advertised on the Internet.

Occupational supply

Surveying and cartographic associates generally work as survey/cartographic draftspersons. They generally complete an Associate Degree/Advanced Diploma or Diploma in mining and engineering. Supply from such courses has declined over the last two years and, while there was an increase of 5.9 per cent in 2005 over the previous year to 18, this is still well below the peak of 27 in 2001. Employers are reluctant to recruit staff who have no formal training but will consider persons who have some years' experience, particularly given the tight labour market at present. It is not possible to obtain separate migration statistics for surveying and cartographic associates, but the numbers are likely to be low.

Employer and industry comments/current labour market

Only one vacancy was identified during the SERA. It was not filled, despite one suitable applicant being located (who subsequently declined the position). The unsuitable applicants did not have enough or the right experience. Several other relatively small employers were contacted by "cold canvassing". A few had sought staff some months prior without success. Experience in certain software applications (CivilCAD, AutoCAD, MicroStation) is often seen as more important than general cartographic drafting experience. Although demand is strong, employers see advertising as somewhat pointless, given the known lack of availability of suitable persons.

The WA Labour Economics Office has not previously assessed this occupation.

Labour market outlook

Demand for surveying and cartographic associates is likely to be maintained for at least the next six months. Supply from course completions has declined and, along with the shortage of experienced surveyors, is likely to exacerbate the overall shortage. Shortages are likely to persist over the short term.

Surveying and Cartographic Associate		Tasmania
ASCO Code: 3121-15		June 2006
Labour market rating	Shortage	
<p>Comment <i>Most Tasmanian surveying firms are very small, primarily consisting of self-employed people or partnerships, who do not directly employ any other surveyors, or surveying associates. Larger surveying companies tend not to be involved in cadastral surveying as they find it difficult to compete on a cost basis with the smaller firms with low overheads.</i></p>		

Occupational demand

Surveying and Cartographic Associate is a very small occupation in Tasmania, with only 39 counted at the 2001 Census. The small size of the occupation means that Census data is the only available data for this group. However, demand for surveying and cartographic associates in Tasmania is primarily linked to property development, and most surveying companies in Tasmania are cadastral, or land surveyors. With the increase in levels of construction activity and development of new subdivisions over the last few years, it is likely that this has created additional demand for surveying associates.

Occupational supply

The Hobart campus of TAFE Tasmania offers both a diploma and an advanced diploma in spatial information services. TAFE sources advise that the number of people completing the diploma course each year would usually be in single figures. However in 2005 the numbers completing were around 10 in the diploma course and seven in the advance diploma, but these numbers were slightly higher than they have been in recent years.

Employer and industry comments/current labour market

No employers advertised in the lead up to this report. However, employers contacted indicated that they would expect difficulties if they did attempt to recruit. Some employers indicated they had attempted to recruit at some stage in the last 12 months, but none were able to fill their vacancies. Other employers indicated they actually preferred to recruit diploma qualified people than degree qualified, as they had more practical “hands on” skills and experience that enabled them to become operational more quickly. Industry sources suggest that there is a low level of awareness of surveying among young people which makes it difficult to attract people to the relevant formal training courses.

Labour market outlook

The small size of this occupations suggests that although demand is relatively low, when vacancies do occur they will remain difficult to fill over the next 12 months at least. Low numbers undertaking the relevant training are given as the main reasons, due to low levels of public awareness of surveyors and surveying associates.

Surveying and Cartographic Associates		Northern Territory (NT)
ASCO Code: 3121-15	November 2006	
Labour market rating	Shortage	
Comment		

Occupational demand

ABS Census data show that there were 27 surveying and cartographic associates employed in the NT in 2001. Since 2001, ABS Labour Force Survey data indicate that the number of building, architectural and surveying associate professionals declined over 2002 and 2003, before stabilising from 2004 onwards. The value of both residential and non-residential building work done has grown considerably since 2001. The annual average growth rate over the past five years to June 2006 has been 19 per cent and growth has been particularly strong for the past two years. In chain volume measure terms, the value of building work done is at the highest level since the previous construction boom peak in 1998. Expenditure on mineral exploration (other than for petroleum) in the NT has also more than doubled over the past three years. These results suggest increased demand for surveying and cartographic associates from the 2001 level.

Occupational supply

There are no local training courses available for surveying and cartographic associates. Businesses will often resort to attracting people into trainee roles and getting them to study part time in addition to on the job training. For example, some employers have people in trainee roles who study (predominately by correspondence) at Leederville Technical College in Perth.

Employer and industry comments/current labour market

Very few employers were found who have recently advertised for surveying or cartographic associates. However, none who did were successful in filling their vacancies.

Turnover is not typically high for the occupation, which has limited recruitment activity. However employers suggest the workforce is aging and many surveying and cartographic associates are approaching retirement age. Employers commented that there seems to be difficulty attracting young people into the field and that this was constraining supply. The extreme climate and remote work requirements make these roles even less attractive in the NT.

Employers commented that demand for their work had been strong and the continuing mining and construction booms kept them very busy. Strong demand was still present early in the wet season even though it is traditionally a quieter period.

Labour market outlook

Employers commented that there was a lot of construction work still in the pipeline and that the mining boom was likely to continue. Strong demand for surveying and cartographic associates therefore is likely to persist. With issues in attracting new supply also set to continue, the occupation is likely to remain in shortage over the coming year.

Surveying and Cartographic Associate		Australian Capital Territory (ACT)
ASCO Code: 3121-15		October 2006
Labour market rating	No Shortage	
Comment		

Occupational demand

Demand for surveying and cartographic associates is partly dependent on the level of construction activity. The level of construction activity in the ACT has been high over the past few years, with particularly strong growth in the value of non-residential construction. The value of residential building construction has remained fairly steady over the past three years. However, this is a very small occupation in the ACT and Labour Force Survey employment figures are not available, however 2001 census data suggest employment in the ACT numbered around 50.

Occupational supply

Nationally, most building, architectural and surveying associates have attained Certificate III or Certificate IV qualifications. Formal training in this occupation in the ACT is available through the Canberra Institute of Technology (CIT), which offers an Advanced Diploma of Spatial Information Services.

Employer and industry comments/current labour market

A survey of employers who had recently advertised for surveying and cartographic associates in the ACT was undertaken for this report. Few advertised vacancies were found, so a number of employers were cold canvassed.

The results of the survey were somewhat conflicting. A majority of employers contacted had, or believed they would have, difficulty finding qualified surveying and cartographic associates, yet the fill rate for vacancies surveyed was fairly high at around 85 per cent. Employers indicated they received an average of seven applicants and one suitable applicant per vacancy. Employers noted most applicants were unsuitable as they did not possess the experience sought. According to employers, applicants also typically lacked relevant qualifications. Approximately half the employers surveyed noted they had previously filled positions with applicants who did not have the exact level or type of experience required and subsequently trained these applicants to better suit the role.

Employers noted surveying and cartographic associates seem to prefer to work in locations other than the ACT for personal reasons and also in search of higher salaries. Some employers contacted did not recruit surveying and cartographic associates as such, but undertook the associated tasks themselves, or recruited staff who had relevant computer skills or retired surveyors to perform these roles.

Labour market outlook

There is no evidence to suggest there will be significant change in the level of supply or demand for skills in this occupation over the next six months.