

<b>Civil Engineer, Structural Engineer, Transport Engineer</b>	<b>Queensland</b>
<b>ANZSCO Code:</b> 2332-11, 14, 15	March 2009
<b>Labour market rating</b>	Shortage
<b>Comment:</b> <i>In all three professions, demand is particularly high for senior level engineers. At this level of experience, State wide shortages are evident.</i>	

### **Occupational demand**

Civil engineers may specialise in construction, municipal, structural, transport, or water supply distribution engineering. Structural engineers mostly work with architects, builders and other engineers to organise and supervise the construction of structures. Transport engineers design, test and improve systems and structures used to move people, including planning the future travel needs of metropolitan and regional areas. ABS Census data show workforce growth of civil engineers in Queensland was 32 per cent between 2001 and 2006. All three professions can be found in the government sector or in a variety of industries such as mining, manufacturing and construction. Demand for civil engineers continues to be generated by ongoing government investment in infrastructure projects. ABS figures show a 23.5 per cent increase in the trend volume of engineering construction work done in the year to December 2008.

### **Occupational supply**

Formal entry to these professions in Queensland is via the completion of a four-year Bachelor of Engineering (Civil). Queensland universities offer a range of options including majors, dual and extended majors and minors or dual degrees. Data from the Department of Education, Employment and Workplace Relations indicate enrolments in civil engineering courses peaked at 352 in 2005 and have since fallen with a total of 144 students enrolling in 2007. Historically, around 30 per cent of students leave before completing their studies and, if completions stay commensurate with enrolments, around 170 newly qualified civil engineers will graduate at the end of 2009.

Department of Immigration and Citizenship data indicate 518 self-identified civil engineers migrated to Queensland in 2006-07. Labour Force Survey data suggest interstate migration may also be a major contributor, with Queensland's civil engineering workforce increasing by approximately 3500 persons over the year to February 2007, and numbers since remaining at this elevated level.

### **Employer and industry comments/current labour market**

Surveyed employers who had advertised for civil, structural or transport engineers all reported difficulty filling their positions. Vacancy filled rates for the three professions were 29 per cent, 14 per cent and 20 per cent respectively and employers for all three professions sought applicants with extensive experience. Almost a third of employers seeking civil engineers received no response to their advertisement, and employers for all three professions reported more than 70 per cent of applicants were unsuitable because they lacked specialist design software knowledge, project management experience or other industry specific experience. In some cases they noted that applicants who possessed the requisite software knowledge were often recent graduates who lacked senior level experience. Respondents reported a high number of applicants from overseas, but that these applicants generally failed to demonstrate specific industry or Australian regulations experience. Employers and recruitment specialists reported the number of applicants has been steadily rising. Surveyed respondents who had advertised for transport engineers reported that despite a slight downturn in demand from most industries, demand from the government sector has continued to strengthen.

In all three professions, contacts reported their ability to fill regional vacancies has improved over recent months and suggested there has been an easing in the labour market for new graduates and for nonspecific vacancies.

### **Labour market outlook**

Shortages of civil, structural and transport engineers are expected to persist over 2009 due to steady demand generated by high levels of public investment and planned infrastructure development.

*Labour Economics Office Queensland*

*March 2009*

*Department of Education, Employment and Workplace Relations (DEEWR)*