

## Government & Private Enterprise – A Model Partnership Delivering Outstanding Schools

By Mick Ross

*Reflections on the agenda, methodology and drivers for successful Program Management of Schools Capital Works, and the achievements of an exemplar program – from the perspective of nine years of continuous active management.*

In the Australian state of Victoria, the State Government is responsible for delivering a public education system for the compulsory school years. It uses the Department of Education and Early Childhood Development (DEECD) as its agency to develop its educational curriculum, engage with local communities, develop and maintain a portfolio of schools across the state and recruit and manage a team of educators and support staff.

The Department of Education and Early Childhood Development has a strong commitment to ensuring that every young Victorian thrives, learns and grows, enjoying every opportunity to realise a rewarding and fulfilling life. The Department's mandate is to provide a rich, relevant and rewarding educational experience for every student who applies for a place in a state school.

Education services are also offered by a range of private sector schools, mainly schools associated with religious denominations, with selective student entry on a fee paying basis, and the State must therefore deliver a public education experience and learning environments that are comparable with those offered by competing education service providers.

Through school councils and through its own resources, the Department currently manages more than 1600 state schools, and this number continues to grow. To respond to continuing population growth in Victoria and demographic change and population movements across the State, the Department has an annual capital works program to deliver new schools in growth areas and to maintain, enlarge and modernise existing schools. The Department also has a deep commitment to developing the best of contemporary learning environments that will meet the needs of today's students and accommodate future educational and technological changes.

Each year this complex facilities program commits more than \$AU100M of the State's budget to the design and construction of new and remodelled school facilities. It is one of the largest single capital works programs in the State. The DEECD Education Capital Works program provides individual designed solutions for schools through hundreds of projects. It is an experimental laboratory for aligning innovative educational design with contemporary curriculum and educational approaches,

and is also an incubator for architectural talent – providing commissions to small, medium and large architectural practices. Because of its size, its importance to the State's commitment to improving educational outcomes and its importance to the State economy – the DEECD Education Capital Works program must be carefully managed and consistently delivered against quality, design and budget standards.

For many years, the Department has worked in partnership with external program managers to obtain the special expertise and skills needed to ensure the Department's annual capital works program is successfully delivered.

In 2001, Arup successfully tendered for the role of Program Manager for the DEECD Capital Works Program and was reappointed, partnering with Indec Consulting, in 2006 and will continue in this role until 2013, when the last of the projects allocated under this commission are finally completed. To date, work has been accomplished on almost 750 school capital works projects through nine years of annual works program. The total program commitment is worth more than \$AU2.5 billion, with these figures increasing with every



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newly announced project under the current commission. This Program Management approach was put to the test in early 2009, when the Australian Federal Government announced its Economic Stimulus Plan to support the Australian economy during the global financial crisis. A major element of this plan was the “Building the Education Revolution” program, with funding announced for school projects across the country and an ambitious fast-paced time schedule to deliver immediate stimulus to the construction industry.

The program management team was tasked with rolling out DEECD’s AUS\$2.6b of federal funding for building and maintenance projects in state primary and secondary schools. The program involved providing new state-of-the-art facilities for primary schools including teaching spaces or multi-purpose halls across more than 1250 state schools throughout Victoria. It also included the procurement of 70 science and language centres for secondary schools. This program is about the same size as 10 years of annual schools programs, but is to be delivered in 2.5 years. Core program procedures were quickly established together with processes to implement the overall program strategy to meet very tight timelines and requirements mandated by the Federal Government.

In partnership with four firms of project managers, Arup developed the program-wide procurement strategy to allow for a quick tendering and award process to meet the Federal Government’s tight start on sites date. The first tranche of more than 220 projects were packaged, tendered and awarded in an eight week time-frame, unprecedented in the state of Victoria. The team also developed a comprehensive web-based data management system containing key project information on every project being delivered.

#### Motivation

A program management approach is ideally suited to ongoing/ steady state medium to large recurrent Capital Works Programs involving numerous similar projects within a planned framework. Continuing success in program management for large and complex programs requires expertise and a robust methodology. But, the duration of long running programs means that the program management team needs stamina and motivation in addition to methodologies.

So what has been the decade long motivation in our role of program manager for Schools Capital Works? Simply put - *“The opportunity to make a real difference in the provision of education at a time when real change is the imperative.”*

- Schools serve community purposes far wider than just education. They are information exchanges, social support centres, recreation centres and sponsors of learning for life strategies. The presence of viable schools is a measure of the vitality of the local community.
- Education plays an essential foundation role in developing the skills, confidence and competence of the nation’s future adults. The outcomes of the education system will drive a nation’s economy, deliver its innovation and technical skill base, inform public debate, sustain the development of communities and influence the success and satisfaction of current and future generations. It’s really pretty important.
- Students of today, and tomorrow, are fundamentally different from previous generations in the way they learn, the way they socialise and engage with others, and in the way they use current and emerging technologies. These students will, in turn, find employment in an economy based on new modes of working - innovative, mobile, creative, technology rich, team and project based and quickly evolving.
- To effectively engage with these new minds, to enable a fruitful encounter with the learning process and to prepare them for a new work paradigm requires a new approach to educational facility design.
- To meet this challenge, designers must move beyond simplistic traditional and restrictive “cells and bells” design approaches and learning environments.

The educational design and planning process must deliver effective,



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adaptable and innovative learning environments tuned to the needs of students and educators. The project management team assumes responsibility for managing the design process to deliver improved and innovative contemporary learning spaces that enhance student engagement and retention and support improved learning outcomes.

The project management team is committed to developing educational facilities that:

- can accommodate and sustain current and future learners and educators.
- support spatial adaptability, multi-function use, fruitful engagements with learning opportunities, and new connections with learning technologies and the wider community.
- deliver sustainability in facility construction and resource consumption.

### Design Management and Innovation

The design process needs to be managed to facilitate innovation in

the design of education facilities – working with designers to create flexible, easily adaptable, technology rich learning environments so that learning can be delivered in a variety of modalities, accommodating not just class based learning, but individual study and project based formats sustained by team and group based project activities.

At the start of our involvement with the program, the design approach was still strongly rooted in an expectation that a set of clearly defined traditionally conceived spaces would be delivered against area provision scales related to school enrolments. But the design focus has shifted over time: we have learned much from the global dialogue about new models for effective learning environments.

- Nine years ago in Victoria, the idea of students using personal computers at school was new, and defined “computer pod” spaces were provided for this purpose. Today, we deliver ICT-rich learning environments where ICT is considered an enabling technology rather than a subject to be learnt. The computer pod area allowance is now distributed across learning environments to provide more choice in learning spaces – on the basis that all school areas are technology rich and access to digital learning technologies is ubiquitous.
- Students today do not consider that access to information has to have physical boundaries. This insight raises challenges to historical ideas of a library as a repository of protected information – where students travel to a space where they can search for facts, references or fiction. They have access to the world’s digital knowledge systems through their personal computers and mobile phones, and this is commonly their first search option. Digital references are replacing

bound books, and library book stack requirements are shrinking. Library space provided for book stacks or private study can now be distributed across student neighbourhoods – so more study and private work space can be provided where the students are.

- In the “real world,” it is common to find practitioners in the arts and sciences who work across and between traditional areas of study. Young people these days are natural integrators – combining their knowledge of science, technology and the arts as a platform for their own creativity and as an exploration of the physical world. “Old school” laboratories where individual streams of “pure” sciences like chemistry or physics were taught as isolated silos of thought and theory, simply don’t connect with students who can conceive of a project – the design of a solar powered car for example – that requires the integration of physics, electronics, design, trade technology and workshop skills for fabrication, creative arts, human physiology and statistical analysis. Combined “Design/ Arts/ Technology/ Science” centres are frequently delivered in DEECD secondary schools – to facilitate integrated learning that will foster innovative and creative thinking in students.

### Sustainability

When managing the design of educational facilities, the focus is to create visible demonstrators of practical sustainable technologies – as part of our commitment to building for a sustainable future. We are also careful to ensure that investments in sustainable approaches are based on proven technologies, deliver appropriate benefits and are relevant to the needs and usage patterns of schools.

Sustainability strategies that have been supported in the DEECD capital works program:

**Passive design strategies:**

- optimum orientation,
- high efficiency in sunlight use and shading from heat load,
- high efficiency insulation,
- thermal mass as part of the building structure
- thermal labyrinths for passive cooling.

**Active systems:**

- rainwater harvesting for re-use,
- sensor activated lighting,
- cross ventilation and night heat purging,
- electrical co-generation from wind or solar sources,
- CO2 sensors and air flush systems
- student monitored energy consumption reporting systems.

It is preferred that the operation and monitoring of ESD systems form part of the learning process, so that the adults of tomorrow can grow up with an understanding and appreciation of the sustainable living patterns that the world needs.

**The Program Management Methodology**

To deliver the large and complex annual programs that comprise the DEECD Education Capital Works Program, the team developed a multi-faceted program management approach, covering the Office of Government Commerce ([www.ogc.gov.uk](http://www.ogc.gov.uk)) “Managing Successful Programs” principles and governance themes, and elaborated with a suite of processes and procedures developed to meet the client specific requirements of this program.

Briefly summarized and using MSP terminology, the program



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management approach covers:

Remaining aligned with the corporate strategy:

- The program organisational structure has clearly defined roles & responsibilities for the government department, for the external program manager, and for other contributors to the process.
- The DEECD Program Management commission shares the same corporate imperatives as all major government initiatives, including:
  - > Increasing the satisfaction level of stakeholders, including user groups;
  - > Demonstrating the respective government agencies’ efficiency dividend to government and to the community;
  - > Demonstrating effective, transparent and accountable use of state funds;
  - > Improving the quality of working relationships, collaboration and innovation in delivery of capital works infrastructure;
  - > Enhancing the quality, benefits and sustainability of the capital infrastructure provided;
  - > Reducing the state’s risks in program and project delivery; and,

- > Ensuring projects are delivered to match government timing commitments.

Leading change:

- The team is attuned to global debates about the creation of effective learning environments, and supports the Department with its transition from historic to contemporary facility design approaches.
- Strong support and encouragement for the inclusion of appropriate sustainability and energy efficiency measures into building designs.
- Team advises and facilitates alternative and innovative forms of project procurement.
- The project management team assists in the development of template designs to support the rapid roll out of projects in the “Building the Education Revolution” program.

Envisioning and communicating a better future:

- Strong emphasis is given to the value of developing and managing effective working relationships and communication with stakeholders – particularly schools and school communities.
- The timely provision of educational facilities that meet community needs is regarded as an

indicator of government performance.

#### Focusing on benefits and threats to them:

- The program benefits from achieving efficiency and innovation through the best mix of public and private sector strengths.
- The goals of this program are:
  - > Improved educational outcomes for students attending state primary and secondary schools;
  - > Improved workplaces for school based state education staff;
  - > Appropriate capital investment in sustainable educational facilities that will deliver effective, economical long-term performance.
- Government expects major capital works programs to be informed by a current and focussed risk management procedure. The team assisted DEECD at the strategic level by identifying and managing emerging issues, risks and opportunities that affect our client, and that affect the overall direction and strategy of the Capital Works Program.

#### Adding value

- Through our global knowledge management systems, DEECD benefits from receiving high level strategic advice informed by current global best practice on program management, design management and procurement strategies.
- The team developed and manages program management information systems that facilitate the monitoring and control of all active projects and deliver data that enable comprehensive

periodic status reporting against a range of targets and measures. The database systems support program and project monitoring and reporting, in particular for progress and cashflow financials. Reporting can also include risk register, status reports on key projects, emerging risks and management approach.

- The program manager guides and monitors the development of the design process. We review the submitted designs and cost estimates to confirm:
  - > the design approach meets DEECD schedule of facility entitlement per school; and
  - > the design addresses DEECD expectations for innovation in design to support improved educational outcomes, ESD strategies, Safety in Design, and planning efficiency, adaptability and flexible use.
- Project management team processes improvement reviews, conduct post occupancy evaluation studies and incorporate “lessons learned” into following cycles of the program.
- The team provides the Department with evaluations of the performance of consultants and building contractors.

#### Designing and delivering a coherent strategy

- The project manager is responsible for the management and delivery, on behalf of the Department of the schools building program, which includes establishing budgets, briefing school councils, advising on the engagement of consultants, risk management, facilitating introduction of new design initiatives, through to

monitoring delivery schedules, budgets and project quality.

- Successful management includes the delivery of the program at all phases against DEECD and governmental building and process standards and the requirements of applicable legislation. We also manage a set of program specific procedures, which set out a standardised approach to project management, the design evaluation process and for tendering and procurement. A standardised approach to facility procurement removes the need for contractors to price for risk of contractual uncertainties.
- Procurement management is high on the list of responsibilities, including managing the strategic release of projects across a year to avoid congestion in the tender market, advising on tender evaluation and selection and assisting with post tender negotiations. This also including quality reviews of contract administration procedures of active projects. ■

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Mick Ross is the leader of the Melbourne, Australia Program and Project Management Team at Arup, a global engineering and consultancy firm. Mick has worked as a project and program manager with Arup since 2003, after 27 years as a practicing architect working on schools, universities, public housing and public buildings. Arup has been the external program manager for the public education capital works program and has led the team delivering that program for the Department of Education, as well as a similar team managing the fast paced program of education stimulus projects government as a response to the global financial crisis.