Rebuilding Public Schools

2020

Investment Targets

Adam Rorris
Education consultant
June 2008

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About the Author

Adam Rorris (adamrorris@hotmail.com) is a consultant education economist and a fellow of the Centre for Policy Development. He has been manager and principal analyst of the Schools Resourcing Taskforce providing advice to Australia Ministers of Education through the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA). He has also advised governments abroad and worked for the United Nations, the World Bank and other international development agencies.

1. Summary

This is an independent report commissioned by the Australian Education Union to provide a cost analysis of the capital investment required to meet short-falls in Australian public schools.

The report estimates the current funding gap between investment in facilities for Australian public schools and private schools.

It also analyses the role high quality school facilities can play in the community and on student performance, using international examples.

The report finds a case for significant government funding to build or update current public school facilities.

The report was produced by education consultant Adam Rorris.

Detailed cost analysis is undertaken with the most recent publicly available national data. The study examines the data for public and private school sectors. Aggregated data for the state public systems can be captured from budget papers. The most recent budget papers for each state were examined to estimate 2008 expenditure for public schools. The estimates for private school expenditures in 2008 are derived from their most recent publicly reported figures of 2005. These are inflated to 2008 prices using the ABS CPI for the March quarter and are also adjusted upwards based on the previous annual trend for real increases (above inflation).

The national and state figures for capital investment are compared between public and private sectors. These comparisons yield findings on the investment gap between the sectors - this is defined as the Capital Investment Gap (CIG).

The CIG is a headline figure showing how much more governments need to invest annually in public school buildings and facilities if they are to provide quality schools for the 21st century. The headline figures should be treated as indicative cost estimates.

The **overall finding** revealed by this study is that children in Australian public education systems are attending schools with per capita investment budgets that are far below those enjoyed by private sector schools.

The case for investing heavily in Australian public schools is now very strong. Apart from the intrinsic returns that can be generated by these investments, there is an immense gap in the resources available to public schools compared to the private sector.

Households confront time pressures and financial stress as they cope with longer working hours and the rising cost of living. High quality and free public schools can play a vital role in alleviating the financial stress on households.

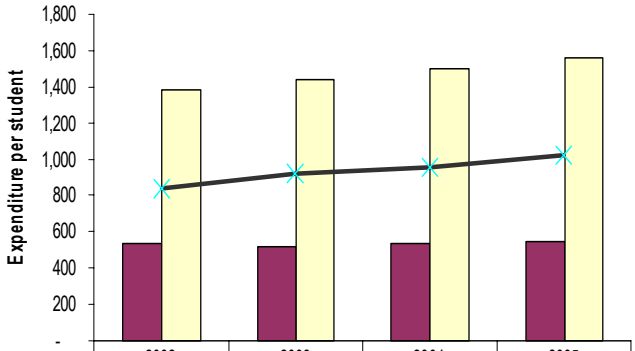
The current funding imbalance affects the quality of schooling and puts the public schools and their students at a disadvantage to the private sector.

The imbalances also damage public schools by creating a resource incentive for families to move their children towards the private sector. Families may perceive that if they place their child in a private school they will have access to better facilities. This can impact on the size and demographic structure of public education enrolments.

Ending the public/private divide in Australian schooling is a commendable objective. Restoring some balance in the resources provided across both sectors would be a good way to commence the healing process.

Specific findings of the paper are presented below.

Australia has a major national public/private imbalance in school capital funding



	2002	2003	2004	2005
Public schools	537	522	540	542
Private schools	1,378	1,439	1,496	1,560
Capital Investment Gap	841	917	956	1,018

The national level data reveals a major imbalance in the average per capita investment between public and private schools.

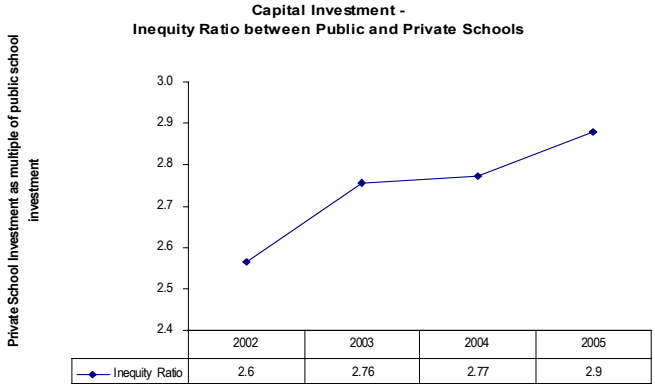
During the period 2002-2005:

- Private school capital investment increased from $1,380 per student to $1,560 per student.

- Public schools annual capital investment barely moved at $540 per student,

The Capital Investment Gap (CIG) between public and private sectors expanded from $840 per student in 2002 to nearly $1,020 by 2005.

There is a significant Inequity Ratio in school capital investment



	2002	2003	2004	2005
Inequity Ratio	2.6	2.76	2.77	2.9

By 2005 private schools were benefiting from capital investment that was nearly three times the per student level received by public schools.

This Inequity Ratio presents private school per student capital investment as a multiple of public school capital investment.

The Inequity Ratio in capital investment grew from 2.6 in 2002 to 2.9 by 2005.

The capital investment gap is significant across all states and territories

In 2005, all state private school sectors spent more than $1,000 per student on capital investment. The highest per capita expenditure was recorded in Queensland and Victoria at around $1,750 per student and the lowest ($1,050) in the Northern Territory.

No state public school system in 2005 spent more than $715 per student. The two largest states (NSW and Victoria) spent $425 and $540 respectively.

The states of NSW, Victoria, and Queensland all had a Capital Investment Gap that was greater than $1,000 per student between public and private sectors.

An $8 billion shortfall in capital funding during the period 2002-2005

During the period 2002-2005, public schools were under-funded to the value of $8.4 billion in terms of capital investment. This is the extra funding public schools needed to match the per student capital spending enjoyed by private schools.

If this $8.4 billion were distributed evenly between all public schools in 2005, it would have meant an extra $1.2 million for each and every public school in Australia.

Large scale recent investments in some states and territories have helped reduce the gap

Significant new capital investments in public schools have occurred in Queensland and Western Australia from 2007 onwards. These are the resource rich boom states, which may be helping to drive government investment in public schools.

Victoria has also increased its commitment substantially for public schools as part of a 10 year capital improvement program.

Not withstanding these investments, NSW, Queensland and Victoria lag well behind the projected capital investment of private schools.

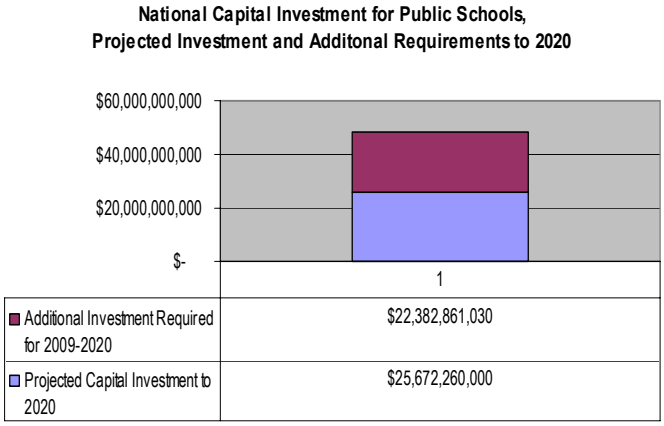
South Australia in particular continues to lag far behind the other large states.

The current annual capital investment gap between private and public schools is $2 billion

Annual capital investment in public schools nationally is approximately $2.1 billion. This needs to rise to $4 billion per annum to match per student capital investment in the private sector.

Most states and territories need to at least double their current annual expenditures to catch up with the private sector.

$48 billion capital investment target for public schools (2009-2020)

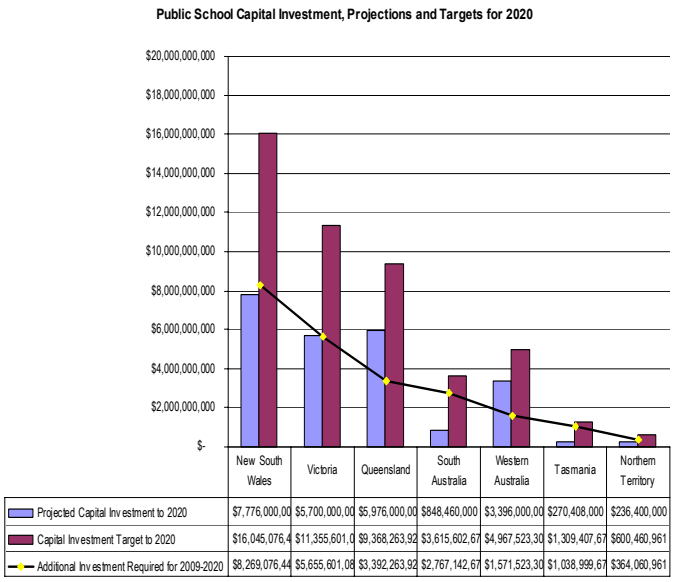


The national capital investment target for public schools is approximately $48 billion over the period 2009-2020.

There will be a national shortfall of $22.5 billion on the target figure if governments continue to invest in public schools at the current rate.

The $48 billion target will enable public schools to match average expenditures in the private schools sector.

All states need big increases in capital investment for public schools



State by state analysis of future investment requirements shows massive gaps for all states and the Northern Territory.

NSW will need additional investment of close to $8 billion during 2009-2020 if its public schools are to match investment in the private sector.

Victoria will need to find an additional $5.7 billion and Queensland $3.4 billion.

South Australia will need to reach $3.6 billion - a significant jump from the current projected allocation of $848 million.

International Finding 1 –

School facilities have significant impact on student performance

The study presents recent research from the United Kingdom and the USA that finds school facilities have significant impact on the performance of students and teachers. There is now significant evidence to suggest that school capital investment tends to be efficient and effective. This is because its likely to be characterised by relatively low levels of deadweight, displacement, substitution and inequity. The qualitative evidence also suggests that this is particularly the case in relatively deprived areas.

International Finding 2 –

Appropriate school buildings allow extended school hours and greater community use

Schools in the UK are now set to offer a core set of extended services by 2010 with half of all primary schools and a third of secondary schools doing so by 2008. This will include childcare, parenting support, and community access to ICT, sports and arts facilities, including adult learning.

In the USA, similar experiments suggest schools will have to become virtually full-service facilities that are open year-round, including evenings and weekends. Over the next 20 years, there will be enormous growth in the nation's over-65 population, which may have little direct contact with schools, and will be more and more reluctant to tax itself for any purpose, including education. Schools may therefore need to position themselves and find a way to connect with an aging population.

International Finding 3 –

The ageing of existing stock means an increasing share of expenditure on new buildings

In 2007, the percentage of construction dollars spent on new buildings in the USA was the highest since 1979. In the last six years, of the $124B spent on school construction, $74.1B (almost 60 percent) went to entirely new school buildings. In 2007, more than 63 percent of the school construction dollars went into new buildings — the highest percentage since 1978.

This move to greater expenditure on new buildings (as compared to a renovation of old stock) reflects the cyclical ageing of schools constructed for the baby boom period and the new needs of schools today for teaching and community uses.

International Finding 4 –

Environmental sustainability can improve school performance

The greening of schools is now an important trend in Australia and elsewhere. There is emerging evidence that energy efficiency may lead to quasi-natural environments in schools which are valued by teachers and pupils. A UK study found the quality of the classroom environment resulting from green design approaches may reduce stress in teachers, helping lower rates of absenteeism or staff turnover, and in turn lead to improved productivity.

2. Schools for the 21st Century

This section briefly looks at the literature on the impact of school building and facilities on student learning. It shows there is now substantial evidence showing the positive effect that appropriate buildings can have on teaching and learning. The USA and the UK are highlighted as comparable countries that are now undertaking significant investment in school infrastructure.

Beyond this, the use of school facilities is now being re-imagined across different countries. Schools are increasingly seen as important vehicles for reaching out to pre-school age children. They are also serving as centres of learning and community interaction for adults as well as children during 'out of school' hours.

Capital investment in schools needs to respond to the opportunities and immense challenges facing our society. Technological, environmental and social changes mean that households, communities and workplaces have rapidly evolving needs.

In the first instance, the schools need to enable the introduction of the new information technology into the classroom. The learning spaces have to accommodate individual and group teaching styles and make use of the new essential equipment such as individual computers and electronic whiteboards.

Households are confronting time pressures and financial stress as they cope with longer working hours and the rising cost of living. High quality and free public schools can play a vital role in alleviating the financial stress on households. Funding public schools so they have the facilities to integrate other health and welfare services would be transforming. Local public schools can become a vital social asset enabling young working families to develop more fully and with reduced time pressures. The potential for schools to deepen their engagement with communities is immense - from recreational services, to community classes to expert assistance with parenting and other life-skills.

The schools themselves will need to be environmentally sustainable if they are to help foster the new logic of this century.

These are some of the exciting possibilities that emerge and are made possible with new investment in schooling. This section of the report outlines some of the evidence that is now linking school and student performance with school buildings and facilities. It also identifies some international trends in school infrastructure related to how buildings are used, the impact of changing demographics and environmental sustainability issues.

School facilities and student performance – international evidence

The USA

Some of the most extensive research on the impact of school facilities on learning has been conducted in the USA. The Education Commission of the States has found that:

…there is a clear and growing evidence of the need to fundamentally rethink the planning, design and use of school facilities in a way that reflects changing educational demands and needs; takes greater advantage of new technologies and new insights into the nature of teaching and learning; and, perhaps most important, forges stronger bonds between schools and the communities they serve. (www.ecs.org/clearinghouse/68/78/6878.pdf)

The Commission notes that several recent reports shed light on:

- How, and the extent to which, facility attributes – ranging from lighting, acoustics and ventilation, to the character and use of space – affect the performance of teachers and students
- The essential components of well-designed learning environments

- Demographic, social and educational trends that will have a major impact on the design, development and use of school facilities over the next 10 to 20 years.

Schneider (2002) has reviewed the international body of research on the subject. His findings include the following:

Building age is an amorphous concept and should not itself be used as an indicator of a facility's impact on student performance. Many schools built as civic monuments in the 1920s and 1930s still provide, with some modernization, excellent learning environments; many newer schools built in the cost-conscious 1960s and 1970s do not.

Decisions about school facilities, once translated into brick-and-mortar, affect the daily performance of the generations of teachers and students who use them. These decisions are based on tradition, available technology, experience with "what works," and the changing needs of the times. Good facilities research allows us to productively sort through this mix and can help produce long-term, positive effects on academic outcomes.

His study concludes that:

> *School facilities affect learning. Spatial configurations, noise, heat, cold, light, and air quality obviously bear on students' and teachers' ability to perform. Empirical studies will continue, focusing on fine-tuning the acceptable ranges of these variables for optimal academic outcomes. But we already know what is needed: clean air, good light, and a quiet, comfortable, and safe learning environment. This can be and generally has been achieved within the limits of existing knowledge, technology, and materials. It simply requires adequate funding and competent design, construction, and maintenance.*

Elsewhere, Schneider (2003) has studied the effect of school facilities on teachers. He finds many teachers reporting that:

> *…conditions in their schools affected their career decisions. Among teachers who graded their facilities with a C or below, more than 40 percent said that poor conditions have led them to consider changing schools and 30 percent are thinking about leaving teaching. The numbers are even higher for teachers who have experienced health effects related to poor facilities: about 50 percent of Chicago teachers and 65 percent of Washington teachers are considering changing schools, and about 40 percent of Chicago and Washington teachers are thinking about leaving the profession entirely.*

Educational facilities expert Jeff Lackney summarizes current and emerging thinking on issues ranging from site and building organization to lighting, acoustics, ventilation, furniture and technology.

Lackney says schools must be both learner-centered and community-centered. That means making more versatile, creative and productive use of school facilities – in close collaboration with parents, neighborhood residents and community partners, and with the needs and interests of not just students, but learners of all ages, in mind. This requires rethinking schools from the inside out – beginning with the use of instructional space. He categorises the self-contained classroom as obsolete. This should be replaced by "instructional clusters" that facilitate both shared and personalized learning, and that take advantage of, rather than marginalize, new technologies. Each cluster would consist of individual "learning alcoves" surrounding a central core of resources and support – informal meeting areas, seminar and conference rooms, storage space, a computer hub and teacher offices. Lackney (http://schoolstudio.engr.wisc.edu/33principles.html) also suggests:

- Decentralizing administrative space, and providing every teacher with a private or semi-private office
- Creating diverse settings and spaces for transitions between spaces for learning and interaction – from enclosed "backyards" that can be used for gardening, reading and play, to "privacy niches" that can be used for counselling sessions and impromptu meetings, to "activity pockets" for small-group learning activities
- Providing space for community activities, programs and services ranging from public meetings to childcare to job training and adult education and enrichment.

The United Kingdom

A report entitled *Building Performance* was published in 2000 by the DfES Research Report series. This presented the findings from a major study commissioned by the DfES, and undertaken by PricewaterhouseCoopers (PwC) during 1999. The study provided qualitative evidence and some quantitative evidence to support the view that a positive and significant association existed between schools capital investment and pupil performance. The final database contained information on more than 900 schools. Some of the key findings of the study are presented below.

The key quantitative findings of the report *Building Performance* are:

• additional evidence showing a positive and statistically significant association between capital investment and pupil performance.

• The most significant evidence, from a statistical point of view, is in relation to community primary schools.

• the strongest positive findings are in relation to measures of investment which can be related directly to the teaching of the curriculum (e.g. ICT-related capital spending, science blocks etc, referred to by the United Kingdom's Department for Children, Schools and Families (DfES) as 'suitability' investment).

The key findings from the qualitative research are:

• Schools which were located in areas of high economic and social deprivation tended, on average, to be used more by the wider community. This was partly related to the fact that many of these areas were relatively under-provisioned, in terms of alternative resources, and so the school effectively acted as a key public resource within the community. Related to this, schools tend to be 'local', which benefited those from poorer backgrounds, many of whom would be reliant on paying for public transport to attend alternative locations;

• The main demand for school facilities was in terms of specialist facilities (e.g. ICT suites, early years facilities), auditoria (e.g. for use by drama groups and other local clubs / societies etc) and sports facilities (e.g. outdoor and indoor pitches, swimming pool etc);

• Good examples of schools entering into mutually beneficial partnership arrangements with other stakeholders (e.g. the school being used as a local 'outreach centre' by Further Education colleges or local health authorities). The evidence suggests that the broader community benefits of the use of school facilities are enhanced, when they are underpinned by effective inter-agency partnership arrangements;

• In relation to the broader benefits, schools capital investment is likely to be characterised by relatively low levels of deadweight, displacement, substitution and inequity. The qualitative evidence suggests that this is particularly the case in relatively deprived areas, and likely to be less so in more prosperous areas.

• Improvements in the physical fabric of school buildings can help to enhance pupil performance, e.g. 'suitability' related projects such as science laboratories, ICT suites, improving teaching and learning in technology-related subjects, and 'condition'- related projects such as improvements to roofs and windows improving teacher and pupil morale; and

• Capital investment on its own is not necessarily enough and rather, pupil performance is impacted on by a wide range of contextual factors relating to pupils' overall 'learning environment'.

International trends in use and design of school infrastructure

Extended school hours and greater community us

In the UK, the Extended Schools Prospectus was published in June 2005 by the Department for education and skills (Dfes). It sets out the Government's vision for all schools to offer a core set of extended services by 2010 with half of all primary schools and a third of secondary schools doing so by 2008.

The core offer for mainstream and special schools is:

• High-quality 8am-6pm year-round childcare.

• A varied menu of activities on offer such as homework clubs and study support, sports, music tuition, dance and drama, arts and crafts, special interest clubs.

• Parenting support, including family learning.

• Swift and easy referral to a wide range of specialist support services such as speech and language therapy, child and adolescent mental health services, intensive behaviour support and, for young people, sexual health services. Some of these may be delivered on school sites.

• Wider community access to ICT, sports and arts facilities, including adult learning.

In the USA, schools will have to become "virtually full-service facilities that are open year-round, including evenings and weekends," and require not only more instructional space but, but also ancillary space for social workers, nurses and the like, according to Kenneth Stevenson.(http://www.edfacilities.org/pubs/Ed_Facilities_in_21st_Century.pdf).

At the same time, according to Stevenson, educational systems will find it increasingly difficult to convince taxpayers to support bond issues to build new schools and/or remodel existing ones. Over the next 20 years, there will be enormous growth in the nation's over-65 population, "which has little direct contact with schools, and will be more and more reluctant to tax itself for any purpose, including education," Stevenson says.

"Policymakers and community leaders must find a way to connect an aging population directly with schools," he says. "They must encourage and expect the educational enterprise to broaden its mission so that schools are viewed as truly community facilities, and integral to the lives of even those without children in school."

He envisions schools as places "not just for children, but where anyone, regardless of age, can come most anytime for personal development, interaction and learning," and that serve as neighborhood hubs for preventive health care, recreational and social activities, meals for the elderly and needy, job training and other services.

Increasing share of expenditure on new buildings

In 2007, the percentage of construction dollars spent on new buildings in the USA was the highest since 1979. In the USA, according to the 2008 Annual School Construction Report released by the School Planning and Management magazine(http://www.peterli.com/spm/pdfs/constr_report_2008.pdf) school districts in the USA spent almost $20.8B on construction projects completed during the 2007 calendar year.

From 1979 through 2001, a period of 23 years, school districts spent almost $226B on construction projects, less than half of it ($104B) on new buildings. The balance was for enlarged and improved existing structures.

That trend reversed itself, starting in 2002. In the last six years, of the $124B spent on school construction, $74.1B (almost 60 percent) went to entirely new school buildings. In 2007, more than 63 percent of the school construction dollars went into new buildings — the highest percentage since 1978.

Environmental sustainability and the school

A recent study by Edwards (2006) investigates the argument that attention to environmental conditions in the classroom helps support the delivery of the curriculum. His study focuses on 54 schools in Hampshire and Essex in the UK built to sustainable design principles. The schools were built between 1980 and 1995, and employed a variety of green design approaches, from natural ventilation in the classroom, made possible by elaborate roof sections and skylights, to those with atria or glazed malls, and those with classrooms incorporating large sun facing windows linked to conservatories or external verandas. The schools investigated gave greater prominence to sunshine, nature and the external school landscape than normal schools built at the time.

This study looks at whether (i) energy efficiency leads to quasi-natural environments in schools which are valued by teachers and pupils and, (ii) whether sustainable architectural design can be an important aspect in raising educational standards or altering the perception of a school.

The study found in general that the quality of the classroom environment resulting from green design approaches appears to reduce stress in teachers, leading to lower rates of absenteeism or staff turnover, and this in turn leads to improved productivity. Specifically, it found:

> *The lower level of pupil absenteeism (approved and unapproved) suggests greater satisfaction with the school as a place for learning, and this is reflected in both improved SATS results and the observed reduction in the incidence of bullying. Moreover, because the green schools signal an investment in design values where health and well-being are to the fore, the buildings themselves contribute positively to the pupils' learning experience and possibly also to the wider community. In this the image of the school complements physical benefits, producing greater integration between school life and community which is reflected in improvement in educational standards. Just as the Academies programme has raised standards because of the 'messages attributed to the buildings' (Pricewaterhouse Cooper's, 2005) the same appears to be true of green schools in Hampshire and to a lesser extent in Essex.*

3. Australian Schools Now

The physical condition of public schools in Australia varies enormously. There is however a strong argument that school facilities have been in long term decline. In many cases it is questionable whether many schools are up to the task of providing a suitable education for children. In 2005, prior to the Victorian government announcement of major investment in school facilities, there was growing anger about the condition of schools, as reported by The Age in 2005:

> *"Parents walk around schools and they see environments that are not up to standard," says Andrew Blair, president of the Victorian Association of State Secondary Principals. "Too many of our schools are in states of disrepair that are absolutely unacceptable for a high-quality education system.*
>
> *"We can't talk about being right up there as having one of the best education systems in the world and continue to have kids operating in facilities that are clearly sub-standard. It's an urgent problem and it needs real dollars.*
>
> *(State of Decay, October 10, 2005)*

It is not just parents, teachers and principals complaining about the state of school facilities. The respected academic Brian Caldwell has also talked about the physical condition of Australian public schools:

> *The state of the buildings in which teachers and students are required to work is nothing short of deplorable in many communities. There are literally hundreds of schools in Victoria with buildings designed 40 years ago with an expected life of 20 years, but they are still in use. The dreaded portable or de-mountable classroom is a common feature of schools in high growth corridors. Some schools in long-standing sturdy buildings are utterly dysfunctional as far as modern pedagogy is concerned because they were built on factory lines for standard class sizes and little flexibility is possible without costly renovation.*
>
> *http://melbourneinstitute.com/conf/pop2003/pdffiles/BrianCaldwell.pdf*

In NSW, school principals have expressed similar misgivings about the state of school facilities:

> *While the Government had increased spending on school maintenance in the past couple of years, Mr McAlpine (President of the NSW Secondary Schools Principals Association) said many schools needed a bulldozer.*
>
> *"The baby boom schools built in the 1960s and 1970s are now probably reaching retirement age, like the baby boomers," he said.*
>
> *Mr McAlpine said there was merit in the policy adopted in New Zealand and other countries, where schools were built with a set shelf life and scheduled for rebuilding.*
>
> *"There's a need to consistently update and change our buildings in the same way we need to constantly update and change our teaching," he said.*
>
> *(The Australian, February 20, 2007)*

In Queensland, a recent audit conducted for the government has revealed the need for $100 million of urgent maintenance simply to comply with legal obligations such as occupational health and safety:

> *An annual audit of school infrastructure by the Bligh Government's building arm, QBuild, identified hundreds of schools that needed urgent maintenance of basic facilities such as roofs, carpets, fences, doors and stumps.*

> *QBuild's "condition assessment" report lists the urgent work required for individual schools and shows a grand total of $99.3 million will need to be spent by June 30 next year.*
>
> *(QBuild audit finds school repair bill tops $99 million, The Courier Mail, April 30, 2008)*

The run down nature of school facilities has prompted some parents to take drastic action, such as these parents in a Queensland primary school:

> *CHILDREN as young as five have boycotted their Cairns primary school claiming they are too appalled by its festering state to attend.*
>
> *More than 50 pupils holding placards, including one which read "My wet socks suck" gathered outside Trinity Beach State School, Cairns, in far north Queensland today to draw attention to what they call sub-standard facilities.*
>
> *Parents also joined the protest.*
>
> *Students and parents claim the school's classrooms are run down, cramped and mouldy, there is nowhere to play when it rains, the oval is a boggy mess, the demountables need replacing and the toilets smell.*
>
> *Parent Neil Munksgaard held up a tattered school library book to illustrate the point.*
>
> *"This is out of the school library and you can see it's all patched up with tape and it doesn't look good,'" he said.*
>
> *"And that's pretty much the state of the buildings."*
>
> *(Toddlers walk out on school, Adelaide Now, March 27)*

In South Australia, principals are also voicing complaints over serious problems with facilities and a wide variation in the quality of buildings and facilities:

> *Australian Primary Principals Association president Leonie Trimper said while some schools enjoyed state-of-the-art facilities, others did not even have quality toilets.*
>
> *"There's a huge disparity and the longer we leave it, the worse it's going to get," she said.*
>
> *State president Steve Portlock agreed, saying many schools were "crying out for the basics". "Schools aren't asking for computers because they need furniture, carpet and paint," he said.*
>
> *"The problems keep growing and we are not getting enough funds to fix them."*
>
> *(Dilapidated schools 'crying out', Adelaide Now, March 10)*

The general impression from these observations is that a great deal of our current public school infrastructure cannot effectively meet the needs of schooling. States and territories with too many of these schools will not be able to meet the emerging needs of schools and the possibilities that are opening to them.

Examination of capital investment between public and private schools

Underpinning these general perceptions of parents, teachers and principals is a shortage of capital funding for public schools. One way of understanding the shortage is by comparing capital investment between the public and private school sectors. In fact, this is the very

comparison that many parents make when they are deciding which school to send their children.

This capital investment analysis is based on school financial data for the period 2002-2005. This data is obtained from the publicly available Annual National Report on Schooling released by Ministerial Council on Employment, Education, Training and Youth (MCEETYA) which is the most recent financial data that is nationally consistent and enables comparisons between public and private schools.

The analysis has converted nominal price figures into constant 2008 prices to enable real comparison of investment changes. The price indexation was based on annual national CPI indexation figures (March quarter) released by the ABS. The public school investments have been converted from a financial year basis to calendar year through an averaging of consecutive financial years. This enables a valid comparison with the private school figures that are calculated on a calendar year basis. Only the 2005 public school figures are based on the 2004/05 financial year as there is no later figure to estimate an average for the 2005 school year. The relevant tables and calculations that underpin these results are presented as **Attachment 1**.

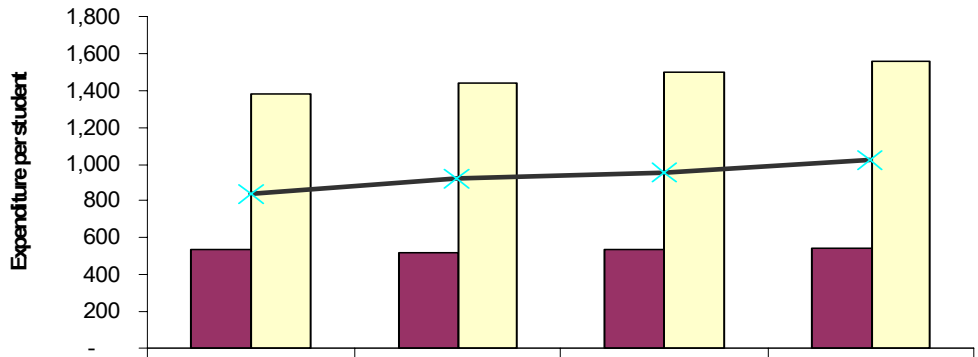
The national public/private imbalance in capital funding

The national level data reveals a major imbalance in the average per capita investment between public and private schools.

In 2008 prices, the capital investment in private schools has increased from $1,380 per student in 2002 to $1,560 per student in 2005. During that same period capital investment in public schools has hardly moved from around $540 per student every year.

The Capital Investment Gap (CIG) between public and private sectors has blown out from $840 per student in 2002 to nearly $1,020 by 2005.

Capital Investment in Australian Schools, 2002-2005, per student in constant 2008 prices



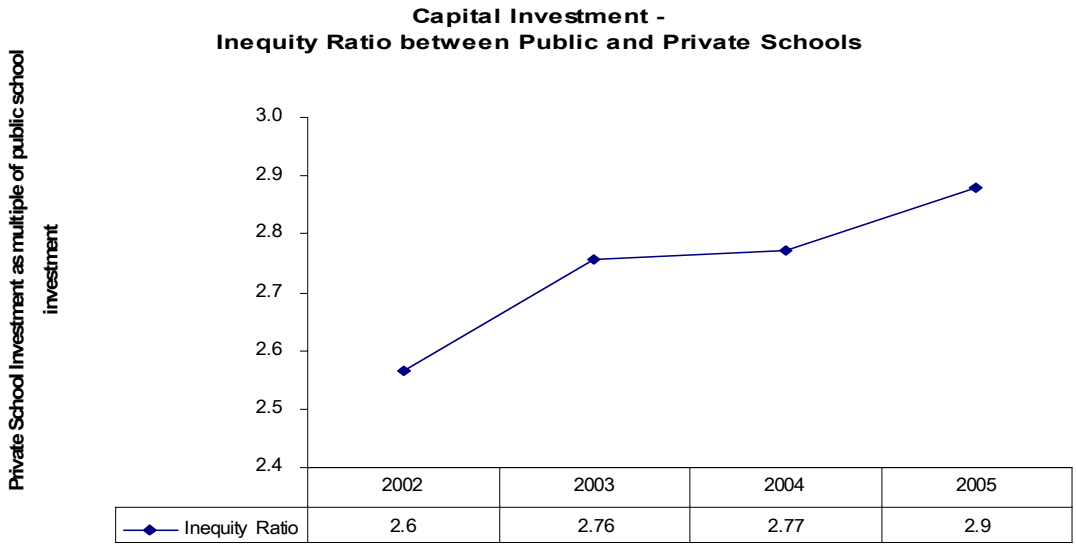
	2002	2003	2004	2005
Public schools	537	522	540	542
Private schools	1,378	1,439	1,496	1,560
Capital Investment Gap	841	917	956	1,018

The Inequity Ratio in Capital Investment

This dramatic gap in capital funding results in a 290% difference in the per capita investment between public and private sectors. In other words, by 2005 private schools were benefiting from investment in their facilities that was nearly three times the level received by public schools.

The table below illustrates the **Inequity Ratio** between public and private schools for capital investment. The Inequity Ratio presents private school capital investment as a multiple of public school capital investment.

The Inequity Ratio in capital investment has grown from 2.6 in 2002 to 2.9 by 2005.

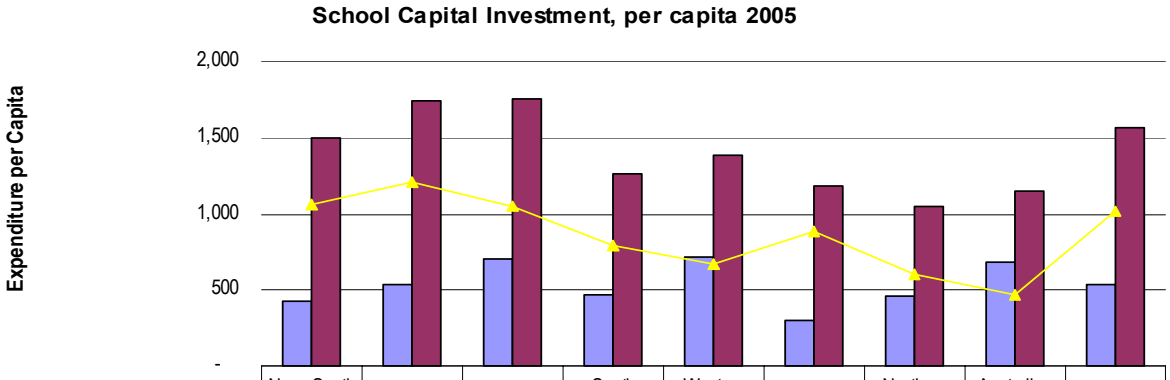


Capital investment gap is significant across all states

The **Capital Investment Gap (CIG)** is the difference between public and private school capital investment. An examination of capital spending by state reveals some signficant per capita differences. In 2005, all state private school sectors spent more than $1,000 per student on capital investment. Highest per capita expenditure was recorded in Queensland and Victoria at around $1,750 per student and the lowest ($1,050) in the Northern Territory.

No state public school system in 2005 spent more than $715 per student. The two largest states (NSW and Victoria) spent $425 and $540 respectively.

The states of NSW, Victoria, and Queensland all had a Capital Investment Gap that was greater than $1,000 per student between public and private sectors.



	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital	Australia
Public schools	426	540	700	467	714	298	453	684	542
Private schools	1,492	1,743	1,755	1,261	1,381	1,186	1,051	1,147	1,560
Capital Investment Gap	1,066	1,203	1,055	793	667	888	598	464	1,018

Aggregate gap in capital funding

The aggregate capital investment gap between public and private sectors has been calculated for the years 2002 to 2005. The capital investment gap captures the shortfall in public school funding in each state if public schools were to have received an equivalent per capita amount of funding compared to private schools.

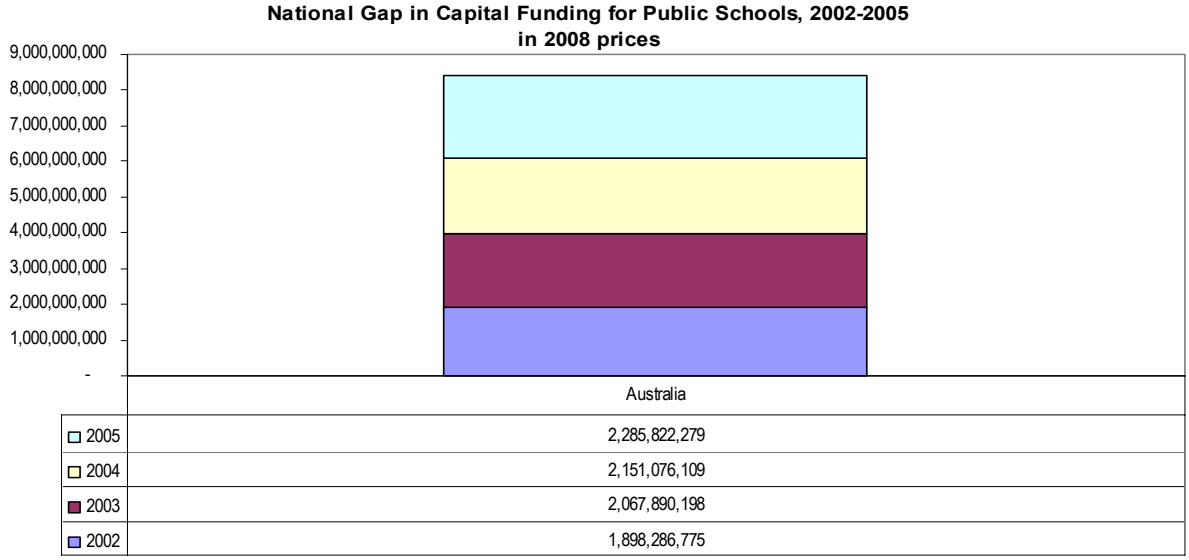
The formula for measuring the state annual aggregate capital investment gap is:

State annual per capita funding difference (private - public) x state public sector enrolments

The annual figures are added together to present the cumulative gap in capital funding by each state and Australia wide. All figures are expressed in 2008 prices.

The analysis reveals that during the period 2002-2005 public schools were under-funded to the value of $8.4 billion. This represents the extra funding public schools needed if they were funded to match the per capita funding for private schools.

If this $8.4 billion were distributed evenly between all public schools in 2005, it would have meant an extra $1.2 million for each and every public school in Australia.



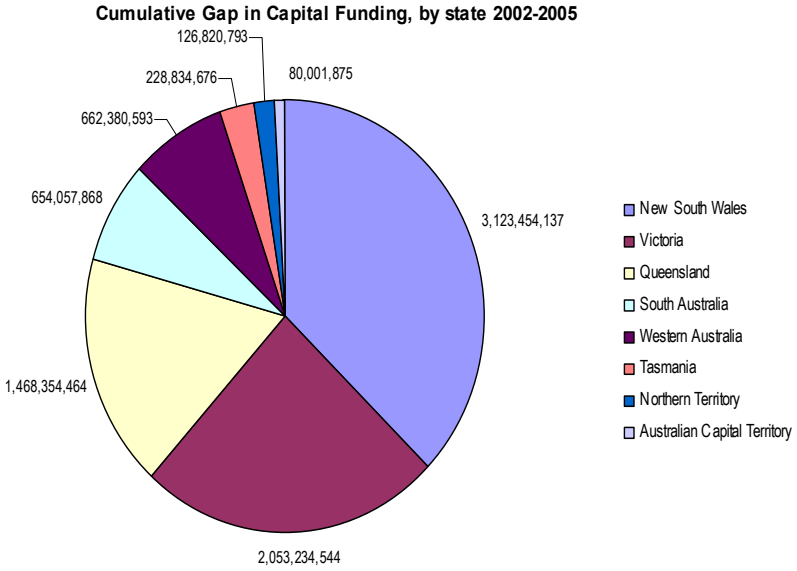
The table below shows how the aggregate capital funding gap accumulates for each state. The largest share of the capital funding gap is found in NSW which had a gap of more than $3 billion emerge just for the period 2002-2005.

Victoria had a cumulative gap in capital funding of more than $2 billion with Queensland a gap of nearly $1.5 billion during the period 2002-2005.

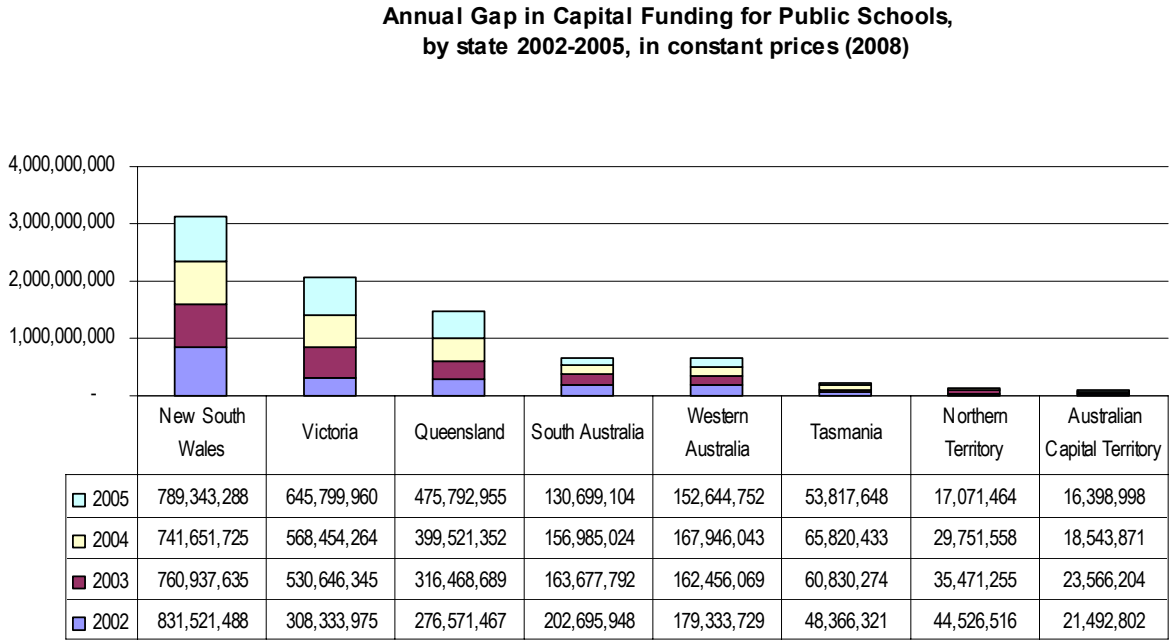
The state shares of the cumulative funding are illustrated in the pie chart below. More than $6.5 billion of the cumulative capital funding gap is found in the states of NSW, Victoria and Queensland.

Table 1 Aggregate Gap in Capital Funding 2002-2005, by state in 2008 prices

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	**Australia**
2002	831,521,488	308,333,975	276,571,467	202,695,948	179,333,729	48,366,321	44,526,516	21,492,802	**1,898,286,775**
2003	760,937,635	530,646,345	316,468,689	163,677,792	162,456,069	60,830,274	35,471,255	23,566,204	**2,067,890,198**
2004	741,651,725	568,454,264	399,521,352	156,985,024	167,946,043	65,820,433	29,751,558	18,543,871	**2,151,076,109**
2005	789,343,288	645,799,960	475,792,955	130,699,104	152,644,752	53,817,648	17,071,464	16,398,998	**2,285,822,279**
Total Gap 2002-2005	**3,123,454,137**	**2,053,234,544**	**1,468,354,464**	**654,057,868**	**662,380,593**	**228,834,676**	**126,820,793**	**80,001,875**	**8,403,075,361**



The figure below shows the annual aggregate funding gap for each state during the period 2002-2005.



	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
2005	789,343,288	645,799,960	475,792,955	130,699,104	152,644,752	53,817,648	17,071,464	16,398,998
2004	741,651,725	568,454,264	399,521,352	156,985,024	167,946,043	65,820,433	29,751,558	18,543,871
2003	760,937,635	530,646,345	316,468,689	163,677,792	162,456,069	60,830,274	35,471,255	23,566,204
2002	831,521,488	308,333,975	276,571,467	202,695,948	179,333,729	48,366,321	44,526,516	21,492,802

4. Rebuilding Australian Public Schools

The important finding revealed by this study is that children in Australian public education systems are attending schools with per capita investment budgets that are a little over one-third those enjoyed by private sector schools.

The case for investing heavily in Australian public schools is now very strong. Apart from the intrinsic returns that can be generated by these investments, there is an immense gap in the resources available to public schools compared to the private sector.

This funding imbalance affects the quality of schooling and puts the public schools and their students at a disadvantage to the private sector. These funding imbalances nurture resentments and create a divide between sectors that is both unnecessary and damaging to education.

One negative impact is on the families with children in public schools. The imbalances damage public schools by creating a resource incentive for families to move their children towards the private sector. Families may correctly perceive that if they place their child in a private school they will have access to better facilities. This affects the size and demographic structure of enrolments in the public education system.

Ending the public/private divide in Australian schooling is a commendable objective. Restoring a balance in the resources provided across both sectors would be a good way to commence the healing process.

This section estimates the national capital budget that would be available for public schools if they were to receive an amount of capital investment that was equivalent to the average received by schools in the private sector.

Assumptions and structure of investment calculations

This section provides indicative estimates of the additional resourcing that would be available to public schools if they were funded at the average per capita rate enjoyed by schools in the private sector. It is important to note, the target figure is the average rate of capital investment in private sector. It is not pegged to expenditures enjoyed by elite private schools. It is the arithmetic mean of capital expenditures provided by private schools during the period 2002-2005 and as reported by them to the Australian government.

One of the features of school capital investments is their uneven (or 'lumpy' nature) across years. Even systems as a whole will tend to experience significantly greater expenditures one year over another. This can reflect the government political cycle (expenditures synchronized with election commitments) or the cyclical nature of capital investments that respond to the rebuilding needs of stock that was built during an earlier enrolment growth period.

These calculations provide an estimate for a standardized annual increase in capital expenditure for public schools to cover the period 2009-2020. The longer horizon is suitable and needed for capital investment. It allows sufficient time to reach the capital targets and the planning space to get investments right so they are optimized in terms of effectiveness and efficiency.

The estimated 2008 national average per student capital investment in private schools is set as the investment target for public schools. This annual investment target is multiplied by 2007 enrolments for the public schools to generate an aggregate investment target for the period 2009-2020. The estimates are based on actual 2007 and 2008 budget figures for public schools ands estimated annual capital investment for private schools for 2008.

The public school estimates are derived by assembling the latest available state budget papers covering public schools – mostly 2008/09 budgets. For Victoria, an annualized projection has been made on the basis of forward commitments for capital improvements to schools. This helps to eliminate the effect of lumpy figures on any one year.

The capital investment of private sector schools is not publicly available for any year later than 2005. A national estimate has been produced for the sector by applying the national average real growth rate (4.4%) in private sector capital investment during the 2002-05 period. This rate has been applied to all states and territories at a compounding rate to replicate the effect of a similar growth rate for the period 2006-2008. This is likely to be a conservative estimate given the recent history of private school tuition fee increases.

The current annual investment gap between private and public schools

Based on estimates of private sector capital investment for 2008 and the public records of capital investment in public schools during 2007 and 2008 budget years, the following key findings emerge:

- There was a national shortfall of approximately $ 1.9 billion dollars in the capital investment for public schools compared to the 2008 projected investment in private schools.
- Significant new capital investments in public schools have occurred in Queensland and Western Australia from 2007. These are the resource rich boom states, which may be helping to drive government investment in public schools.
- Victoria has also increased its commitment substantially for public schools as part of a 10 year capital improvement program.
- Not withstanding these investments NSW, Queensland and Victoria lag well behind the projected capital investment of private schools.
- South Australia in particular continues to lag far behind the other large states.
- The figures for Tasmania and the territories are affected by the small number of schools they cover. This means one set of annual figures can be misleading, with Tasmania showing too low and ACT being affected by high investments in two schools during that year.

Table 2 Estimated Capital Investment Gap between Private and Public Schools 2008

State/ National	Actual Capital Investment in Public Schools 2008	Target Capital Investment for Public Schools	Number of students enrolled 2007	Current Public School per student investment	Per Student Gap (2008 Prices)	Estimated Capital Investment Gap between Private and Public Schools 2008	Projected Capital Investment to 2020	Capital Investment Target to 2020	Additional Investment Required for 2009-2020
New South Wales	$ 648,000,000*	$1,337,089,704	753,700	$ 860	$ 914	$ 689,089,704	$ 7,776,000,000	$16,045,076,442	$ 8,269,076,442
Victoria	$ 475,000,000***	$ 946,300,091	533,417	$ 890	$ 884	$ 471,300,091	$ 5,700,000,000	$11,355,601,089	$ 5,655,601,089
Queensland	$ 498,000,000*	$ 780,688,660	440,064	$ 1,132	$ 642	$ 282,688,660	$ 5,976,000,000	$ 9,368,263,924	$ 3,392,263,924
South Australia	$ 70,705,000*	$ 301,300,223	169,839	$ 416	$1,358	$ 230,595,223	$ 848,460,000	$ 3,615,602,677	$ 2,767,142,677
Western Australia	$ 283,000,000*	$ 413,960,276	233,344	$ 1,213	$ 561	$ 130,960,276	$ 3,396,000,000	$ 4,967,523,308	$ 1,571,523,308
Tasmania	$ 22,534,000**	$ 109,117,306	61,508	$ 366	$1,408	$ 86,583,306	$ 270,408,000	$ 1,309,407,671	$ 1,038,999,671
Northern Territory	$ 19,700,000*	$ 50,038,413	28,206	$ 698	$1,076	$ 30,338,413	$ 236,400,000	$ 600,460,961	$ 364,060,961
Australian Capital Territory	$ 122,416,000*	$ 66,098,747	37,259	$ 3,286	-$ 1,512	-$ 56,317,253		$ 793,184,958	
Australia	**$2,139,355,000**	**$4,004,593,419**	**2,257,337**	**$ 948**	**$ 826**	**$1,865,238,419**	**$25,672,260,000**	**$48,055,121,030**	**$ 22,382,861,030**

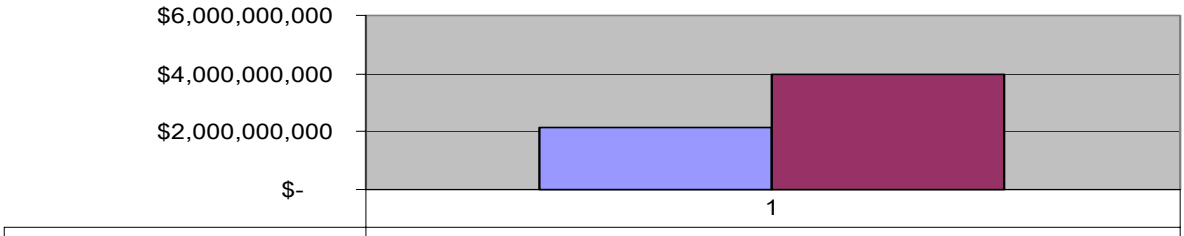
* 2008/09 budget ** 2007/08 budget *** annualized value of multi-year program allocation

The national average per student expenditure for capital investment in the private sector was estimated at $1,774 in 2008 prices. This estimate is derived by taking the latest available data on private sector expenditures (2005) and inflating it by (i) the annual national CPI since 2005, and

(ii) an additional 4.4% real growth, based on the average real growth in capital investment for the private sector during the period 2002-2005.

While annual capital investment in public schools nationally is approximately $2.1billion, this would need to rise to $4 billion per annum if it was to match the capital investment in the private sector.

National Capital Investment for Public Schools, Current Investment and Target Level for Parity with Private Sector

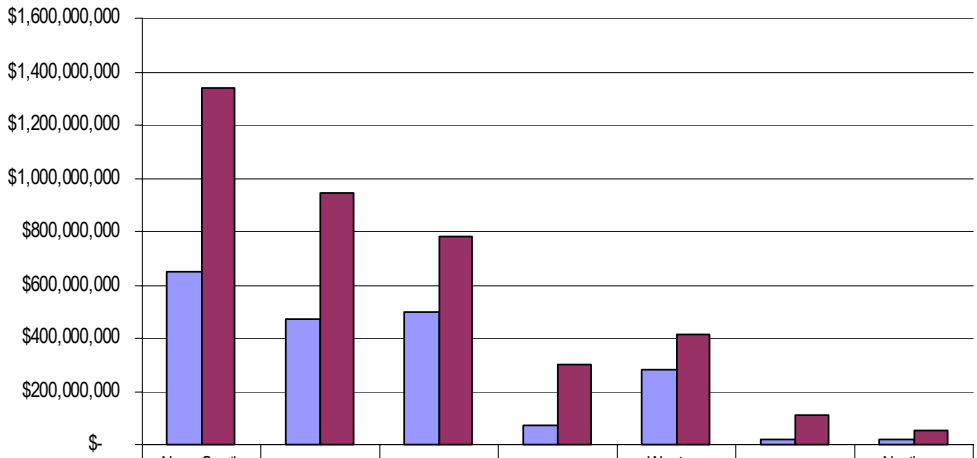


Actual Capital Investment in Public Schools 2008	$2,139,355,000
Target Capital Investment for Public Schools	$4,004,593,419

The figure below shows the current annual investments by state. It compares current investments with the targeted aggregate investments, if states and territories were to match the per student investments of the private sector.

Most states and territories need to at least double their current annual expenditures to meet the annual target of catching up with the private sector.

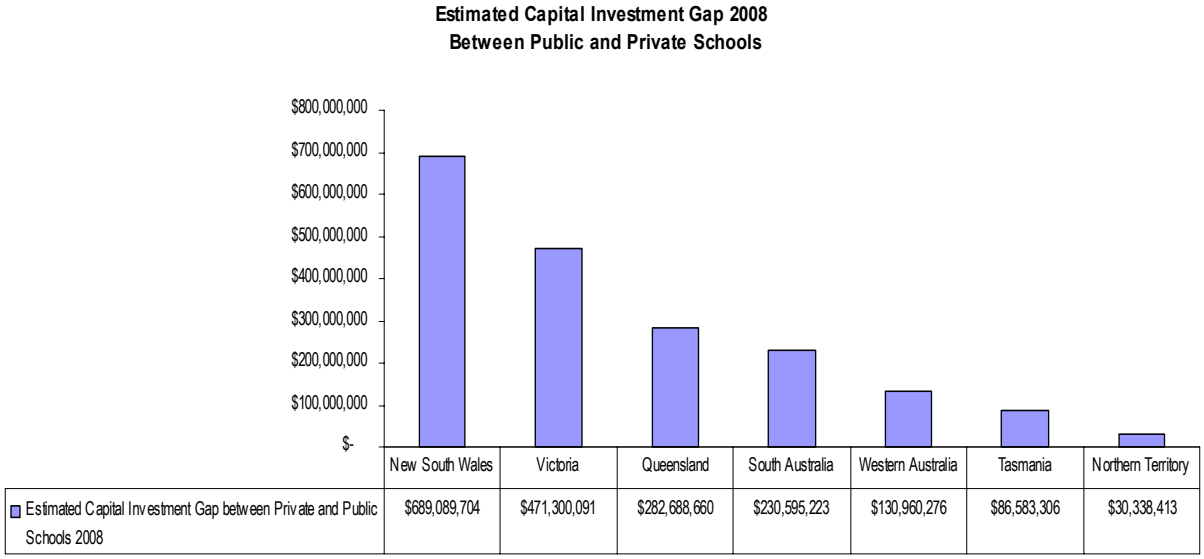
Current and Targeted Capital Investments, by state



	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory
Actual Capital Investment in Public Schools 2008	$648,000,000	$475,000,000	$498,000,000	$70,705,000	$283,000,000	$22,534,000	$19,700,000
Target Capital Investment for Public Schools	$1,337,089,704	$946,300,091	$780,688,660	$301,300,223	$413,960,276	$109,117,306	$50,038,413

The estimated annual gap in capital investment between public and private schools is significant for all states and territories except the ACT. The ACT figures are affected by the small number of schools and students - major projects in two secondary high schools in 2008/09 budget distort the per capita calculations. For this reason they have been excluded from the comparisons.

The chart is based on the latest available state budget data (mostly 2008/09). It includes projections for private sector investment based on trends during the period 2002-2005.



Capital investment targets for public schools, 2009-2020

The national capital investment target for public schools is approximately $48 billion. This target will enable public schools to match average expenditures in the private schools sector.

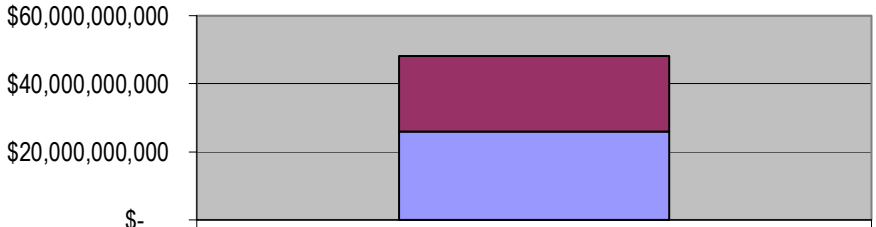
The table below provides a state and territory breakdown.

Table 3 Capital Investment Targets for Public Schools 2009-2020

State/ National	Projected Capital Investment to 2020	Capital Investment Target to 2020	Additional Investment Required for 2009-2020
New South Wales	$ 7,776,000,000	$16,045,076,442	$ 8,269,076,442
Victoria	$ 5,700,000,000	$11,355,601,089	$ 5,655,601,089
Queensland	$ 5,976,000,000	$ 9,368,263,924	$ 3,392,263,924
South Australia	$ 848,460,000	$ 3,615,602,677	$ 2,767,142,677
Western Australia	$ 3,396,000,000	$ 4,967,523,308	$ 1,571,523,308
Tasmania	$ 270,408,000	$ 1,309,407,671	$ 1,038,999,671
Northern Territory	$ 236,400,000	$ 600,460,961	$ 364,060,961
Australian Capital Territory		$ 793,184,958	
Australia	**$ 25,672,260,000**	**$ 48,055,121,030**	**$ 22,382,861,030**

The figure below shows that given current national capital expenditure patterns, aggregate investments will need to nearly double for public schools to attain parity with the private sector.

**National Capital Investment for Public Schools,
Projected Investment and Additonal Requirements to 2020**

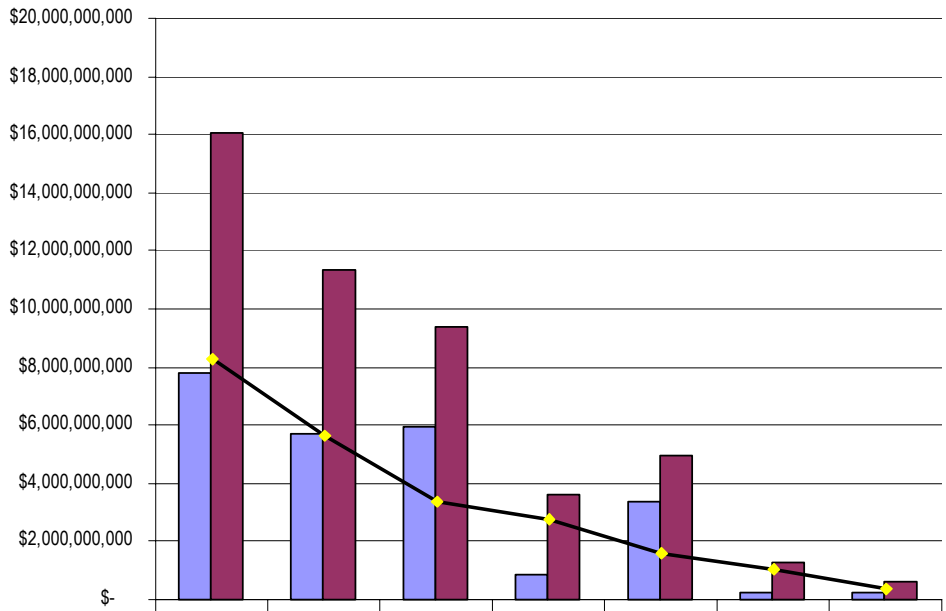


Additional Investment Required for 2009-2020	$22,382,861,030
Projected Capital Investment to 2020	$25,672,260,000

State by state analysis of future investment requirements shows massive gaps for all states and the Northern Territory. NSW will need additional investment of nearly $7.8 billion during 2009-2020 if it is to keep its public schools at parity with the private sector.

Victoria will need to find an additional $6.7 billion and Queensland will need an additional $3.4 billion. South Australia will need to reach $3.6 billion which is a long way given its current annual allocations.

Public School Capital Investment, Projections and Targets for 2020



	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory
Projected Capital Investment to 2020	$7,776,000,00	$5,700,000,00	$5,976,000,00	$848,460,000	$3,396,000,00	$270,408,000	$236,400,000
Capital Investment Target to 2020	$16,045,076,4	$11,355,601,0	$9,368,263,92	$3,615,602,67	$4,967,523,30	$1,309,407,67	$600,460,961
Additional Investment Required for 2009-2020	$8,269,076,44	$5,655,601,08	$3,392,263,92	$2,767,142,67	$1,571,523,30	$1,038,999,67	$364,060,961

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ATTACHMENT 1

Capital Expenditure for Australian Public Schools, per capita in actual prices, by financial year 2002-2005

Year	Capital/investing per capita expenditure	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	**Australia**
2004/05	Primary	420	419	499	461	647	198	357	323	456
2004/05	Secondary	342	593	879	360	655	369	533	989	549
2004/05	Total	388	491	637	425	650	271	412	622	493
2003/04	Primary	303	406	477	222	554	102	340	756	385
2003/04	Secondary	606	548	706	213	741	251	320	1216	593
2003/04	Total	427	465	559	219	619	165	334	962	466
2002/03	Primary	346	447	343	113	391	113	273	265	346
2002/03	Secondary	590	586	704	309	872	229	495	273	599
2002/03	Total	445	504	472	182	560	162	339	268	444
2001/02	Primary	374	480	441	95	519	275	441	500	405
2001/02	Secondary	369	626	988	163	691	180	134	335	551
2001/02	Total	372	540	635	119	581	235	351	428	461

Source: Australian National Report on Schooling, 2002,2003,2004,2005

Capital Expenditure for Australian Public Schools, per capita in actual prices, by school year 2002-2005

Year	Capital/investing per capita expenditure	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	**Australia**
2005	Primary	420	419	499	461	647	198	357	323	456
2005	Secondary	342	593	879	360	655	369	533	989	549
2005	Total	388	491	637	425	650	271	412	622	493
2004	Primary	362	413	488	342	601	150	349	540	421
2004	Secondary	474	571	793	287	698	310	427	1103	571
2004	Total	408	478	598	322	635	218	373	792	480
2003	Primary	325	427	410	168	473	108	307	511	366
2003	Secondary	598	567	705	261	807	240	408	745	596
2003	Total	436	485	516	201	590	164	337	615	455
2002	Primary	360	464	392	104	455	194	357	383	376
2002	Secondary	480	606	846	236	782	205	315	304	575
2002	Total	409	522	554	151	571	199	345	348	453

Note:

Source: Consultant estimates derived from financial year data obtained from Australian National Report on Schooling, 2002,2003,2004,2005. Years 2002-2004 based on averaging of two financial years. For 2005, only the 2005 estimate is available to be used.

Capital Expenditure by school year for Australian Public Schools, per capita in constant 2008 prices, 2002-2005

Year	Capital/investing per capita expenditure	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	**Australia**
2005	Primary	462	460	548	507	711	218	392	355	501
2005	Secondary	376	652	966	396	720	406	586	1087	603
2005	Total	426	540	700	467	714	298	453	684	542
2004	Primary	407	464	549	384	676	169	392	607	473
2004	Secondary	533	642	892	322	786	349	480	1241	643
2004	Total	459	538	673	362	714	245	420	891	540
2003	Primary	372	490	471	192	542	123	352	586	420
2003	Secondary	686	651	809	300	926	275	468	855	684
2003	Total	500	556	592	230	677	188	386	706	522
2002	Primary	427	550	465	123	540	230	424	454	446
2002	Secondary	569	719	1004	280	928	243	373	361	682
2002	Total	485	620	657	179	677	236	409	413	537
	Annual inflator	1.04								

Source: Consultant estimates derived from financial year data obtained from Australian National Report on Schooling, 2002,2003,2004,2005. Years 2002-2004 based on averaging of two financial years. For 2005, only the 2005 estimate is used. Annual inflator (March quarter annual All cities CPI for each year from 2003 to 2008) is applied to generate 2008 constant prices.

Capital Expenditure for Australian Private Schools, per capita in actual prices, by school year 2002-2005

Year	Capital/investing per capita expenditure	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	**Australia**
2005	Non-government	1,358	1,586	1,597	1,147	1,257	1,079	956	1,044	1,419
2004	Non-government	1293	1420	1389	1163	1284	1177	1306	1252	1329
2003	Non-government	1320	1348	1135	1050	1204	1030	1422	1176	1254
2002	Non-government	1338	1009	1083	1156	1218	861	1675	834	1161

Capital Expenditure by school year for Australian Private Schools, per capita in constant 2008 prices, 2002-2005

Year	Capital/investing per capita expenditure	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	**Australia**
2005	Non-government	1,492	1,743	1,755	1,261	1,381	1,186	1,051	1,147	1,560
2004	Non-government	1,455	1,598	1,563	1,309	1,445	1,325	1,470	1,409	1,496
2003	Non-government	1,515	1,547	1,303	1,205	1,382	1,182	1,632	1,350	1,439
2002	Non-government	1,588	1,198	1,285	1,372	1,446	1,022	1,988	990	1,378
	Average real growth in capital expenditure 02-05									4.4%
	Annual inflator	1.04								

Source: Australian National Report on Schooling, 2002,2003,2004,2005. . Annual inflator (March quarter annual All cities CPI for each year from 2003 to 2008) is applied to generate 2008 constant prices.

Full-Time Students in Public Schools, 2002-2005									
	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	**Australia**
2002	753,700	533,417	440,064	169,839	233,344	61,508	28,206	37,259	2,257,337
2003	749,880	535,350	445,025	167,850	230,308	61,157	28,467	36,595	2,254,632
2004	744,229	536,216	448,806	165,866	229,766	60,987	28,335	35,821	2,250,026
2005	740,439	536,635	450,964	164,714	228,817	60,605	28,554	35,359	2,246,087
Capital Investment Gap Per Student, 2008 constant prices									
	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	**Australia**
2002	1,103	578	628	1,193	769	786	1,579	577	841
2003	1,015	991	711	975	705	995	1,246	644	917
2004	997	1,060	890	946	731	1,079	1,050	518	956
2005	1,066	1,203	1,055	793	667	888	598	464	1,018
Aggregate Gap in Capital Funding 2002-2005									
	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	**Australia**
2002	831,521,488	308,333,975	276,571,467	202,695,948	179,333,729	48,366,321	44,526,516	21,492,802	**1,898,286,775**
2003	760,937,635	530,646,345	316,468,689	163,677,792	162,456,069	60,830,274	35,471,255	23,566,204	**2,067,890,198**
2004	741,651,725	568,454,264	399,521,352	156,985,024	167,946,043	65,820,433	29,751,558	18,543,871	**2,151,076,109**
2005	789,343,288	645,799,960	475,792,955	130,699,104	152,644,752	53,817,648	17,071,464	16,398,998	**2,285,822,279**
Total Gap 2002-2005	**3,123,454,137**	**2,053,234,544**	**1,468,354,464**	**654,057,868**	**662,380,593**	**228,834,676**	**126,820,793**	**80,001,875**	**8,403,075,361**
Average gap 2002-05	780,863,534	513,308,636	367,088,616	163,514,467	165,595,148	57,208,669	31,705,198	20,000,469	2,100,768,840

Source: Student enrolments from ABS 42210 2007 Report