



Northern Ireland Audit Office

School Design and Delivery



REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
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Northern Ireland Audit Office

Report by the Comptroller and Auditor General for Northern Ireland

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School Design and Delivery

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K J Donnelly
Comptroller and Auditor General

Northern Ireland Audit Office
25 August 2010

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For further information about the Northern Ireland Audit Office please contact:

Northern Ireland Audit Office
106 University Street
BELFAST
BT7 1EU

Tel: 028 9025 1100

email: info@niauditoffice.gov.uk

website: www.niauditoffice.gov.uk

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Abbreviations

C&AG	Comptroller and Auditor General
CCMS	Council for Catholic Maintained Schools
CnaG	Comhairle na Gaelscolaíochta
DE	Department of Education
DEL	Department for Employment and Learning
DFP	Department of Finance and Personnel
ELBs	Education and Library Boards
ESA	Education and Skills Authority
NICIE	NI Council for Integrated Education
PfG	Programme for Government
PAC	Public Accounts Committee
PFI	Private Finance Initiative
PPE	Post Project Evaluation
PSA	Public Service Agreement
PSNI	Police Service of Northern Ireland
SIB	Strategic Investment Board

Executive Summary



Executive Summary

1. The Department of Education (the Department) centrally administers spending on the schools estate in Northern Ireland which delivers education to 325,000 pupils in over 1,200 schools. Since 1997 there have been 153 new builds or refurbishments across the schools estate, with a further 87 currently on-site or in planning (Appendix 1). Despite this, a historic under-investment in the schools estate has resulted in a maintenance backlog that currently stands at £292 million, equivalent to £900 per pupil. This legacy of under-investment has left an estate that is not ideally suited to deliver the current curriculum and the condition of many buildings makes them costly to maintain. The Investment Strategy for Northern Ireland 2008-2018 envisages a £3.4 billion investment in the schools estate, a significant increase from spending of £416m in the three years to March 2008.
2. Investment offers the opportunity to get a better quality, safer and more manageable estate, where school leadership can give more attention to educational matters. Design alone cannot raise educational achievement, but poor design can be an obstacle to raising educational standards. There are also wider non-educational advantages, such as the opportunity for local people to get new and better facilities which can become a resource for the community, and the chance to establish a benchmark for quality buildings and spaces.

Scope and methodology of this review

3. Given the significant investment that has already taken place, and in light of what is proposed in the Investment Strategy for Northern Ireland, this report assesses the progress made in terms of improving the quality of the learning and teaching environment in recent new and refurbished school projects and examines the robustness of the strategic planning and management of the schools estate. Information was obtained through meetings with key staff in the Department, the Education and Library Boards (ELBs), the Council for Catholic Maintained Schools (CCMS) and a review of available documentation held by the Department, including departmental circulars and guidance. We engaged architectural consultants to assess and report on the design quality of a sample of new and refurbished schools, which also included taking full account of the views of key staff at the schools visited.

New arrangements aim to improve the strategic planning of the new school estate

4. At a local level, administration is provided by five Education and Library Boards; the Trustees of the maintained schools supported by the CCMS; and individual school governing bodies. In addition, the Comhairle na Gaelscolaíochta (CnaG) and the NI Council for Integrated Education (NICIE) assist parent groups to establish new Irish-medium and Grant Maintained Integrated schools respectively; NICIE also

assists existing schools with the process of transforming to integrated status.

5. These arrangements are due to change as part of the Review of Public Administration. It is envisaged that education support services below Departmental level, will be provided by one public body, the Education and Skills Authority (ESA). While the Department will continue to be responsible for policy development and approving capital schemes, ESA will be responsible for producing area-based plans, strategic investment plans, scheme development, procurement and implementation, contract and performance management¹.

More effective use of available capital funding will be key to delivering a modernised schools estate

6. The rate of progress in the delivery of schemes is reflected in the amount of capital spend. In the five years to the end of March 2010, £1.2 billion had been made available to the Department. However, total expenditure during that period was £857 million (£353 million less than originally budgeted). Even allowing for £246 million "in-year changes" (in this case reductions), the Department under-spent its revised capital budget by £107 million or 12½ per cent. The Department told us that barriers to the delivery of schemes include legal issues around site acquisitions; statutory agency approvals; ongoing reviews of long-term pupil enrolments; and a legal challenge to the Department's Construction Framework.

The latter was the subject of a report by the Comptroller & Auditor General (C&AG) in 2009². Between 1997 and 2006, the Department announced 248 schemes with a capital value of £1.4 billion. Of these, 153 have been completed, 87 are either under construction or in planning and 17 have been abandoned because of concerns about enrolments. Most of the outstanding schemes (78 at the end of November 2009) are now expected to take at least six years to complete from when they were originally announced, with the completion of one scheme (Lagan College) now expected to take 12 years. In July 2010, a further 8 schemes were removed from the programme and 24 schemes were identified as requiring additional work on plans submitted.

7. The overall school population has declined from a peak of 354,000 in 1996-97 to 323,000 in 2009-10. The school age population (i.e. those aged 4 to 17 years), is projected to decline further to 329,700 by 2016, before increasing back to 341,000 by 2021. In 2002, the Public Accounts Committee³ expressed concern that money was being spent on maintaining vacant places, which could be more usefully directed to supporting classroom provision. In the period from 2003-04 to 2008-09, school closures and rationalisation proposals have reduced the number of schools by 75. However, despite this the Department estimates that surplus capacity in 2008-09 stood at 54,000 places, an increase from an estimated 35,000 in 1999-00.

1 The new Education and Skills Authority was due to be established on 1 January 2010. However, the Assembly has not yet passed the legislation to establish ESA. Arrangements have been put in place so that the Department's existing bodies can continue to operate for the transitional period until ESA is established.

2 Financial Auditing and Reporting: 2007-2008 General Report by the Comptroller and Auditor General for Northern Ireland, NIA 115/08-09, 20 May 2009

3 Report on Indicators of Educational Performance and Provision, Public Accounts Committee 10th Report Session 2001/2002 10/01/R 26 June 2002

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Strong design quality is evident in recently constructed schools and lessons can be learned

8. We commissioned an independent assessment of the design quality of 16 primary and post-primary schools, built or refurbished between 1999 and 2008. Very strong design quality was evident, though a few of the design assessment criteria, such as robustness of finish and flexibility of design were assessed as being of weaker design quality. In schools procured by PFI, it was also evident that concerns expressed about design quality in our 2004 *"Building for the Future"* report⁴ are being addressed. Most of the schools visited have a good civic presence and in most cases their design offers the potential for community and out-of-hours use. However, we were advised during our visits to the schools that factors such as insurance, maintenance, staffing requirements, security, damage and cleaning make this generally prohibitive for schools. Notwithstanding these difficulties, it is clear that the potential for community use of schools is not being fully exploited.
9. The Department told us that it is conscious that the schools estate represents a significant public resource which could, and should, be more widely used by schools and their local communities. It also recognises the wider educational benefits of encouraging such links. In June 2009 it established a working group made up of key education stakeholders to identify potential barriers to increasing community use and examples of good practice and to produce a report to inform policy and operations to enhance community use of schools. This group reported in March 2010 and the current intention is that a strategy will be brought forward after consultation with other Departments and public sector bodies affected by the working group's recommendations.
10. The Department, through its School Building Handbooks, provides advice and guidance on the planning and design of new school buildings and the standard to which they should conform. While the Handbook was being complied with in almost all of the schools visited, we identified concerns in relation to classroom stores; communications rooms; cloakroom areas; corridor widths; external play spaces; and future flexibility. The Department has made revisions to the primary schools section of the Handbook to address those concerns and is making further revisions to the post-primary schools section which it intends to publish in 2010.
11. Post Project Evaluation (PPE) is an integral part of good project management. While the economic appraisals supporting the case for school schemes currently include provision for PPE arrangements, we found that such evaluations are not always completed or are not completed on a timely basis. We noted that the evaluations pointed to a range of design weaknesses in individual schools, the most frequent being storage space, heating, robustness, size, flexibility and layout. This is in line with the findings of our independent review of design quality.

4 *Building for the Future: A review of the PFI Education Pathfinder Projects*, Report by the Comptroller and Auditor General, NIA 113/03, 14 October 2004

12. Post Occupancy Evaluation is a recognised way of providing feedback on performance throughout a building's lifecycle from initial concept through to occupation. To be most effective, assessing performance must happen throughout the lifecycle of a building, and it is important that all users (pupils, staff and other stakeholders) are involved in the process.

Conclusions and Recommendations

13. **There is a pressing need to progress the capital investment programme in order to improve the schools estate and enable the effective delivery of the curriculum.**

It was recognised in 2005⁵ that estate planning, procurement, delivery and management mechanisms needed to be modernised to take account of recognised best practice and to accelerate the timescales for delivering new schools.

14. **Improvements to the schools estate, while previously constrained by a lack of resources, are now being constrained by delays in delivering projects.** School building projects have experienced delays such as planning and procurement delays; legal challenges and protracted consideration of how to change long-term enrolments. However the identified condition and suitability problems in the schools estate are being redressed at a slower than expected rate at a time when significant resources, in the form of budgetary provision of up to £1.2 billion has been available to the Department during the five years to 31 March 2010.

15. **There is too much surplus capacity in the education system and it is increasing, contrary to the publicly stated expectations of the Public Accounts Committee⁶.** Although the school age population in 2021 is expected to reach 2006 levels again after a period of decline, the amount of surplus capacity (currently 15 per cent) and the associated inefficiencies will continue to increase. The strategic aim is to reduce surplus capacity in the system to a 'maximum' of 10 per cent. Although this is not immediately achievable, education authorities need to take and effect meaningful action to achieve this goal and realise the significant efficiency savings that are likely to accrue from rationalisation.

16. **The planned establishment of the Education and Skills Authority (ESA) presents a significant opportunity to address issues of fitness, capacity and delivery.** This can be achieved through an holistic approach that includes asset management information, area plans and strategic investment plans. However, ESA will need to have an early understanding of the key reasons for delays in delivery, particularly those which are within the control of education authorities and other public sector bodies.

17. **In the projects that are being delivered, there is clear evidence of improvements in their overall design quality. However, our review identified some areas of concern, which the Department is addressing through revisions to its School Handbooks.** We welcome the update and improvements made to the Primary

5 *Department of Education and Strategic Investment Board: New Procurement and Delivery Arrangements for the Schools' Estate March 2005*

6 *Report on Indicators of Educational Performance and Provision, Public Accounts Committee, 10th Report Session 2001/2002 10/01/R 26 June 2002*

Executive Summary

Schools Building Handbook in 2009; the planned update of the Post-Primary Schools Handbook in 2010; and the Department's consideration of BREEAM recommendations⁷. However, given that most of the resources in the current capital programme are concentrated in the post-primary sector, it is important that this update is completed promptly. Such an update should provide for improvements in design, particularly in setting out clear design standards for day-lighting, ventilation and acoustics, and better outputs, as well as meeting the wishes of PAC.

18. **We welcome the Department's establishment of a working group and recommend that it continues to actively consider what steps it can take to reduce or remove barriers to the reasonable use of school facilities by the local community.** Well designed new and refurbished schools can offer more than just an educational service; they also have a positive public presence and should be capable of being used by the local community. Our review confirmed that while this was technically possible, it was often considered by the schools themselves to be not practically feasible. We note that in 2009-10, the Department provided £10 million to some 480 schools for an extended schools programme to support a range of activities.
19. **It is important that the Department and education authorities evaluate and learn from their projects.** Timely evaluation of completed projects is an essential aid

to improving future project performance, achieving best value for money from public resources, improving decision-making and learning lessons. Key learning points can be gathered from post-occupancy evaluations that clearly detail and measure the impact a new environment is having on staff and pupils and the efficiency of new or refurbished school buildings.

20. **The type of design and materials used will have a long-term impact on the running and maintenance costs of a school.** In the current context of a significant number of proposed new schools and planned developments, considering "whole life costs"⁸ may mean a trade-off between aesthetics and durability, especially in schools that are intensively used. However, it is important that robustness of design and durability of materials are fully considered at design stage to reduce future maintenance liabilities.

⁷ BREEAM (Building Research Establishment Environmental Assessment Method) is the leading and most widely used environmental assessment method for buildings. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance e.g. daylighting, ventilation and acoustics etc

⁸ Whole life costs are the sum of all recurring and one-time (non-recurring) costs over the full life span or a specified period of a good, service, structure or system. It includes purchase price, installation cost, operating costs, maintenance and upgrade costs and remaining (residual or salvage) value at the end of ownership or its useful life.

Part One:

Investment in the schools estate has increased but falling enrolments and surplus capacity remains a challenge



Part One:

Investment in the schools estate has increased but falling enrolments and surplus capacity remains a challenge

Background

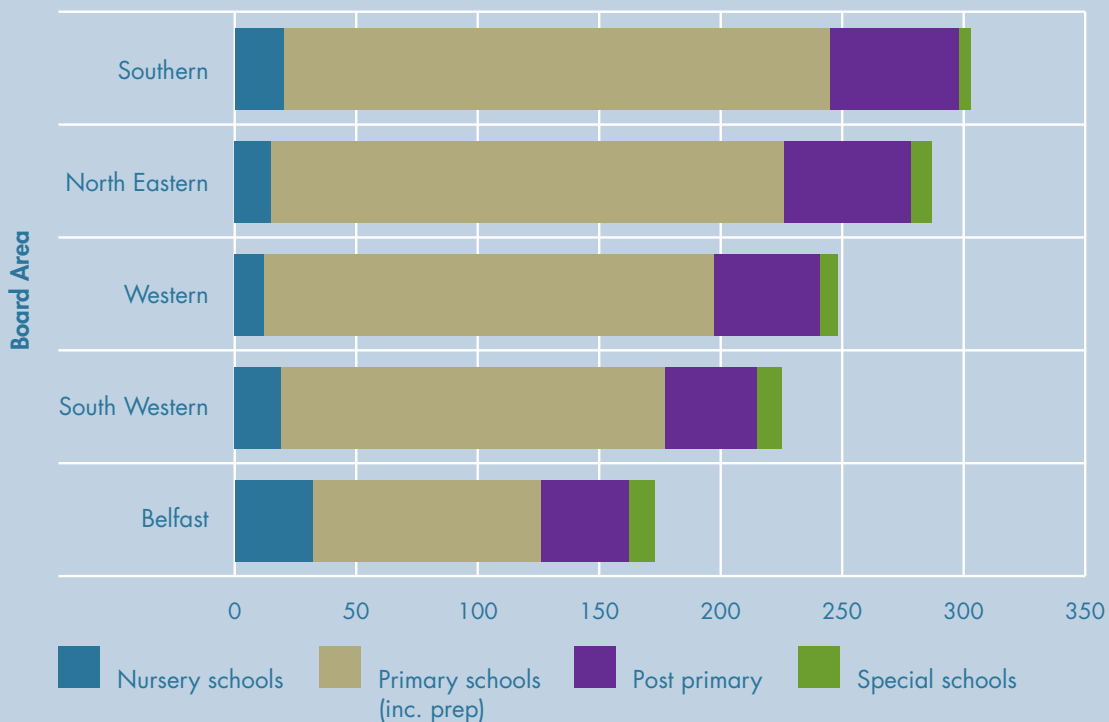
1.1 There are over 1,200 schools in Northern Ireland made up of 98 nursery, 866 primary, 219 post-primary and 41 special schools (Figure 1) delivering education to over 320,000 pupils. The Department of Education (the Department) centrally administers spending on the education estate. At a local level administration is provided by the five Education and Library Boards (ELBs); the Trustees of the maintained schools supported by the Council for Catholic Maintained Schools (CCMS); and individual school governing bodies. In addition the Comhairle na

Gaelscolaíochta (CnaG) and the NI Council for Integrated Education (NICIE) assist parent groups to establish new Irish-medium and grant maintained integrated schools respectively; NICIE also assists existing schools with the process of transforming to integrated status.

New arrangements are planned for delivering education services and managing the schools estate

1.2 In November 2005 the Review of Public Administration (RPA) recommended that the administration of education should be

Figure 1: There are currently over 1,200 schools in Northern Ireland in five Board areas



Source: NI Schools Census 2009

taken forward by a new single education authority which would bring together all the direct support functions undertaken by the ELBs and a range of other organisations funded by government. Under the new arrangements, education support services will be provided by one public body, the Education and Skills Authority (ESA), thereby dissolving the ELBs and the following education organisations;

- the Northern Ireland Council for the Curriculum, Examinations and Assessment;
- the Council for Catholic Maintained Schools (CCMS);
- the Youth Council; and
- the Staff Commission.

1.3 The Department will continue to be responsible for policy development and approving capital schemes. Under the new arrangements, ESA will be responsible for producing area plans and scheme development, procurement and implementation, and contract and performance management. ESA in its pre-legislative form has set up an implementation team to manage the change and to design the services that will be transferred on its inception. This includes an Estate Project Team established to ensure that there will be an effective estate management service. The 2008 Programme for Government⁹ includes Public Service Agreement (PSA) targets for advancing over 100 school building projects by 2011 and for developing and

implementing an area-based planning approach, in conjunction with the establishment of ESA.

1.4 In the absence of the enabling legislation required for the establishment of ESA, from 1 January 2010, interim governance and management arrangements have been put in place for the education sector in the period before ESA is established.

The Investment Strategy envisaged a significant increase in capital funding

1.5 The Investment Strategy for Northern Ireland 2008-2018 provides for £3.4 billion for projects to improve the schools estate (Figure 2). This represents a significant increase on what has been spent in previous periods. The Department told us that cuts of £22 million have since been made to the 2010-11 budget, with further cuts anticipated in future years.

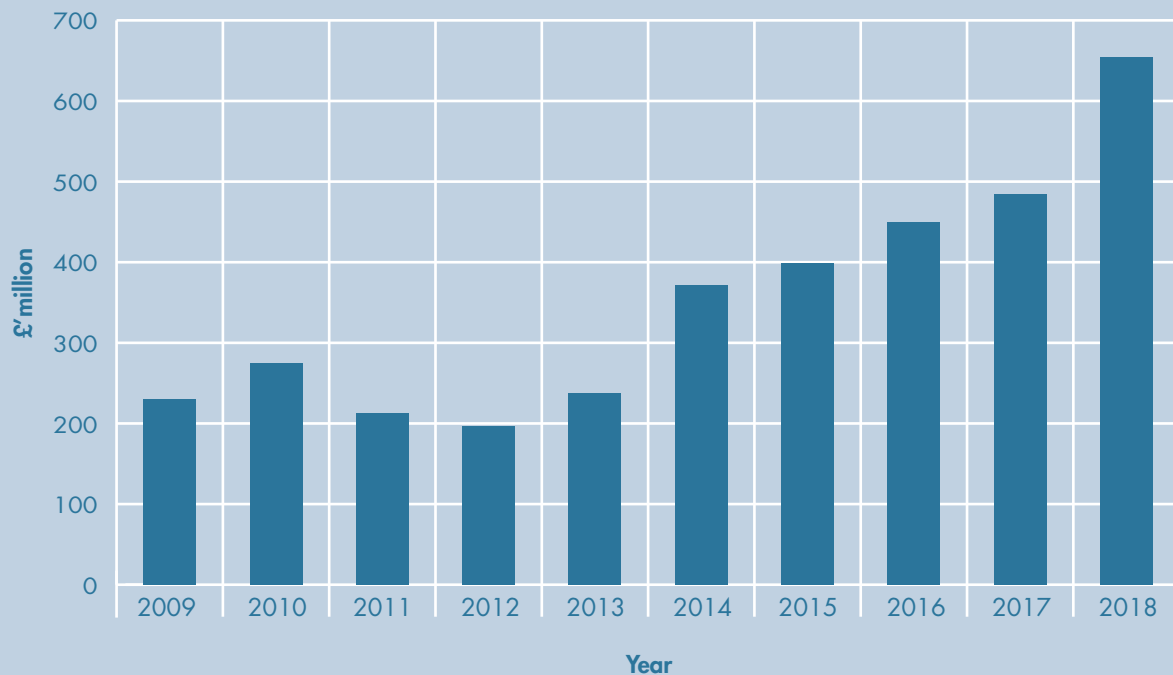
1.6 Underlying the Investment Strategy is a series of Departmental Investment Delivery Plans. The one covering schools, for which the Department is responsible, notes that it was aligned to and in support of, a wide-ranging educational reform programme, also noting three important aspects of reform as: improved strategic planning; improved procurement methods and processes; and improved delivery of school projects through ESA. The objectives defined by the Department for the schools estate are threefold:

- the estate will be more fully aligned with expected changes in need;

Part One:

Investment in the schools estate has increased but falling enrolments and surplus capacity remains a challenge

Figure 2: The Investment Strategy for Northern Ireland provides £3 billion for schools from 2009 to 2018



Source: Department of Education 'Investment Delivery Plan for Schools and Youth Services'

- schools should be both educationally and financially sustainable; and
- pupils and teachers will have modern, safe facilities which support the delivery of the curriculum.

There has been a significant increase in capital expenditure within the schools estate but a sizable maintenance backlog exists

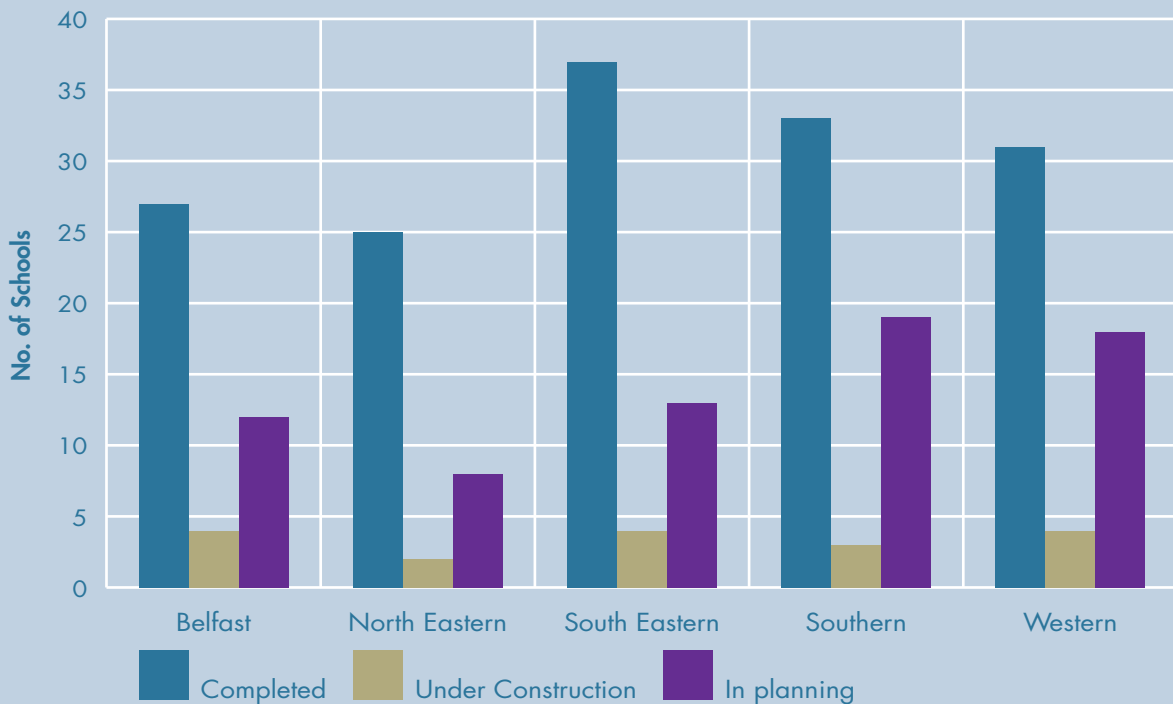
1.7 Figure 3 provides an overview, by Board area, of the schemes completed, on site and in planning. From 1997 to date, 153 schemes have been completed and a further 87 projects are currently on-site

or in planning (Appendices 1 to 3 provide further analysis of schemes announced, completed, on-site or in planning). However, it has long been acknowledged that there has been significant under-investment in the Northern Ireland schools estate and many schools are in need of improvement. In 1995 the Comptroller and Auditor General (C&AG) reported that there was a maintenance backlog in the schools estate of £114 million¹⁰. Recent estimates put the figure at £292 million.¹¹ We calculate that this equates to £900 per pupil currently attending school.

¹⁰ Education and Library Boards: Maintenance of Board Property, Report by the Comptroller and Auditor General, HC 16 December 1995

¹¹ Northern Ireland Assembly: AQW 853/10 – November 2009. The Department advised us that the systems used and standards applied in estimating maintenance backlog have changed since 1995, making a direct comparison inappropriate.

Figure 3: Since 1997 153 schemes have been completed with 87 on-site or in planning



Source: Department of Education (at Nov 2009)

1.8 In April 2004, the Department announced a £222 million schools building programme. This was planned as the first wave of a rolling programme of investment which, according to the announcement, “will have a new focus on delivery that addresses more fully the range of needs and demands across the whole of Northern Ireland. By 2010, we will have addressed the existing known capital needs backlog on the schools estate.” The vision, as stated in a subsequent consultation document¹² was to achieve a ‘fit for purpose school estate, efficiently delivered and managed.’ where fitness for purpose is measured in terms of the sufficiency, suitability and condition of the education accommodation.

Of the 42 planned schemes identified in the announcement, 12 have been delivered.

1.9 This was initiated when the education sector was also facing other significant challenges, including;

- 50,000 surplus school places. Estimates at that time projected that pupil numbers would fall by 1 per cent over the following ten years¹³
- an increasing diversity of provision, with integrated and Irish-medium education developing alongside the existing controlled, Catholic maintained and voluntary grammar sectors;

¹² *New Procurement and Delivery Arrangements for the Schools’ Estate*, Department of Education and Strategic Investment Board, March 2005

¹³ Current departmental estimates indicate that pupil numbers will fall by 1 per cent by 2011 (from 2008 levels) and the trend after this is a steady increase to 2023, when it estimates that pupil numbers will be 4.7 per cent above 2008 levels

Part One:

Investment in the schools estate has increased but falling enrolments and surplus capacity remains a challenge

- the post-primary review (the Costello Report¹⁴), which recommended the abolition of academic selection and the introduction of a Pupil Entitlement Framework; and
- the desire to use school facilities as a wider community resource.

09, there was a reduction of 75 schools. However, the number of estimated surplus places in schools increased to 54,000 in 2008-09 (14 per cent of total capacity), an increase of 50 per cent since 1999-2000 (Figure 4)¹⁶. The Department told us that the increase in surplus places should be viewed in the context of a fall in school enrolments of over 22,000 over the same period.

While the overall number of schools has reduced, surplus capacity has increased

1.10 In 2002, we reported¹⁵ that in 1999-2000, there were over 35,000 surplus places in all schools – 23,000 in primary schools and 12,000 in post-primary schools. Between 2003-04 and 2008-

1.11 The increase in surplus places has been particularly pronounced in the Western Board (78 per cent) and in Belfast (68 per cent). The number of surplus places in the maintained school sector in the Belfast Board has doubled, as has surplus places in the maintained post-primary school and the controlled primary school

Figure 4: The number of surplus places in schools increased to over 54,000 in 2008-09



Source: Department of Education statistics

14 Future Post-Primary Arrangements in Northern Ireland: Advice from the Post-Primary Review Working Group, January 2004

15 Indicators of Educational Performance and Provision; Report by the Comptroller and Auditor General, NIA48/01, 21 February 2002

16 The Department told us that a new methodology for calculating surplus places is being developed

sectors in the Western Board. In contrast, the post-primary Controlled school sector in the Western Board has experienced a significant reduction (37 per cent) in the number of surplus places, principally due to school closures/rationalisation proposals brought forward by the Western Education and Library Board. Details of the breakdown and distribution in surplus places in 2009 compared with 2000 are at Appendix 4.

- 1.12 In September 2006, the Northern Ireland Commission for Catholic Education (NICCE) launched a comprehensive review of Catholic-managed post-primary education across Northern Ireland. The review identified options or proposals for the future delivery of post-primary Catholic education in sixteen project areas. In March 2010 the proposals were issued in a public consultation paper addressing the future provision of education in each local area.

substantially reduced and recommended that the ELBs needed to continue to bring forward proposals for rationalisation where they were justified in financial and educational terms. In its response the Department¹⁸ accepted the need to reduce surplus places and envisaged that initial proposals for change would be brought forward towards the end of 2002.

- 1.14 The Westminster PAC also commented on the issue of falling school enrolments and the need for rationalisation of the schools estate in its 2005 report on Local Management of Schools¹⁹. The need for a more strategic view of long term enrolments and effective planning and estate management in the education sector was a key recommendation in our 2004²⁰ report reviewing the PFI education pathfinder projects and highlighted again in our 2006 report on the Reinvestment and Reform Initiative.²¹

The need to rationalise the schools estate has been raised by the Public Accounts Committee

- 1.13 The Northern Ireland Assembly's Public Accounts Committee (PAC) in its Report on Indicators of Educational Performance and Provision¹⁷ expressed concern that money was being spent on maintaining vacant places when it could be more usefully directed to supporting classroom provision. The Committee expected that, over time, the high level of surplus places should be

The processes for procuring and delivering capital investment in schools were reviewed and a 2005 report pointed to inefficiencies in the planning process

- 1.15 A number of separate initiatives have helped shape schools estate strategy (see Figure 5). A 2005 Report "New Procurement and Delivery Arrangements for the Schools Estate" (paragraph 1.8) published by the Department and the Strategic Investment Board (SIB). It estimated that there was the potential to

17 Report on Indicators of Educational Performance and Provision, Public Accounts Committee, 10th Report Session 2001/2002 10/01/R 26 June 2002

18 Department of Finance and Personnel Memorandum, 3 September 2002, NIA15/02

19 Department of Education Local Management of Schools Public Accounts Committee; 11th Report of 2005-06, HC 565, November 2005

20 Building for the Future – A review of the PFI Education Pathfinder Projects, Report by the Comptroller and Auditor General, NIA 113/03, 14 October 2004

21 Reinvestment and Reform: Improving Northern Ireland's Public Infrastructure, Report by the Comptroller and Auditor General, HC 79, 7 December 2006

Part One:

Investment in the schools estate has increased but falling enrolments and surplus capacity remains a challenge

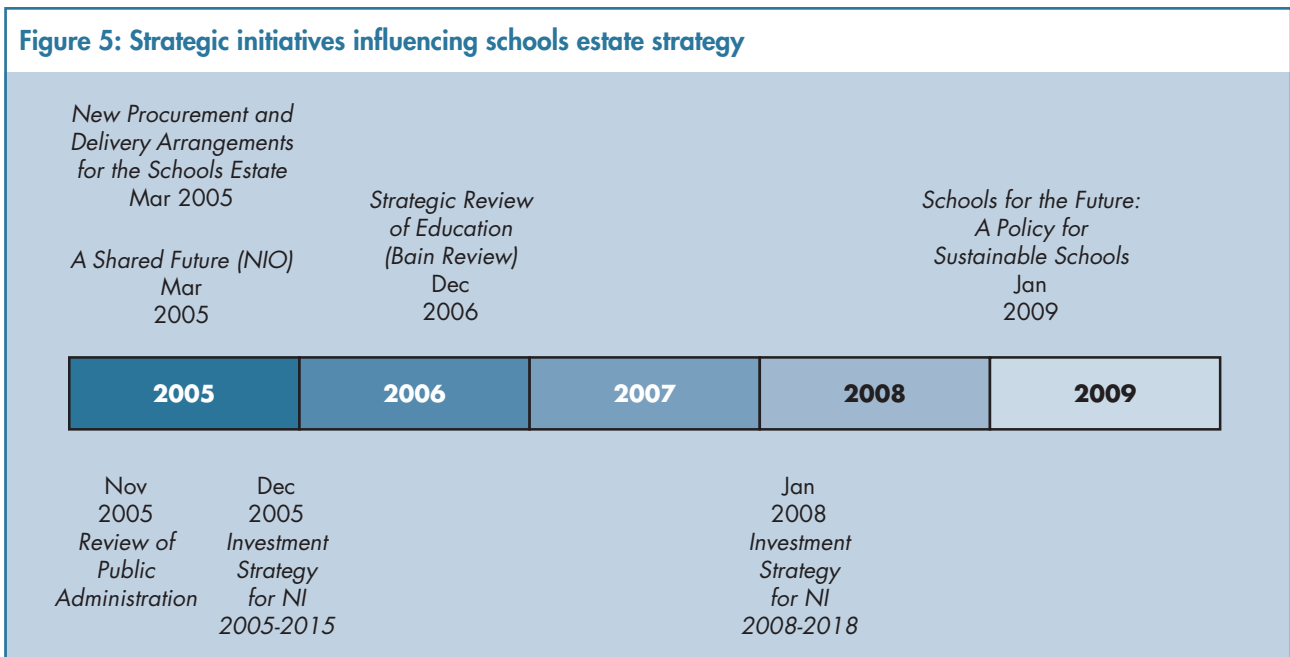
deliver savings of around five per cent of annual planned capital spend (estimated to be in the region of £167 million over a ten year period) through reducing surplus capacity by improved estate planning. The Report also recommended that estate planning, procurement, delivery and management mechanisms needed to be modernised to take account of recognised best practice and to accelerate the timescales for delivering new schools on the ground.

1.16 The Report also noted significant under-investment in the schools estate during the 1990s with major works investment amounting to between £30 million and £50 million a year. The age profile of the schools estate at that time (covering 1,272 schools) meant that over 50 per cent of the estate was not ideally suited to deliver the new curriculum and the condition of many

buildings rendered them unfit for purpose and costly to maintain. In addition the Report also identified significant problems with the general quality of the schools estate and the existing planning process for the delivery of the capital programme. It identified issues with the assessment of sufficiency, suitability and condition which were the prescribed criteria to be used in the measurement of the fitness for purpose of education accommodation.

1.17 While the Department and the education authorities were taking steps to reduce temporary accommodation, there were still nearly 3,000 temporary units in use across the education estate at that time. The Report expected the numbers of temporary units to continue to decline in the coming years as a result of the accelerated major works programme and additional earmarked investment being provided by

Figure 5: Strategic initiatives influencing schools estate strategy



the Reinvestment and Reform Initiative. By 2009, the numbers of mobile classrooms in use had reduced to 1,500.

The Report recommended a whole-system approach to the planning and delivery of the schools estate

- 1.18 The Report concluded that there was broad agreement within the Department and across the education authorities that the arrangements for planning the estate and delivering capital projects and services needed to be improved. The Report suggested a number of changes as part of moving away from the existing sector-focused approach to planning
- 1.19 The reforms envisaged in 2005 have not occurred. However there have been changes in the Department's procurement processes. The Department told us that there had been significant investment required in the familiarisation and development of new documentation and associated processes for all major works contracts (other than PFI contracts), to ensure that they are procured in accordance with the form of contract required by the Department of Finance and Personnel (DFP). There had also been an attempt to establish a framework for the

Figure 6: Outcomes from the New Procurement and Delivery Arrangements

Education outcomes	<p>Maximum impact on education outcomes by ensuring:</p> <ul style="list-style-type: none"> • the best practicable match of school places to the school population in each local community, minimising the costs imposed by surplus capacity, whilst allowing appropriate parental choice; • new schemes are implemented as quickly as possible; • the lowest practicable proportion of the available funds is absorbed by the costs of scheme development and procurement (but not at the expense of good quality design): and • long-term value for money in the delivery of major and minor works, maintenance and services across the whole estate.
Governance	Arrangements consistent with the statutory responsibilities and accountabilities of education bodies and which acknowledge their distinctive ethos.
Fairness and transparency	A needs-based approach to the planning, procurement and delivery of services which is transparently and consistently applied across the whole schools estate and offers equitable treatment to all of the education sectors/partners.
Affordability	Financial commitments clearly identified and known to be affordable in the long term.

Source: Department of Education and Strategic Investment Board: "New Procurement and Delivery Arrangements for the Schools Estate"

Part One:

Investment in the schools estate has increased but falling enrolments and surplus capacity remains a challenge

procurement of major works, but this was overturned by legal challenge and is the subject of ongoing legal consideration. This has led to delay and reworking of documentation to revert to the conventional procurement routes for which the framework had been developed as a replacement.

post-primary schools should be established (Figure 7). The Report recommended that for whatever policy on school sustainability is developed, schools with enrolments below the relevant thresholds should be reviewed and schools found to be not educationally sustainable²³ should close.

The 2006 Bain Report highlighted the need for estate planning processes to be responsive to demographic change and recommended minimum school sizes to help reduce surplus capacity

1.20 The Bain report²² noted that the downward trend in the pupil population in Northern Ireland, (a 13,000 decrease between 2001-02 and 2005-06), was expected to continue well into the future. With the number of empty places at 53,000 (15 per cent of total capacity) and liable to increase to 80,000 by 2016, strategic planning would need to address the issue of over-provision and the much lower demand for school places. Recent Department estimates show a small decrease in pupil numbers to 2011 with an overall increase of 4.7 per cent from 2008 to 2023 (paragraph 1.9).

1.21 Bain also considered that there were too many schools, and also too many schools with small pupil numbers, some to the extent that they were, or soon would be, unsustainable. The Report concluded that, while sustainability should be defined in educational and not just headcount terms, minimum school sizes are central to school sustainability and minimum enrolment thresholds for new primary and

Figure 7: Minimum Enrolments for New Schools

Type	Enrolment
Primary: urban	140
Primary: rural	105
Post-primary	500
Post-primary sixth form	100

Source: Bain Review

1.22 The ultimate aim was for a schools estate of fewer and larger schools, all of them educationally sustainable. The Review considered that the level of surplus capacity distributed across the schools estate should not, when aggregated, exceed 10 per cent, so as to cater for a degree of uncertainty in planning and to accommodate choice. The recommendations on sustainability, minimum enrolments and surplus capacity were accepted after a period of consultation and were adopted by the Department in *Schools for the Future – A Policy for Sustainable Schools* (January 2009). The level of surplus capacity in 2008-09 was 14 per cent.

22 *Schools for the Future: Funding, Strategy, Sharing*. Report of the Independent Strategic Review of Education (The Bain Review), December 2006

23 The report recommended that the policy should ensure that all schools in Northern Ireland are sustainable in terms of the quality of the educational experience of children, enrolment trends, financial position, school leadership and management, accessibility, and the strength of their links to the community.

The Department has advocated new approaches for the management of smaller schools and the way they deliver the curriculum

- 1.23 The issue of collaboration between schools as an alternative to closure, was examined in the Bain Report. The report recommended that ESA should be required to maximise opportunities for integrating education within a system of sustainable schools. In endorsing the Bain recommendation, *Schools for the Future* did not make collaboration between schools compulsory. However, schools are expected to collaborate and, for schools whose viability is under review, the opportunities offered through sharing may enable them to provide the quality of education to which children are entitled and without which viability may be jeopardised.
- 1.24 In the post-primary sector, the importance of collaboration has also been given more priority as a result of the Entitlement Framework (paragraph 1.9). The Post-Primary Review Working Group expressed concern at the wide variance in the range of educational provision, largely academic, available to young people at Key Stage 4²⁴ and Post-16, depending on which school they attended. In June 2004, the Minister of Education endorsed proposals for the introduction of a revised curriculum, which was introduced into legislation through the Education (NI) Order 2006. The Entitlement Framework is the counter-balance to the reduced core curriculum at Key Stage 4. The purpose of the Framework is to guarantee that all pupils have access to a broad and balanced education, with a minimum number of courses at Key Stage 4 and post-16 (targets 24 and 27 respectively). In both cases at least one-third of the courses must be general (academic) and at least one-third applied (vocational). The remaining one-third of courses is at the discretion of each school and provides schools with an opportunity to develop a unique and distinctive curricular offer.
- 1.25 The Education (NI) Order 2006 places a mandatory requirement on Boards of Governors to provide all pupils at grant-aided schools with access to a minimum number of courses at Key Stage 4 and at post-16, with the required balance between general and applied. The Department told us that the legislation in relation to the specified numbers has not yet been commenced as it has sought to emphasise that it is more important that schools concentrate on the quality and coherence of their offer. The target date for the full implementation of the Entitlement Framework is September 2013. Schools can choose the subjects which they feel are most appropriate for their pupils, but the Department recognises that there may be particular challenges for the governors and school managing authorities of smaller schools, those in rural areas, or those that do not have the requisite mix of courses. Therefore it is envisaged that it will be necessary for post-primary schools to collaborate with neighbouring schools and their local Further Education College or training organisations.
- 1.26 There are currently 29 "Area Learning Communities" established across all Board

24 Key Stage 4 is the term for the two years of school education which incorporate GCSEs, and other exams in Years 11 and Year 12, when pupils are aged between 14 and 16.

areas where schools from all sectors, Further Education Colleges and other providers are working to increase the range of courses available. At present, 27 schools are able to offer the requisite number and mix of courses for Year 11 and two schools meet the requirements for post-16 (Year 13).

Part Two:

Effective use of available capital funding will be key to delivering a modernised estate



Part Two:

Effective use of available capital funding will be key to delivering a modernised estate

The announcement of capital projects or major programmes raises expectations

2.1 Our 2006 Report on the Reinvestment and Reform Initiative (paragraph 1.14) considered that the publication of the Investment Strategy for Northern Ireland would raise expectations and that it was important for those expectations to be met. In the context of the education estate, between 1997 and 2006, the Department announced 248 schemes with a total value of £1.4 billion. Since 1997, 153 schemes have been completed, (including nine announced prior to 1997) and a further 87 projects are currently under construction or in planning. Following the Bain Review in 2006 (paragraph 1.20), the Department decided not to proceed with a number of schemes previously announced as they were not consistent with the recommendations of the Bain Report. As a result of that and other decisions, 17 schemes have been withdrawn. A full analysis of schemes announced, completed and on-site or in planning since 1997 is provided in Appendix 2.

2.2 The Department's Investment Delivery Plan, published at the beginning of 2009 (paragraph 1.6) included 107 school schemes, of which 25 were under construction and the remaining 82 in planning and scheduled for delivery between 2009-10 and 2014-15. In November 2009 there were 87 school schemes of which 70 were in planning and 17 under construction. Figure 8 presents the status of the schemes at November 2009²⁵, comparing the estimated delivery times of the schemes against the year in

which they were originally announced. Most of the schemes are expected to take at least six years to complete from when they were originally announced. The Department told us that the main barriers to delivery of schemes include;

- legal issues relating to site acquisitions;
- delays in obtaining Planning/Roads Service approvals;
- on-going reviews of Long Term Enrolments which can lead to possible re-design work; and
- a legal challenge to the Department's Construction Framework in December 2007 – we reported on this in 2009²⁶.

2.3 In July 2010 the Department published a revised schedule of schools to be included in its schools building programme. Out of 75 schemes in planning, 67 were approved (subject to funding being available) of which 24 required additional work to plans submitted. The remaining 8 schemes have now been removed from the building programme. These schools had previously been announced between 2003 and 2006 and had also been approved following a review in March 2007.

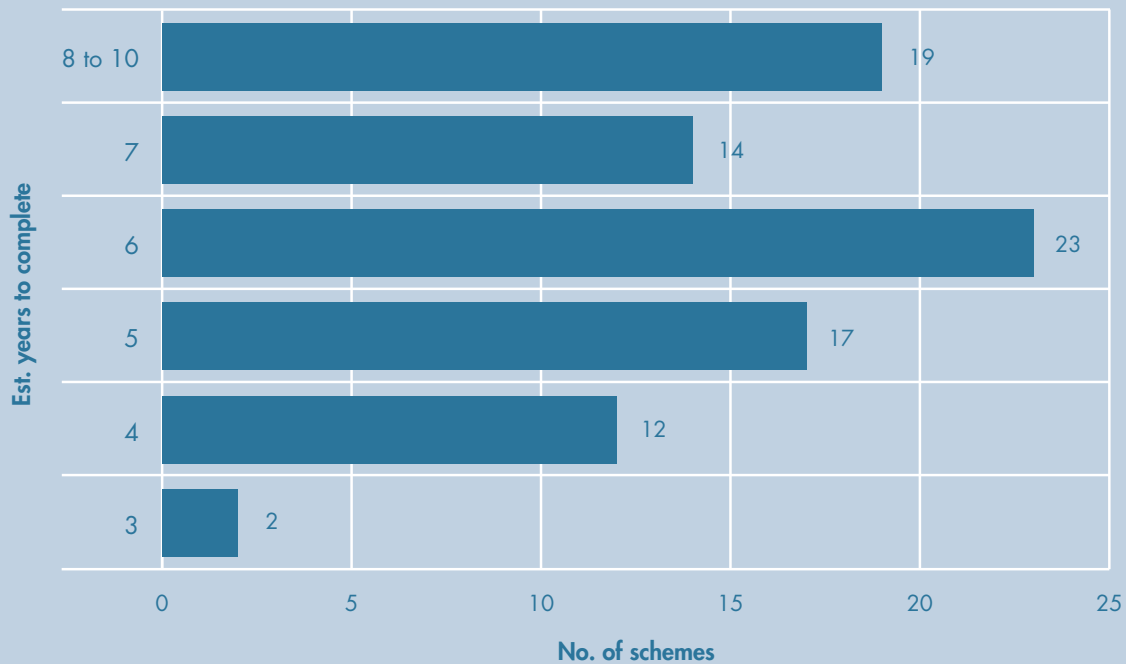
The Department has consistently underspent its capital budget

2.4 The Bain Report noted that the amount of planned capital investment in Northern Ireland schools was rising - £207 million planned for 2006-07 and £407 million

25 The Department told us that it does not currently provide estimated dates for all schemes in planning.

26 Financial Auditing and Reporting: 2007-2008 General Report by the Comptroller and Auditor General for Northern Ireland, NIA 115/08-09, 20 May 2009

Figure 8: Most of the current schemes are expected to take at least six years to complete from when they were originally announced



Source: Department of Education figures provided in November 2009

in 2007-08. Our analysis of capital expenditure by the Department between 2005-06 and 2009-10 showed that it was much less than anticipated (Figure 9). In the five years to the end of 2009-10 the Department's budget was £1.2 billion. However, total capital expenditure during that same period was £857 million, £353 million less than originally budgeted. The Department's capital expenditure forecasting and monitoring has improved in the last two years. However, even allowing for £246 million "in-year changes" (in this case reductions) the Department underspent its capital budget by £107 million or some 12½ per cent.

- 2.5 In its 2009 Investment Delivery Plan, the Department has provided for capital expenditure of £718 million in the three years to the end of 2010-11, representing a 73 per cent increase in capital expenditure over the three preceding years.
- 2.6 Similar difficulties in delivering major schools estates programmes have been encountered in England. In May 2009, the original and the revised planning assumptions in relation to the Building Schools for the Future Programme, were criticised by the Westminster Public Accounts Committee for poor planning and persistent over-optimism (Figure 10).

Part Two:

Effective use of available capital funding will be key to delivering a modernised estate

Figure 9: Department of Education Capital Expenditure 2005-06 to 2008-09

Year	Opening Budget £m	In-Year Changes £m	Final Plan £m	Final Outturn £m	Underspend £m
2005-06	212	(43)	169	126	43
2006-07	214	(55)	159	132	27
2007-08	279	(86)	193	158	35
2008-09	230	(29)	201	199	2
2009-10	275	(33)	242	242*	0
Total	1210	(246)	964	857	107

* provisional outturn figure provided by Department, final outturn not available at time of publication

Source: NIAO based on Department of Finance and Personnel data

Figure 10: Building Schools for the Future

Background

The Department for Children, Schools and Families launched Building Schools for the Future (BSF) in 2003, a plan to renew the secondary schools estate in England in a 10 to 15 year period from 2005. The Department for Children, Schools and Families also stated that the first 200 schools could be built by December 2008. However, only 42 schools had been completed by December 2008. Such delays in the programme also meant that there was underspending in the capital grant budget (£717 million in 2006-07) and the 10 to 15 year window to deliver the programme has been revised to 18 years, with the last school due for completion in 2023. The Public Accounts Committee made the following comments on the progress of the BSF programme:

PAC: Building Schools for the Future: renewing the secondary school estate, 27th Report of Session 2008-09, 13 May 2009, HC 274

"The Department's poor planning and persistent over-optimism has led to widespread disappointment with the programme's progress and reduced confidence in its approach and ability to include all schools by 2023. ...The Department should review the reasons why it was over-optimistic and, with the help of the Cabinet Office and the Office for Government Commerce, disseminate lessons across Whitehall."

"The Department and Partnerships for Schools appears complacent about the challenge of renewing all secondary schools by 2023. Doing so requires:

- *the doubling of the number of schools in procurement and construction;*
- *8 or 9 Local Authorities to start BSF a year; and*
- *the construction of 250 schools a year from 2011 onwards.*

Current promises to increase the pace of the programme are not sufficient to meet this. The Department and Partnerships for Schools should set out a detailed plan of how it intends to increase the pace of delivery and finish the programme on time."

Source: Westminster Public Accounts Committee

Most schemes have been driven by serious accommodation inadequacies

- 2.7 School authorities (Paragraph 4) have been responsible for developing proposed schemes including undertaking feasibility studies, economic appraisals,²⁷ and development proposals. The authorities also ranked schemes according to five categories of priority:
- 1) additional schools on identified sites or extensions to existing schools where there is clear evidence that there is an unmet demand created by an insufficient number of places to accommodate pupils at suitable schools within a defined area;
 - 2) rationalisation proposals which replace sub-standard accommodation and are essential to effect the rationalisation;
 - 3) schools which suffer significantly as a result of several serious accommodation inadequacies;
 - 4) sub-standard accommodation in schools; and
 - 5) overcrowding and undue reliance on temporary accommodation.
- 2.8 The Department's role has been to advise on school development proposals and the allocation of funding, and approve all economic appraisals and schemes for inclusion in the capital priorities planning list. Since December 2002, the main criterion for selecting schemes for the development programme was to be

educational need. In determining which schemes had the highest educational need, the Department would consider, in order of importance, the suitability for educational use; physical condition (including health and safety requirements); the proportion of temporary accommodation; and other factors. We found, however, that most schemes in the capital programme were taken forward on the basis of serious accommodation inadequacies, i.e. the third category of the priority listing.

There have been variations in the content and quality of economic appraisals

- 2.9 Current DFP guidance²⁸ describes appraisal as a systematic approach for examining alternative uses of resources. It is designed to assist in defining problems and finding the best value for money solutions. It is also a way of thinking expenditure proposals through, right from the emergence of the need for a project, through its implementation, to post-project evaluation. We reviewed the approved economic appraisals for the 16 schools we had independently assessed for their design quality (paragraph 8) and found variations in their quality and content across a number of issues.

The Consideration of Options

- 2.10 The number of options identified in individual schemes ranged between three and six. In six of the appraisals examined, only two options were costed – the 'do minimum' and the preferred option. Three of those appraisals were prepared by the

²⁷ The Department prepared economic appraisals on behalf of voluntary and grant maintained integrated schools. Because of the number of schemes competing for limited resources, appraisals were completed only for high priority projects in the top three categories.

²⁸ Department of Finance and Personnel: DAO(DFP) 06/05 – Departmental Delegations/Requirements for DFP Approval, 6 April 2005

Part Two:

Effective use of available capital funding will be key to delivering a modernised estate

Department which formally dispensed with consideration of non-quantifiable factors. Other key aspects of the appraisals, including consultation with stakeholders, sensitivity analysis, and risk analysis were often not covered, not referred to, or considered but regarded as having limited significance or impact on the eventual decision. The Department told us that appraisals now consider non-quantifiable factors and sensitivity and risk analysis and only in the most exceptional circumstances are fewer than three options costed. Other revisions in the appraisal process include scrutiny and approval by the Department's economic advisors to ensure full compliance with the Northern Ireland Guide to the Green Book and the more recent Northern Ireland Guide to Expenditure and Appraisal (NIGEAE).

Enrolment Factors

2.11 Our 2004 report "Building for the Future" (Paragraph 8) recommended that there should be a more strategic review of long term enrolments, incorporating inter-Board analysis. While most appraisals reviewed pre-dated that Report, there were variations in the extent of the information about the number of years for which enrolment data was provided, the catchment area, alternative providers of education and local economic and social developments. We examined the projected pupil enrolment estimates included in the economic appraisals prepared for the 16 schools against enrolment numbers for the 2008-09 year. We found that the projected pupil enrolment estimates for eight of the 16 schools examined were within the range estimated in the economic appraisals; three had more pupils than estimated; and five schools had less. The case study at Figure 11 examines the appraisal for Gibson

Figure 11

Gibson Primary School – Review of enrolments did not fully consider the risk of reducing pupil numbers

The economic appraisal approved by the Department in December 2000 for the provision of a new school building at Gibson Primary School, Omagh, included a projected enrolment of 411 to 435 pupils. Although the data in the appraisal pointed to a reduction in pupil numbers from 556 in 1996-97 to 435 in 1999-2000, the Western Board had not commissioned an enrolment survey as it concluded "*that experience had proven that surveys of urban areas do not capture all the children who would normally attend a specific school*". The appraisal also added, that as the school also catered for children of army personnel from a local military base in the town, it was deemed extremely difficult to accurately project the school's enrolment. However, the Board was satisfied that there would be no change from the enrolment figure for the 1999-2000 school year. The Department, in approving the economic appraisal, stated that it would "*continually review the long-term enrolment for the school*". The school currently has an enrolment of 257 pupils, the enrolment having declined from 393 in 2004-05 to 297 in 2006-07 prior to the closure of the military base in 2007.

Source: NIAO review of Economic Appraisal for Gibson Primary

Primary School, Omagh and highlights the importance of fully considering risk factors that may impact on school enrolments.

The Department's Investment Delivery Plan is relatively underdeveloped but it recognises where improvements can be made

2.12 Our 2006 report on the Reinvestment and Reform Initiative (paragraph 1.14) examined a number of Departmental Investment Proposals and identified variances in the quality and quantity of the information contained in them. For example, some were lacking in content and did not fully consider long-term infrastructure planning or clearly outline a coherent strategy for management of existing departmental asset bases. Our report noted that, whilst the Department's proposals explained the need for rationalisation, the proposals did not set out the specific implications for the level of future investment.

2.13 The Department's Investment Delivery Plan acknowledges that the current processes for identifying and approving major works schemes will change with the establishment of ESA and a move to area-based planning on a cross-sector basis. The Department has identified the four components for an area-based approach:

- Asset Management Information;
- Area Plans;

- Strategic Investment Plans; and
- Project Appraisal.

2.14 In March 2008, the Department commissioned work to test the concept of area-based planning in the context of setting up a number of area groups to consider aspects of delivering the Entitlement Framework to post-primary pupils from the age of 14. The taking forward of area-based planning had been a recommendation in the Bain Report (2006) with it being seen as the central feature of the new and strategic approach to planning the schools' estate. The results of that work were published in July 2009²⁹ with a series of recommendations aimed at providing a supportive context within which area-based planning and the delivery of the Entitlement Framework can take place. The recommendations are also aimed at ensuring that the implementation of the Entitlement Framework continues at an appropriate, manageable and sustainable pace and that quality of provision is central.

Part Three:

The overall design quality of schools is improving but there are issues that need to be addressed



Part Three:

The overall design quality of schools is improving but there are issues that need to be addressed

We have previously reported on the procurement and design quality of schools

- 3.1 In October 2004, we published our report *“Building for the Future”* (paragraph 8) examining the early education projects delivered through the Private Finance Initiative (PFI). The study also included a comparison with similar school projects which had been designed and delivered through a traditional procurement process.
- 3.2 The report found that, overall, the quality of design and build was similar and in some respects better than in England and Wales. However, a number of important lessons were identified which, if applied to both PFI and traditional procurements, could have a positive impact on educational attainment and achievement of associated departmental targets. The report concluded that, in terms of procurement, the delivery of the pathfinder projects compared favourably with those procured through conventional contracts and while there was room for significant improvement, there was no reason why, with adequate maintenance and freedom from major defects, the schools and colleges examined in the Report should not last for 50-60 years and beyond.

For this report we commissioned an independent assessment of the design quality of 16 new and refurbished schools

- 3.3 In order to monitor progress since our 2004 report and assess how effective recent investments have been, in terms of improving the quality of the learning and

teaching environment, we commissioned Knox & Clayton, an architectural firm, to undertake an independent assessment of the design quality of new and refurbished schools. Major capital schemes completed within the last ten years were identified and a sample of 16 schools was selected (Appendix 5), covering the full range of schools and management types. The school visits also included on-site discussions with principals and other staff.

- 3.4 In completing their assessments, Knox & Clayton adapted the Commission for Architecture and the Built Environment’s (CABE³⁰) Good Design Assessment Criteria to help score the design quality of each school. The ten separate assessment criteria (Figure 12) were weighted to reflect their relative importance in the design quality of a school. We liaised with the Department over the sample of the schools visited and got their agreement to the detailed assessment criteria.

Very strong design quality was evident but robustness of finish and flexibility of design were often weak

- 3.5 The results of our assessment are set out in Figure 13. While scores were generated for individual schools, detailed comparisons are difficult as many factors can influence the results. These include differences in the size and nature of schools, as well as the type of schemes. However, an analysis of major differences in the range of scores for each school and each criterion indicates that very strong design quality was most prevalent in the first five criteria for the

30 CABE is a public sector body and is the government’s advisor on architecture, urban design and public space in England. Its remit does not extend to the devolved regions.

Figure 12: Design Assessment Criteria

Assessment Criterion	Weighting %
1. Good clear organisation, an easily legible plan, and full accessibility	15
2. Spaces that are well-proportioned, efficient, fit for purpose and meet the needs of the curriculum	15
3. Circulation space that is well organised and sufficiently generous	10
4. Good environmental conditions throughout, including appropriate levels of natural light and ventilation	15
5. Attractiveness in design, comparable to that found in other quality public buildings, to inspire pupils, staff and parents	5
6. Good use of the site and public presence as a civic building wherever possible to engender local pride	5
7. Attractive external spaces with a good relationship to internal spaces and offering appropriate security and a variety of different settings	10
8. A layout that encourages broad community access and use out of hours, where appropriate.	5
9. Robust materials that are attractive, that will weather and wear well and that are environmentally friendly	10
10. Flexible design that will facilitate changes in the curriculum and technology and which allows expansion or contraction in the future, where appropriate	10
Total	100

Source: NIAO adapted from CABE Criteria

more recent schemes. In contrast, lower levels of design quality were most prevalent in criteria six to ten in older schemes, particularly on robustness of finishes and flexibility for future use. The Case Studies presented following figure 13, provide examples of good and bad examples found during school visits.

Part Three:

The overall design quality of schools is improving but there are issues that need to be addressed

Figure 13: Strong design quality was evident in newer schemes but earlier schemes generally scored less well

Year Completed	School	Organisation	Spaces	Circulation	Environmental	Design Comparison	Public Presence	External Spaces	Community Use	Robustness	Flexibility for Future
2008	Holy Cross, Strabane										
2008	Bangor Academy										
2008 (R)	Ballyholme Primary, Bangor										
2007	Harberton Special School, Belfast										
2007	Maralin Primary										
2006	Creggan Primary, Randalstown										
2006 (R)	Sainfield High School										
2005	Bunscoil an t'Sleibhe Dhuib, Belfast										
2005	Kilmaine Primary, Bangor										
2004	Oakgrove College, Londonderry										
2003	Cavehill Primary, Belfast										
2003	Gibson Primary, Omagh										
2003	Damhead Primary, Coleraine										
2002	St Mary's Primary, Omagh										
2001	Cranmore Integrated Primary, Belfast										
1999 (R)	Holy Trinity Primary, Cookstown										

Notes:

- (R) denotes a refurbishment scheme.
- Green is a score of 75 per cent or more on that criterion; Amber is a score of 51 to 75 per cent; Red is a score of 50 per cent or less.

Assessment Criterion 1:

Good clear organisation, an easily legible plan, and full accessibility

Overall Assessment

Green

**Good Examples**

- Ease of orientation with clear visual constraints to distinguish elements.
- Movement is unimpeded and unobstructed.
- Accommodation laid out in a logical easy to understand manner.
- Visual connections to adjacent spaces aids orientation.
- Circulation routes easily distinguished with clean and appropriate signage.

**Bad Examples**

- Excessively monochromatic colour schemes should be avoided.
- Lack of signage hinders the direction of movement.
- Long and continuous circulation areas should be avoided.
- Movement should be unimpeded

Assessment Criterion 2:

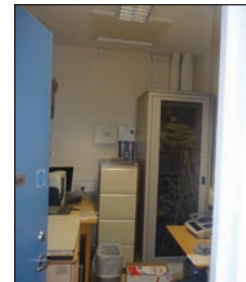
Spaces that are well-proportioned, efficient, fit for purpose and meet the needs of the curriculum

Overall Assessment

Green

**Good Examples**

- Good visual and distinctive relationship between classroom and cloakroom. Parents' notice-board for information activities in cloakroom.
- Innovative thinking of trough sink allowing two pupils to work side by side.
- Appropriate colour co-ordination of fixtures and fittings and well portioned.

**Bad Examples**

- Inadequate storage and shelving facility for coats, bags, lunchboxes.
- No designated space for communications area.
- Lack of appropriate storage facilities.

Part Three:

The overall design quality of schools is improving but there are issues that need to be addressed

Assessment Criterion 3:

Circulation space that is well organised, and sufficiently generous

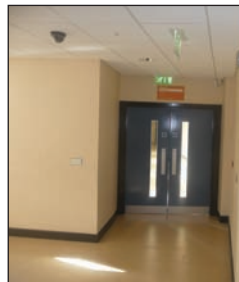
Overall Assessment

Green



Good Examples

- Adequate circulation space for universal accessibility.
- Allowance for class groups to pass each other.
- Spacious circulation routes direct enough to avoid undue travel distances to surrounding spaces.
- Environmental conditions can be maximised through good design



Bad Examples

- Inadequate width in corridors leads to congestion of pupils, especially at peak times.
- Pupils movement suffers from bottleneck in corridors at key spaces, i.e. at dining halls

Assessment Criterion 4:

Good environmental conditions throughout, including appropriate levels of natural light and ventilation

Overall Assessment

Amber



Good Examples

- Natural day-lighting creates a warm and welcoming atmosphere.
- Natural day-lighting maximising internal screen performance & minimises energy usage.



Bad Examples

- Inadequate day-lighting & uneven levels of lighting throughout classroom.
- Inadequate penetration design for ventilation process.
- Inadequate floor to ceiling height for depth of classroom away from window wall, to allow benefit of natural daylight.

Assessment Criteria 5 and 6

Attractiveness in design, comparable to that found in other quality public buildings, to inspire pupils, staff and parents. Good use of the site and public presence as a civic building wherever possible to engender local pride

Overall Assessment

Green



Good Examples

- Promotes character by responding to rural community and local culture.
- Promoting quality and favourable response from end users and wider public.
- Creation of landmark building.
- Promotes high quality design, attractive, secure and functional.
- Contribution to local community and surrounding environment.
- Identity of school highlighted by entrance scenario and individual character enhanced giving public presence.
- Good utilisation of tight site with internal courtyard designed into school.

Bad Examples

- Character not evident within design; without real civic significance.
- Entrance scenario suffers from illegibility and lack of a welcoming atmosphere.
- Little character and individual identity.
- Entrance scenario lacks character and presence.

Part Three:

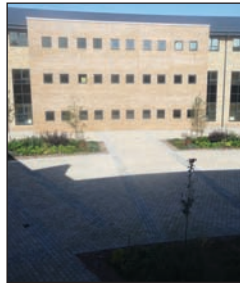
The overall design quality of schools is improving but there are issues that need to be addressed

Assessment Criterion 7:

Attractive external spaces with a good relationship to internal spaces and offering appropriate security and a variety of different settings

Overall Assessment

Amber



Good Examples

- Excellent landscaped courtyard relating well to the internal layout.
- Visible from all circulation areas. Hard and soft landscaping areas, with good access from school, act as courtyards for overlapping uses.



Bad Examples

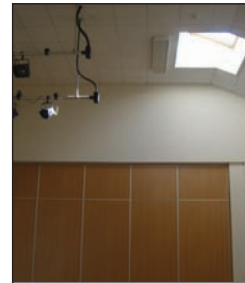
- Poor relationship to internal spaces. Lack of design quality in terms of materials and landscaping. Wasted opportunity to utilise external area.

Assessment Criterion 8:

A layout that encourages broad community access and use out of hours, where appropriate

Overall Assessment

Green



Good Examples

- External community access to the main hall allowing ease of access and security to remainder of school.
- Promoting community involvement through local schemes and workshops. Running external groups within the school where possible.



Bad Examples

- Hall situated at rear of school, which does not promote community usage. No ability to separate hall from classroom spaces for secure, independent use.

Assessment Criterion 9:

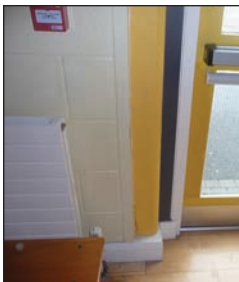
Robust materials that are attractive, that will weather and wear well and that are environmentally friendly

Overall Assessment

Amber

**Good Examples**

- Detailing of rain water good with low maintenance soffits and eaves. Rain water harvesting for re-use.
- Robust use of internal brick panel in main hall proved successful and low maintenance.

**Bad Examples**

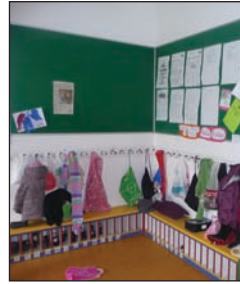
- Poor detailing at main hall with junction of structure/door/skirting creating health and safety risk and unattractive finish.
- Any use of timber cladding should be carefully specified and treated.

Assessment Criterion 10:

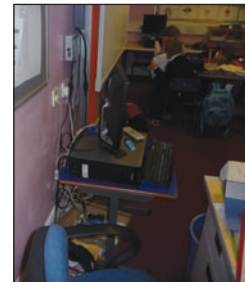
Flexible design that will facilitate changes in the curriculum and technology and which allows expansion or contraction in the future, where appropriate

Overall Assessment

Amber

**Good Examples**

- Overcladding uses at cloakroom for parents information area.
- External courtyard as a flexible area for play activities, exterior teaching, circulation routes between school blocks.

**Bad Examples**

- Poor detailing of interactive whiteboard cabling. Poor integration of Architecture and M&E Services.
- Lack of storage facilities can hamper flexibility.

Part Three:

The overall design quality of schools is improving but there are issues that need to be addressed

Schools scored very well on the organisation of their buildings and most spaces were well designed

- 3.6 Most schools scored highly on the organisation of their buildings. This was particularly evident on new-build schools. These benefit from clear, open greenfield sites, with design teams having the inherent scope to organise a new school in a sensible and coherent manner from the start, without the compromises that arise from having to adapt around existing accommodation. Newer schools also tended to score more highly because aspects relating to disabilities have become statutory requirements and have to include them in their design.
- 3.7 Most schools scored highly against the criterion of spaces being well-proportioned, efficient, fit for purpose and meeting the needs of the curriculum. New schools will find it easier to ensure spaces and rooms are organised correctly and proportionately with equipment provided to the most up-to-date standards. However, we found examples of poor choices in the general arrangement of rooms or the relationship of key spaces to one another, with cloakroom areas being a frequently recurring area of concern. As there is no minimum fixed area for cloakrooms, they can get 'tightened-up' in order to help the overall design meet the required area as prescribed in the Department's Building Handbook³¹. The result is that pattern of use by pupils and the level of belongings left by pupils, leaves the space either looking extremely congested when pupils congregate there or very cluttered when it is just their belongings.

Smaller schools scored particularly well on ease of internal movement

- 3.8 Circulation space should be well organised to avoid undue travel between areas e.g. classrooms and sufficiently generous to avoid over-crowding or bottlenecks at certain peak times of day. The highest scoring schools in our sample tended to be the smaller primary schools. This was due to the ease and simplicity of movement around their corridors. The larger schools, even with wider corridors, require a greater level of logistical organisation and forethought to arrive at a suitable solution to circulation issues. Queuing outside classrooms (typically in post-primary schools) and entrances to dining halls at lunchtimes were examples of pressures on circulation space.

Environmental conditions can be maximised through good design

- 3.9 Good lighting, in particular the use of natural light, is an important element of any design. It can ensure appropriate visual comfort, optimise aesthetics, minimise glare illumination and provide potential energy efficiency savings, as well as creating a friendly, positive space for active working. To that end, windows should be suitably sized to allow in enough light while also providing sufficient vents which can be opened for adequate natural ventilation. Sufficient volumes of air in classrooms can help lessen the build-up of carbon dioxide and therefore help concentration levels to be retained throughout the school day.

31 The Handbook provides advice and guidance on the planning and design of new school buildings (site, building, circulation space, playing facilities) and the standard to which they should conform. There are separate sections in the Handbook for nursery, primary and secondary schools.

- 3.10 The orientation of a building should aim to minimise undesirable 'solar gains' (heat) during the summer months and maximise those gains during the winter months, without the effects of glare from a low-lying sun. In addition, classes should not be unnecessarily disrupted by external noise; therefore the quality of glazing and door specification from corridors or social spaces into classrooms is important. The design should always ensure that room dividing walls are built up to the underside of the roof structure. This avoids above-ceiling transfer of sound, not just for classrooms, but also for administration areas, where issues of confidentiality and privacy are paramount.
- 3.11 One school (Kilmaine Primary, Bangor) gained a maximum score for a continuous, thoughtful and consistently good approach to the use of natural light throughout and for including a well designed heating and ventilation strategy. However some other schools did not bring in natural light to corridors, the rear of classrooms or key spaces. In some cases the benefits of natural ventilation could not be realised because opening windows allowed external noise from traffic or neighbouring buildings to disrupt teaching.

The schools had a good 'civic presence' and their design quality was comparable to that of other quality public buildings

- 3.12 Design quality in terms of civic presence and comparisons with other public buildings can be a subjective area, so our assessment takes more account of end

user views. For example, most schools agreed that their building was a good and positive place to work, however, this could be based on factors other than design quality. There is also always the potential that a new building is more 'sterile' than the previous school in terms of character, experience or atmosphere, although this was found not to be the case for the schools examined. Therefore schools were assessed based on a general overview of a range of criteria points, for example, good site presence, impact of main entrance, choice of materials, spatial awareness and quality of light, the overall strength of the building's design plus the building's own context and siting. We found no systemic concerns about the design quality of new schools using these criteria.

Schools should give full consideration to the external aspects of their design

- 3.13 In the external environment for any school, security is a key aspect whether at the boundary (where good observation and supervision are key factors), in the grounds or at the main entrance, which should also include a controlled foyer to inhibit free access to the school and allow the school to scrutinise visitors prior to entry. Overall, on this criterion schools scored less well, in part due to security aspects not being fully addressed in all instances, including limited evidence of consultation with the Police Service of Northern Ireland and its Architectural Liaison Officer service. Many schools also scored less well due to an insufficient variety of external play spaces in primary schools, particularly grass areas. Those schools were often reluctant to have

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grass play areas due to the maintenance requirements and the limited time when the areas would be fully available and functional.

hours use where appropriate, whilst not undermining the security of the rest of the school. In design terms, we found that most schools had the potential to be used by the community without compromising the security or control over access to other parts of the school. However, the schools advised us that a combination of other factors such as insurance, maintenance, staffing requirements, security and damage and cleaning make it generally prohibitive for them to consider. They also indicated that other facilities and clubs in the locality can offer similar amenities at a much lower

Most of the schools visited have the potential for community and out-of-hours use

3.14 The ability for school facilities to be used for other purposes was assessed on the basis of whether the school layout easily allowed for community access and activities, including out-of-school

Figure 14: Case Study

Use of school facilities by the local community: Finaghy Primary School

The new Finaghy Primary School opened in 2005 on its existing seven acre site in South Belfast. Its current pupil enrolment is 428. In the previous school, while its premises had been used by outside organisations, there was no pattern of local community use. The school authorities, i.e. the Principal, Staff and Board of Governors – have taken a number of initiatives to open up the school to use by the local community on a self-sustaining basis. The range of activities has developed incrementally and comprises;

- **Breakfast Club:** for 90 children in the school canteen;
- **After-School Care:** which currently operates from a classroom, arising as a result of spare capacity and serves 50 families with extended opening hours during the school holidays. It is run as a Community Business through the Board of Governors and it is a registered provider of day care;
- **Community Sports Zone:** a synthetic pitch was funded via the Lottery's New Opportunities Fund. The income pays for the cost of maintenance and secretarial support;
- **New Community Library:** set up with the support of the Belfast Board; and
- **Youth Clubs:** run in partnership with a local church. The hire charge covers utilities and the cost of caretaker's

The school views the success of the initiative as being due to the support of the service deliverers, volunteers and staff who have agreed to changes in work patterns with investment in people development. This ran in parallel to the physical development of the campus; leadership training, management of change and achieving buy-in from all stakeholders.

The individual facilities have attracted ratings of excellent by between 88 and 98 per cent of parents using the particular service.

Source: Finaghy Primary School.

cost, making the possibility of competing on a commercial level practically impossible. Other schools have developed their community and out-of-hours use, of which Finaghy Primary School is a good practice example (Figure 14).

- 3.15 The Department told us that it is conscious of the fact that the schools estate represents a significant public resource which could and should be more widely used by schools themselves and their local communities. It also recognises the wider educational benefits in encouraging such links. In 2009-10, it provided £10 million to some 480 schools for an extended schools programme to support a range of activities aimed at raising school standards; fostering the health, well-being and social inclusion of children and young people, particularly from disadvantaged/deprived areas; and transforming local communities, so that schools can become hubs of their local community offering a range of activities before and beyond the traditional school day. The Department also established a working group in June 2009 made up of key educational stakeholders to identify potential barriers to increasing community use and examples of good practice. This group reported in March 2010. The Department advised us that the recommendations will be used by both it and ESA to inform policy and operations in relation to enhancing community use of school premises. The current intention is that a strategy will be brought forward after consultation with other Departments and public sector bodies affected by the working group's recommendations.

There were variations in the environmental friendliness and robustness of the materials used

- 3.16 Internal and external materials and finishes should be attractive yet robust enough to withstand the weathering, constant use and wear and tear expected in a school. Benefits may also be derived from choosing environmentally-friendly additions and solutions, such as sensor lighting controls or choice of fuel for heating.
- 3.17 The results of our assessment for this criterion produced the lowest average score. We found relatively limited environmentally friendly features and in many cases schools authorities had not considered their inclusion to be economically justifiable. Also the newer projects assessed had the advantage that certain technologies are now more common, more affordable and easier to integrate into the design. Subsequent projects will be expected to meet higher standards with substantial changes in Building Control regulations and contractual stipulations to achieve a BREEAM rating (paragraph 17) of either "Excellent" for new buildings or "Very Good" for refurbished buildings.
- 3.18 In relation to materials and their maintenance, a design may have to make a trade-off between robustness and attractiveness. Hard wearing materials do not always make for the most appealing internal finishes. While the practical maintenance reasons to use them are obvious, the potential exists for a loss of coherence, brightness and inspirational finish.

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The overall design quality of schools is improving but there are issues that need to be addressed

Designs need to give more priority to flexibility

3.19 Generally schools did not score well in terms of flexibility of design. Examples of physical and technological inflexibility included lack of storage facilities, poor finish of interactive whiteboard cabling and poor integration of the architecture with the mechanical and electrical services.

Our concerns about design quality in some of the early schools projects procured by PFI are being addressed

3.20 Our 2004 report (paragraph 8), concluded that, in terms of design, on some of the PFI projects the output specifications did not reflect basic school needs and performance requirements in relation to design standards. The report also established that early PFI school procurement often resulted in poorer design when directly compared with schools procured under traditional procurement arrangements.

3.21 Two of the schools we visited in this review, Holy Cross College, Strabane and Bangor Academy (both recently built schools under PFI), were assessed to see how design quality had progressed since our 2004 report. Seven of the ten CABE assessment criteria we used were also within the scope of the 2004 report³².

There have been improvements in the design quality of school projects in the past decade and this is supported by analysis of the scores for individual schools

3.22 We found that there have been significant improvements in design quality from the earlier PFI schools, with clear evidence of progress in six of the seven categories, the exception being robustness of finishes (see Appendix 6). The contributing factors identified from the assessment were:

- an increase in the awareness of the aspects that quantify good design;
- changes in statutory requirements;
- the inclusion of more realistic budgets;
- a general raising of awareness of the intrinsic value of good design; and
- more knowledgeable and demanding clients and end users.

3.23 The role of the clients and end users had a significant and unexpected influence. The energy and passion of an interested school body, acting as end user clients in conjunction with the design team, can really lift the final, completed quality of a project. The level of involvement, interest and engagement invested by the school itself can also help to drive the design and create a better, more rounded and viable design solution.

32 The three criteria outside the scope of the previous examination were external spaces and security (7th criteria), community use out of hours (8th criteria) and flexibility for future change (10th criteria).

School designs complied with guidance issued by the Department, but our review identified a number of areas of concern

3.24 The Department has School Building Handbooks which provide advice and guidance on the planning and design of new school buildings and the standard to which they should conform. They are also reference documents for the evaluation of design submissions by the Department's technical staff. They deal with the site, the building, circulation space and playing facilities – all matters which influence the learning environment within which the curriculum is delivered.

3.25 All schools generally complied with the guidance set down in the relevant Handbook. However we identified areas of concern in almost all of the schools visited:

- 1) **classroom stores** – although schools had the required scheduled area of storage, this aspect of school design was always questioned and seemed to have the greatest effect on the daily use of the building by the end users. The Primary School Building Handbook (Appendix 7) has been revised to provide for additional central stores in schools of seven classrooms or more;
- 2) **communications room** – a dedicated room for a communications cabinet of five square metres was generally considered by schools to be insufficient, especially for larger schools where two or more cabinets are required. This can lead to cabinets being located

elsewhere, usually within another store, with the space then being lost for its primary function;

- 3) **cloakroom areas** – spaces ending up either looking very cluttered with belongings or congested when pupils congregate (paragraph 3.7). In general as there is no minimum fixed area for this space, when the Limit of Internal Area³³ is applied to the overall design these are the spaces that get tightened up in order to live within the required area;
- 4) **corridor widths** – wider corridors are known to make a building more appealing, spacious, functional and welcoming, but it is not always practical to achieve this within the limits set by the accommodation schedule. Minimum widths are now being applied to buildings through a change in building regulations and disability standards. In the revised Primary School Building Handbook (Appendix 7) the minimum corridor widths for all new primary schools has been increased from 1.8 metres to 2.0 metres (a change which is also being planned for the Post Primary Handbook);
- 5) **external play spaces** – schools are generally reluctant to commit to having the requested area of grass play space, as they do not see it as 'value for money' due to the maintenance requirements and the limited time when the areas may be fully available and functional (see paragraph 3.13); and

33 The Limit of Internal Area is prescribed in the Handbook according to the size of the school by numbers of classrooms. It is also a key element for the Department to derive the gross target cost for the scheme.

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6) **future flexibility** - it is important to consider from the outset how the building can grow, taking care with the siting of the building and the location of services, to allow for potential expansion. The flexibility to adapt to a changing curriculum is also increasingly important. The future of educational provision is uncertain with the advent of new technology and advanced teaching techniques; ensuring flexibility for the future can be difficult but schools built today need to be able to respond to required changes, and in the least disruptive way possible.

3.27 The updated Handbook has addressed many of the concerns raised by schools and our consultants during their assessment of design quality, including cloakrooms (paragraph 3.7) and interactive whiteboards (paragraph 3.19). Appendix 7 lists the main areas of concern and the changes made to the Primary School Handbook. The Handbook now includes Room Data sheets for each area of accommodation. These sheets provide designers with more specific information and technical guidance which should ensure a more consistently high quality outcome. The revised Post-Primary handbook will also have additional communications rooms included (paragraph 3.25).

The Department has made progress in implementing a PAC recommendation on the Building Handbooks

3.26 The PAC, in a 2007 report³⁴, recommended that the Department should undertake a fundamental review of Building Handbooks to ensure that they reflected the lessons learned from post-project evaluations and the findings of the NIAO report³⁵. The Department accepted this recommendation and stated that it had begun a review, focusing on the Primary School Handbook which had last been updated in the 1990s. This would include seeking the views of a range of education stakeholders and also consider relevant documentation, including curriculum, legislative and building guidance, and would incorporate lessons learned from post-project evaluations and the NIAO report. An updated Primary Schools Handbook was issued in April 2009.

The economic appraisals for approved schemes have included arrangements for post-project evaluation

3.28 Post Project Evaluation (PPE) is an integral part of good project management. While the economic appraisals supporting the case for school schemes currently includes provision for post-project evaluation arrangements, we found that these are not always completed or are not completed on a timely basis. We examined the economic appraisals for the 16 schemes reviewed and, with the exception of two schemes (whose original economic appraisals were completed in the early 1990s), they had provision for PPE, but at April 2009 only three had been subject to PPE.

3.29 Of the 153 (paragraph 2.1) schemes

34 Transfer of Surplus Land in the PFI Education Pathfinder Projects, November 2007, 11/07/08R (Public Accounts Committee)

35 Transfer of Surplus Land in the PFI Education Pathfinder Projects, Report by the Comptroller and Auditor General, NIA 21/07-08, 11 September 2007

completed to date, we found that only 25 PPEs had been completed. A significant proportion of these evaluations were completed in the early part of 2009 during our fieldwork and as part of the Department's review of the Primary School Building Handbook (paragraph 3.26). Our review of these evaluations found that they were not completed on a timely basis and only one scheme in the post-primary sector (the largest sector in terms of capital spend) had been evaluated. However, we noted that the evaluations pointed to a range of design weaknesses in individual schools, the most frequent being storage space, heating, robustness, size, flexibility and layout. This supports the findings of our independent review of design quality.

how it has affected the learning experience or impacted on supervision. It also makes users feel confident that issues of concern to them are being addressed.

Post Occupancy Evaluation is a way of providing feedback to inform future projects and processes

3.30 Post Occupancy Evaluation is a recognised way of providing feedback on performance throughout a building's lifecycle, from initial concept through to occupation. Recent PPEs completed by the Department on primary schools have included a design quality questionnaire for completion by the school principal. Information from this type of feedback can be used to inform future projects and processes. However, to be most effective, building performance evaluation must happen throughout the lifecycle of a building, and it is important that all users (pupils, staff and other stakeholders) are involved in the process. This enables information to be gathered on different aspects of the building, such as

Appendices:



Appendix One: (Paragraph 1 and 1.7)

From 1997 to December 2009, 153 schemes have been completed and a further 87 projects are currently on-site or in planning			
Breakdown of Schemes	Completed	Under Construction	In Planning
By School Type			
Post Primary	45	11	27
Primary	95	6	36
Special	13	0	7
By Management Type			
Controlled	87	6	32
Grant Maintained Integrated	9	0	2
Irish Medium	3	0	2
Maintained	41	6	24
Voluntary Grammar	13	5	10
By Value			
Less than £1m	13	0	0
£1m to £5m	99	4	26
£5m to £10m	21	2	14
Over £10m	20	11	30
By Type of Project			
New Build	122	14	65
Extension/Refurbishment	31	3	5
By Board Area			
Belfast	27	4	12
North Eastern	25	2	8
South Eastern	37	4	13
Southern	33	3	19
Western	31	4	18

Source : Department of Education Statistics

Appendix Two: (Paragraphs 1.7 and 2.1)

School schemes announced by DE by year and capital value				
Year	Capital Value (£m) ^a	Schemes Announced	Schemes Completed	Schemes on site or in planning (Jan 2010)
1997	23	10	10	-
1998	63	11	11	-
1999	66	16	16	-
2000	72	18	17	1
2001	181	29	24	2
2002	156	31	23	6
2003	263	43	23	14
2004	222	42	12	24
2005 ^b	-	-	-	-
2006	379	48	8	40
Total	1,425	248	144	87

Source: Department of Education

Notes

- The capital value is the estimated capital value of the schemes announced in that year, not the amount of expenditure in that year.
- The Department informed us that there were no schemes announced in 2005 due to the need to confirm resources available and the implications of the Investment Strategy for Northern Ireland and the need, in the context of falling rolls and surplus places, to take a more strategic approach than before in deciding which schemes should receive capital investment.
- Seventeen of the schemes announced between 2001 and 2004 were subsequently withdrawn because of concerns about falling enrolments and longer term viability.

Appendix Three: (Paragraph 1.7)

School Schemes Completed Since 1997 (PFI/PPP schemes are in bold)						
Announced	School Name	Board Area	School type	Management	Project Type	Cost (£m)
1995	Bridge Integrated Primary School, Banbridge	Southern	Primary	GMI	New Build	2.8
1995	Howard Primary School, Dungannon	Southern	Primary	Controlled	New Build	1.4
1995	Saint Columb's College, Londonderry	Western	Post- Primary	Voluntary Grammar	Extension	11.5
1996	Ballykeel Primary School, Ballymena	North Eastern	Primary	Controlled	New Build	3.5
1996	Saint Malachy's High School, Castlewellan	South Eastern	Post- Primary	Maintained	New Build	12.8
1996	Moira Primary School	South Eastern	Primary	Controlled	New Build	1.8
1996	Holy Trinity Primary School, Cookstown	Southern	Primary	Maintained	Extension/ Refurb	3.0
1996	Tullymore/Tullysaran Primary School	Southern	Primary	Maintained	New Build	1.1
1996	Saint Patrick's High School, Keady	Southern	Post- Primary	Maintained	New Build	12.4
1997	Belmont Primary School, Belfast	Belfast	Primary	Controlled	New Build	1.3
1997	Saint Bride's Primary School, Belfast	Belfast	Primary	Maintained	Refurb/ Alterations	1.0
1997	Gaelscoil na bhFal Primary School, Belfast	Belfast	Primary	Irish Medium	New Build	2.0
1997	Muckamore House Special School	North Eastern	Special	Controlled	New Build	3.6
1997	South Lisburn Primary School	South Eastern	Primary	Controlled	New Build	1.3
1997	Saint Dallan's Primary School, Warrenpoint	Southern	Primary	Maintained	New Build	3.9
1997	Glaskermore Primary School, Banbridge	Southern	Primary	Controlled	New Build	1.2
1997	Drumahoe Primary School, Londonderry	Western	Primary	Controlled	New Build	1.1
1997	Oakgrove Integrated PS, Londonderry	Western	Primary	GMI	New Build	2.6
1997	Lumen Christi College, Londonderry	Western	Post-Primary	Voluntary Grammar	Extension/ Refurb	5.1

Announced	School Name	Board Area	School type	Management	Project Type	Cost (£m)
1998	Aquinas Grammar School, Belfast	Belfast	Post-Primary	Voluntary Grammar	New Build	10.1
1998	Wellington College, Belfast	Belfast	Post-Primary	Controlled	New Build	6.4
1998	Balmoral High School, Belfast	Belfast	Post-Primary	Controlled	New Build	3.7
1998	Saint Genevieve's High School Belfast	Belfast	Post-Primary	Maintained	New Build	13.4
1998	Jaffe Special School, Belfast	Belfast	Special	Controlled	New Build	2.1
1998	Gracehill Primary School, Ballymena	North Eastern	Primary	Controlled	New Build	2.6
1998	Saint MacNissis's Primary School, Larne	North Eastern	Primary	Maintained	New Build	2.0
1998	Middletown Primary School	Southern	Primary	Maintained	New Build	1.1
1998	McBride's Crossroads P.S. Katesbridge	Southern	Primary	Controlled	New Build	1.2
1998	Drumglass High School, Dungannon	Southern	Post-Primary	Controlled	New Build	7.6
1998	Saint Joseph's S.S., Londonderry	Western	Post-Primary	Maintained	New Build	13.0
1999	Bushvalley Primary School, Ballymoney	North Eastern	Primary	Controlled	New Build	0.7
1999	Saint Joseph's Primary School, Crumlin	North Eastern	Primary	Maintained	New Build	3.2
1999	Saint Pius X High School, Magherafelt	North Eastern	Post-Primary	Maintained	Extension/ Refurb	12.0
1999	Sandelford Special School, Coleraine	North Eastern	Special	Controlled	New Build	4.3
1999	Our Lady Queen of Peace PS, Derriaghy	South Eastern	Primary	Maintained	New Build	2.4
1999	Castle Gardens PS, Newtownards	South Eastern	Primary	Controlled	New Build	3.2
1999	Loughview Integrated PS, Belfast	South Eastern	Primary	GMI	Extension	0.3
1999	Glenlola Collegiate, South Eastern Bangor		Post-Primary	Controlled	New Build	11.9
1999	Saint Colman's PS, Saval, Newry	Southern	Primary	Maintained	New Build	1.1

Appendix Three: (Paragraph 1.7)

Announced	School Name	Board Area	School type	Management	Project Type	Cost (£m)
1999	Royal School, Dungannon	Southern	Post-Primary	Voluntary Grammar	Extension/ Refurb	8.0
1999	Saint Patrick's Grammar School, Armagh	Southern	Post-Primary	Voluntary Grammar	Extension	1.8
1999	Lurgan Special School (Ceara)	Southern	Special	Controlled	New Build	3.4
1999	Saint Mary's PS, Killyclogher, Omagh	Western	Primary	Maintained	New Build	2.4
1999	Florencecourt Primary Western School		Primary	Controlled	New Build	0.9
1999	Thornhill College, Londonderry	Western	Post-Primary	Voluntary Grammar	New Build phased	10.6
1999	St Louise's College, Belfast	Belfast	Post-Primary	Maintained	New Sports Hall	0.9
2000	Cranmore Integrated PS, Belfast	Belfast	Primary	GMI	New Build	1.4
2000	Saint Paul's Parish Primary School, Belfast	Belfast	Primary	Maintained	New Build	3.6
2000	Forthriver Primary School, Belfast	Belfast	Primary	Controlled	New Build	1.5
2000	Dominican College, Belfast	Belfast	Post-Primary	Voluntary Grammar	Extension/ 13.1 Refurb	
2000	Woods Primary School, Magherafelt	North Eastern	Primary	Controlled	Extension	0.7
2000	Antrim Grammar School	North Eastern	Post-Primary	Controlled	Extension	7.7
2000	Christ the Redeemer PS, Dunmurry	South Eastern	Primary	Maintained	New Build	4.3
2000	Ballymacward Primary School, Lisburn	South Eastern	Primary	Maintained	New Build	1.2
2000	Cregagh Primary School, Belfast	South Eastern	Primary	Controlled	New Build	2.0
2000	Victoria Primary School, Newtownards	South Eastern	Primary	Controlled	New Build	4.7
2000	Ballycarrickmaddy Primary School, Lisburn	South Eastern	Primary	Controlled	New Build	1.3
2000	Regent House GS, Newtownards	South Eastern	Post-Primary	Controlled	Extension	6.7

Announced	School Name	Board Area	School type	Management	Project Type	Cost (£m)
2000	Castlecaulfield No 2 Primary School	Southern	Primary	Maintained	New Build	1.2
2000	Craigavon Senior High School	Southern	Post-Primary	Controlled	Refurbishment	0.7
2000	Donard Special School, Banbridge	Southern	Special	Controlled	New Build	2.8
2000	Saint Brigid's High School, Londonderry	Western	Post-Primary	Maintained	Extension	7.7
2000	Convent Grammar School, Enniskillen	Western	Post-Primary	Voluntary Grammar	Extension	6.3
2001	Saint Kevin's Primary School, Belfast	Belfast	Primary	Maintained	New Build	4.0
2001	Finaghy Primary School, Belfast	Belfast	Primary	Controlled	New Build	2.3
2001	Cavehill Primary School, Belfast	Belfast	Primary	Controlled	New Build	1.8
2001	Lowwood Primary School, Belfast	Belfast	Primary	Controlled	New Build	2.0
2001	Rathmore Grammar School, Belfast	Belfast	Post-Primary	Voluntary Grammar	New Build	17.0
2001	Damhead Primary School, Belfast	North Eastern	Primary	Controlled	New Build	1.1
2001	Saint Ita's Primary School, Carryduff	South Eastern	Primary	Maintained	New Build	4.5
2001	Maze, St James and St John's, Hillsborough	South Eastern	Primary	Controlled	New Build	1.5
2001	All Children's Controlled IPS, Newcastle	South Eastern	Primary	Controlled	New Build	1.8
2001	Bangor Academy	South Eastern	Post-Primary	Controlled	New Build	15.0
2001	Comber High School	South Eastern	Post-Primary	Controlled	New Build	6.0
2001	Clifton Special School, Bangor	South Eastern	Special	Controlled	New Build	4.8
2001	Our Lady and Saint Mochua's PS, Keady	Southern	Primary	Maintained	New Build	1.2
2001	Innismagh & Ballygawley Primary School	Southern	Primary	Controlled	New Build	1.2
2001	Saint Patrick's Primary School, Donaghmore	Southern	Primary	Maintained	New Build	2.1

Appendix Three: (Paragraph 1.7)

Announced	School Name	Board Area	School type	Management	Project Type	Cost (£m)
2001	Ballydown Primary School, Banbridge	Southern	Primary	Controlled	New Build	2.0
2001	Saint Paul's High School, Bessbrook	Southern	Post-Primary	Maintained	Extension/ Refurb	8.8
2001	Rathfriland Hill Special School, Newry	Southern	Special	Controlled	New Build	4.0
2001	Saint Patrick's PS, Pennyburn, Londonderry	Western	Primary	Maintained	New Build	5.1
2001	Gibson Primary School, Omagh	Western	Primary	Controlled	New Build	2.6
2001	Saint Dympna's Primary School, Dromore	Western	Primary	Maintained	New Build	3.0
2001	Oakgrove Integrated College, Londonderry	Western	Post-Primary	GMI	New Build	12.5
2001	Holy Cross College, Strabane	Western	Post-Primary	Maintained	New Build	31.0
2001	Strabane Special School	Western	Special	Controlled	New Build	5.0
2002	Bunscoil An Tseibhe Dhuib, Belfast	Belfast	Primary	Irish Medium	New Build	1.4
2002	Harberton Special School, Belfast	Belfast	Special	Controlled	New Build	3.7
2002	Cedar Lodge Special School, Belfast	Belfast	Special	Controlled	New Build	4.0
2002	Meanscoil Feirste, Belfast	Belfast	Post-Primary	Irish Medium	Extension/ Refurb	4.9
2002	De La Salle College, Belfast	Belfast	Post-Primary	Maintained	Extension/ Refurb	16.0
2002	Loanends Primary School, Nutts Corner	North Eastern	Primary	Controlled	New Build	1.2
2002	Millquarter Primary School, Toomebridge	North Eastern	Primary	Maintained	New Build	1.0
2002	Hillcroft Special School, Newtownabbey	North Eastern	Special	Controlled	New Build	5.6
2002	Roddensvale Special School, Larne	North Eastern	Special	Controlled	New Build	3.8
2002	Clough and Downshire Primary School	South Eastern	Primary	Controlled	New Build	1.8
2002	Hillsborough and Newport Primary School	South Eastern	Primary	Controlled	New Build	3.8

Announced	School Name	Board Area	School type	Management	Project Type	Cost (£m)
2002	Dundonald Primary School	South Eastern	Primary	Controlled	New Build	4.8
2002	Regent House GS, Newtownards	South Eastern	Post-Primary	Controlled	Extension/ Refurb	8.9
2002	Fivemiletown High School	Southern	Post-Primary	Controlled	New Build	10.0
2002	Saint Patrick's College, Dungannon	Southern	Post-Primary	Maintained	New Build	12.0
2002	Bready and Sandville Primary School	Western	Primary	Controlled	New Build	1.3
2002	Dervaghroy, Sixmilecross & The Hutton PS	Western	Primary	Controlled	New Build	1.3
2002	Edwards Primary School, Castleberg	Western	Primary	Controlled	New Build	2.0
2002	Saint Ninnidh's Primary School, Derrylin	Western	Primary	Maintained	New Build	1.2
2002	Saint Fanchea's College, Enniskillen	Western	Post-Primary	Maintained	New Build	8.9
2002	Thornhill College, Londonderry	Western	Post-Primary	Voluntary Grammar	New Build	4.2
2002	Drumragh Integrated College, Omagh	Western	Post-Primary	GMI	New Build	10.2
2002	Crumlin High School	North Eastern	Post-Primary	Controlled	New Sports Hall	0.7
2003	Orangefield Primary School, Belfast	Belfast	Primary	Controlled	New Build	4.0
2003	Ashfield Girls High School, Belfast	Belfast	Post-Primary	Controlled	New Build	13.2
2003	Creggan Primary School, Randalstown	North Eastern	Primary	Maintained	New Build	1.1
2003	Mossley Primary School	North Eastern	Primary	Controlled	New Build	6.6
2003	Camphill Primary School, Ballymena	North Eastern	Primary	Controlled	New Build	3.9
2003	Leaney Primary School, Ballymoney	North Eastern	Primary	Controlled	New Build	2.4
2003	Hillsborough Nursery School	South Eastern	Nursery	Controlled	New Build	0.4
2003	Kircubbin Community Nursery School	South Eastern	Nursery	Maintained	New Build	0.4
2003	Loughview Integrated PS, Belfast	South Eastern	Primary	GMI	Extension	2.1

Appendix Three: (Paragraph 1.7)

Announced	School Name	Board Area	School type	Management	Project Type	Cost (£m)
2003	Kilmaine Primary School, Bangor	South Eastern	Primary	Controlled	New Build	4.7
2003	Newtownards Model Primary School	South Eastern	Primary	Controlled	Extension/ Refurb	4.5
2003	Ballyholme Primary School, Bangor	South Eastern	Primary	Controlled	Extension/ Refurb	2.5
2003	Saint Patrick's Primary School, Saul	South Eastern	Primary	Maintained	New Build	1.6
2003	Saintfield High School	South Eastern	Post-Primary	Controlled	Extension/ Refurb	5.1
2003	Annaghmore and Tullyroan Primary School	Southern	Primary	Controlled	New Build	1.5
2003	Windmill Integrated PS, Dungannon	Southern	Primary	GMI	New Build	2.6
2003	Saint Paul's High School, Bessbrook	Southern	Post-Primary	Maintained	Extension	9.7
2003	Hutton/Sixmilecross/ Dervaghroy	Western	Nursery	Controlled	New Build	0.3
2003	Maguiresbridge Primary School	Western	Primary	Controlled	New Build	1.3
2003	Kesh Primary School	Western	Primary	Controlled	New Build	2.2
2003	Clondermot and Faughan Valley HS (now Lisneal College)	Western	Post-Primary	Controlled	New Build	20.0
2003	Mount Lourdes GS, Enniskillen	Western	Post-Primary	Voluntary Grammar	Refurbishment	9.7
2003	St Colman's College, Newry	Southern	Post-Primary	Voluntary Grammar	New Sports Hall	1.2
2004	Fourtowns Primary School, Ahoghill	North Eastern	Primary	Controlled	New Build	2.4
2004	Carnalridge Primary School, Portrush	North Eastern	Primary	Controlled	New Build	2.3
2004	Moorfields Primary School	North Eastern	Primary	Controlled	New Build	1.9
2004	Ballymacrickett Primary School	South Eastern	Primary	Maintained	New Build	3.7
2004	Brookefield Special School, Moira	South Eastern	Special	Controlled	New Build	4.8
2004	Maralin Primary School	Southern	Primary	Controlled	New Build	3.3

Announced	School Name	Board Area	School type	Management	Project Type	Cost (£m)
2004	Saint Colman's College, Newry	Southern	Post-Primary	Voluntary Grammar	Extension/ Refurb	10.1
2004	Killen Primary School	Western	Primary	Controlled	New Build	1.1
2004	Enniskillen Integrated Primary School	Western	Primary	GMI	New Build	2.8
2004	Burnfoot/Dungiven/Largy Primary Schools	Western	Primary	Controlled	New Build	1.1
2004	Ballinderry P.S.	South Eastern	Primary	Controlled	New Build	2.6
2006	Glendhu Nursery School	Belfast	Nursery	Controlled	New Build	0.3
2006	Ravenscroft Nursery School	Belfast	Nursery	Controlled	New Build	0.5
2006	Templepatrick Primary School	North Eastern	Primary	Controlled	New Build	2.8
2006	Victoria Primary School, Ballyhalbert	South Eastern	Primary	Controlled	New Build	2.2
2006	Pond Park Primary School, Lisburn	South Eastern	Primary	Controlled	New Build	5.2
2006	Waringstown Primary School	Southern	Primary	Controlled	Extension/ Refurb	1.4
2006	Towerview P.S. Bangor	South Eastern	Primary	Controlled	New Build	3.5
2006	Saint Catherine's College, Armagh	Southern	Post-Primary	Maintained	Extension	0.6

Source: Department of Education

Appendix Four: (Paragraph 1.11)

Estimated Surplus School Places: 1999-00 and 2008-09

Primary Schools

1999-00

Board	Number of Schools with Surplus Places		Number of Surplus Places		Number of Schools with Surplus Places	Total Surplus Places	Average per School
	Controlled	Maintained	Controlled	Maintained			
Belfast	35	26	4,146	2,190	61	6,336	104
Western	28	65	689	3,348	93	4,037	43
North-Eastern	50	35	2,929	2,347	85	5,276	62
South-Eastern	41	22	3,168	1,595	63	4,763	76
Southern	33	38	1,134	2,073	71	3,207	45
TOTAL	187	186	12,066	11,553	373	23,619	63

Note: The number of surplus places at schools in other sectors was insignificant.
Source: Department of Education

2008-09

Board	Number of Schools with Surplus Places			Number of Surplus Places			Number of Schools with Surplus Places	Total Surplus Places	Average per School
	Controlled	Maintained	Other	Controlled	Maintained	Other			
Belfast	38	25	6	5,588	4,545	411	69	10,544	153
Western	30	83	2	1,641	5,674	32	115	7,347	64
North-Eastern	49	36	7	3,747	2,340	625	92	6,712	73
South Eastern	44	29	7	4,719	2,561	168	80	7,448	93
Southern	36	50	2	1,697	2,669	4	88	4,370	50
TOTAL	197	223	24	17,392	17,789	1,240	444	36,421	82

Source: Department of Education

Estimated Surplus School Places: 1999-00 and 2008-09:

Post - Primary Schools

1999-00

Board	Number of Schools with Surplus Places		Number of Surplus Places		Number of Schools with Surplus Places	Total Surplus Places	Average per School
	Controlled	Maintained	Controlled	Maintained			
Belfast	7	9	1,240	922	16	2,162	135
Western	9	19	975	1,338	28	2,313	83
North-Eastern	17	10	1,900	1,633	27	3,533	131
South-Eastern	13	5	1,419	472	18	1,891	105
Southern	15	15	1,074	1,301	30	2,375	79
TOTAL	61	58	6,608	5,666	119	12,274	103

Note: The number of surplus places at schools in other sectors was insignificant.

Source: Department of Education

2008-09

Board	Number of Schools with Surplus Places			Number of Surplus Places			Number of Schools with Surplus Places	Total Surplus Places	Average per School
	Controlled	Maintained	Other	Controlled	Maintained	Other			
Belfast	5	10	8	1,268	2,096	292	23	3,656	159
Western	8	17	8	612	2,822	37	33	3,771	114
North -Eastern	20	9	6	2,363	1,511	236	35	4,110	117
South Eastern	14	5	3	1,717	871	148	22	2,736	124
Southern	15	14	3	1,376	2,165	173	32	3,714	116
TOTAL	62	55	28	7,336	9,465	1,186	145	17,987	124

Source: Department of Education

Appendix Five: (Paragraph 3.3)

Assessment of Design Quality: Schools Visited						
School	Completed	School Type	Management Type	Value (£m)	Build Type	ELB Area
Holy Trinity, Cookstown	1999	Primary	Maintained	1.3	Extension & Refurbishment	Southern
Cranmore, Belfast	2001	Primary	Integrated	1.0	New Build	Belfast
Saint Mary's, Omagh	2002	Primary	Maintained	1.7	New Build	Western
Damhead, Coleraine	2003	Primary	Controlled	0.9	New Build	North Eastern
Cavehill, Belfast	2003	Primary	Controlled	2.2	New Build	Belfast
Gibson, Omagh	2003	Primary	Controlled	2.7	New Build	Western
Oakgrove, Londonderry	2004	Post Primary	Integrated	11.1	New Build	Western
Bunscoil an t' Sleibhe Dhuib, Belfast	2005	Primary	Irish Medium	1.2	New Build	Belfast
Kilmaine, Bangor	2005	Primary	Controlled	4.1	New Build	South Eastern
Saintfield HS, Saintfield	2006	Post Primary	Controlled	3.4	Extension & Refurbishment	South Eastern
Creggan, Randalstown	2006	Primary	Maintained	1.0	New Build	North Eastern
Maralin Village, Maralin	2007	Primary	Controlled	2.2	New Build	Southern
Harberton, Belfast	2007	Special	Controlled	4.4	New Build	Belfast
Ballyholme, Bangor	2008	Primary	Controlled	3.6	Extension & Refurbishment	South Eastern
Bangor Academy	2008	Post Primary	Controlled	28.4	New Build	South Eastern
Holy Cross, Strabane	2008	Post Primary	Maintained	31.3	New Build	Western
Total				100.5		

Notes

- (1) Most of the schools were procured on the basis of long standing conventional processes in place in the public sector. Two schools (Bangor Academy and Holy Cross) were PFI/PPP procurements and another (Kilmaine) was a Design and Build, where the contractor completes the design started by the designers of the relevant employer.
- (2) Cranmore Integrated Primary School was visited by a separate firm of architectural consultants, as the consultants appointed by the Audit Office had been involved in the design of that school.

Appendix Six: (Paragraph 3.22)

Progress in Design Quality of PFI Schools since “Building for the Future: A Review of the PFI Education Pathfinder Projects” (2004)		
Assessment Criterion	Building for the Future	Current Position
Clear Organisation	The report highlighted that poor internal environments were widespread	The quality of internal and external layouts have progressed and there is good signage and colour coding of internal finishes.
Well Proportioned Spaces	The architectural quality (of which space planning formed a part) was significantly better in non-PFI schools and colleges.	Both schools (Bangor Academy and Holy Cross, Strabane) are of adequate shape for their intended purposes and their plan layouts are well organised and functional.
General Circulation	Corridor widths were too narrow and poor in general design terms. They could lead to delays at class changeover time which in turn reduces the available teaching time.	General circulation problems are now being addressed. The circulation in the two colleges are generally wider than average, allows for good breakout spaces, with seating for pupils to congregate.
Environmental Conditions	All schemes (PFI and non-PFI) suffered from poor acoustics, ventilation and indoor air quality. Levels of provided day-lighting were found to be much better in traditionally procured schemes.	<p>There have been improvements in day-lighting and natural ventilation. However, there is still scope to develop acoustic detailing to ensure spaces function as they need to. Since 2006 the Department recommends that for primary schools the acoustic performance of the school should be broadly in accordance with the Department for Education and Science’s <i>Building Bulletin 93 on Acoustics</i>.</p> <p>The Department consider that this will significantly improve the future acoustic design of schools.</p>
Design Quality Comparison	The commentary on all schemes found room for significant improvement, but within that population, the PFI schools and colleges (with one exception) scored significantly lower on external and internal detailing.	Both schools have good design quality in detailing and specification and were equivalent to the detailing of the non-PFI schools visited.

Appendix Six: (Paragraph 3.22)

Assessment Criterion	Building for the Future	Current Position
Good Public Presence	There was less architectural input in the PFI schemes compared to traditionally procured schools.	Both schools have good public presence and quality facades.
Robustness of Finishes	Poor specification and lack of attention to detail were identified and most of the PFI schools did not have the same detail design quality as traditionally built counterparts. There was also a lack of environmental sustainability within PFI schools.	In general finishes were adequate, though there was an instance of poor paint specification. Sustainability issues should be given more consideration although this may be addressed by the need to comply with new environmental regulations.

Appendix Seven: (Paragraphs 3.25 and 3.27)

School Design Concerns and Changes to Building Handbook	
Area of Concern	Changes to Handbook
Classroom Stores	For primary schools with 7 classes and above, the Handbook has been revised to include a 10m ² Central Store, a 5m ² Multi Purpose Store and the Principal's Office increased from 15 to 20m ² to provide additional space for record storage. In primary schools of 15 classes and above, the External Store area has been increased from 15 to 20m ² .
Communications Cabinet	Since March 2006, the area had been set at 5m ² . This was not discussed in the consultations on the review of the Handbook and there has been no change. DE's view is that the existing provision should still be adequate for the exclusive use of a centrally sited cabinet in any primary school.
Cloakroom/Toilet areas	This was not specifically part of the 2008 consultations with primary schools. However it was recognised that this space is often reduced to the absolute minimum to achieve compliance with the required area for the overall design as prescribed in the DE Building Handbook. There is now a minimum area of 15m ² for the combined Cloakroom and Toilet for each classroom.
Corridor Widths	The Handbook has been revised to accommodate an increase from 1.8 metres to 2.0 metres in the minimum widths for all new primary schools. As a result of the changes to the Primary Handbook the total area for schools has increased significantly. For example, a 7 classroom school, Limit of Internal Area (LIA) has increased by 22 per cent. Schools with more classrooms had lower percentage increases as a result of the revision to the Handbook.
External Play Spaces	There is an increased level of specification of grass play areas in order to improve its usability. Designers of new schools are required to consult with the PSNI Architectural Liaison Officer at an early stage of development. The PSNI have also agreed to keep the Department informed of the review of the Secured by Design process on which they are working alongside education authorities in England.
Future Flexibility	The new proposals recognise future flexibility with the inclusion of up to three multipurpose rooms with a degree of autonomy in the design stage upon the area allocation and use of these rooms. The Building Handbook will be reviewed regularly to take account of factors which include changes to the curriculum, technology and legislation and amended as necessary.
Classroom Sizes	No changes in the handbook, but in the 2008 report on the review of the primary school handbook, there was an intention to consider further and in due course consult with all key stakeholders on the size of general classrooms. Given the general desire to reduce pupil numbers in the classroom, the report suggested that it may be best for classrooms to remain the same size, but to reduce the pupil numbers.

Appendix Seven: (Paragraphs 3.25 and 3.27)

Area of Concern	Changes to Handbook
Multi Use Rooms	The Handbook now allows for up to three multi purpose rooms in primary school developments.
Caretaker Room	There is now a minimum area for this room in primary school developments.
Changing Facilities	Pupils will now have changing facilities adjacent to the multi-purpose hall in primary school developments.
Photocopy Room	The threshold for a school to include a photocopying room has been reduced from 20 classrooms to 10.
Principal's/Staff Areas	The revised schedules of accommodation have increased the areas for the Principal's Office (primarily for record storage in schools of 7 classrooms and above) and the Staff Room. A minimum area has also been indicated for Staff Toilets
Daylighting, Ventilation Acoustics	The handbook does not directly prescribe, but refers to a number of DfES Building Bulletins. At present there is consultation on BREEAM standards and the Department hopes that further guidance will be available.

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