
MINISTRY OF EDUCATION AND TRAINING

Acquisition and Management of Elementary and Secondary School Facilities

Elementary and secondary education is a shared responsibility between the Minister of Education and Training and the province's 72 district school boards. Under the *Education Act*, the Minister has broad powers to establish education and school board funding policies and therefore has overall responsibility for excellence in student achievement and the effective and efficient use of public funding. The Ministry has established two Elementary/Secondary Divisions, one for Policy and the other for Operations and French Language Education. These Divisions carry out the policy development and funding responsibilities, respectively. School boards are responsible for the prudent use of their funding and have specific powers and duties under the Act, including providing, equipping and maintaining schools.

The management of school facilities is a significant undertaking. According to ministry records, as of March 31, 1998 school boards operated 5,100 schools. These buildings represent some 250 million square feet of floor space and have a replacement cost of approximately \$26 billion. School boards spend about \$1.3 billion annually to operate their school buildings.

Until recently, project-specific capital grants from the Ministry funded on average about two thirds of the cost of new school construction, major renewals and land purchases. School boards funded the remaining cost from local revenues. The last such grants were approved by the Ministry on January 1, 1997 and totalled about \$650 million.

On March 25, 1998, the Minister announced a new "student focused" funding model to come into effect on September 1, 1998. The new model has three funding categories: a foundation grant that is intended to provide for the core education of every student; nine special purpose grants intended to recognize the different circumstances faced by students and school boards; and a pupil accommodation grant that is intended to pay for heating, lighting and maintenance costs and for the construction or leasing of new schools.

According to the Ministry's announcement, the pupil accommodation grant will consist of separate components for new pupil places, school renewal and school operations based on the principles cited below:

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- School boards are responsible for providing schools and facilities for students and for operating and maintaining schools as prudently as possible.
- The Ministry is responsible for monitoring school board actions to ensure accountability to the taxpayers and for providing school boards with adequate financial resources and the flexibility necessary to meet their responsibilities.
- School boards will be provided with grants for new pupil places on a per-pupil basis to finance the cost of constructing, furnishing and equipping new schools only if they can demonstrate the effective use of all existing school buildings and the inability to accommodate more pupils without additional space.
- School boards will be required to place the grants for new pupil places and for school renewal in accommodation reserve funds. These funds can only be used to repair or renovate existing schools, or to acquire new facilities to accommodate students according to the board's own priorities. Reserve funds may be carried forward for future use in acquiring or renewing schools.
- All school boards will receive per-pupil grants which are intended to cover the costs of operating (cleaning, heating, lighting and maintaining) schools. School boards may reallocate any savings achieved in school operation costs to other priorities. Boards will be required to report annually on spending for school operations and renewal.

The key factors that will determine the pupil accommodation grant for each school board are existing capacity, enrolment, the age of school buildings and their location. For the school year commencing September 1, 1998, the pupil accommodation grants will total over \$1.7 billion.

OBJECTIVE AND SCOPE OF REVIEW

Given the significant changes introduced by the Ministry in March 1998, the magnitude and complexity of the school facility acquisition and management activities of school boards, and our legislated inspection audit mandate which restricts access to school board accounting records only, we limited our work to a review of the relevant systems and procedures of the Ministry and of selected school boards.

Our objective was to assess whether satisfactory systems and procedures had been established for the acquisition and management of school facilities, including compliance with related regulations and policies, and whether information systems provided adequate support for management control, decision making and performance reporting. The criteria on which our assessment was based were agreed to by the Ministry's senior management and that of the six school boards that we visited and included criteria for systems and procedures for:

- efficient use of existing school space;
- efficient and economical planning, design and construction of new schools; and
- cost-effective maintenance and repair of schools.

Our review consisted primarily of inquiries and discussions with school board and ministry officials and analyses of information that they provided. It included only limited examination of

transactions or systems and therefore was not intended to provide a high level of assurance that their systems were working as intended.

Our primary focus was to identify where systems and procedures could be improved and where school boards had implemented better systems and procedures for acquiring and managing their school facilities. A summary of better systems and procedures that were identified was provided in a separate letter to ministry senior management. In making our recommendations for improvement, we also considered the extent to which the changes planned by the Ministry might address identified deficiencies.

Our review was conducted in accordance with professional standards established by the Canadian Institute of Chartered Accountants for assurance engagements, encompassing value for money and compliance, and accordingly included such procedures as we considered necessary in the circumstances. Specifically, we visited the Ministry's head office as well as six large urban school boards that are responsible for the management of over 800 schools. Our review was substantially completed by May 1998.

The Ministry's Audit, Compliance and Evaluation Branch had not done any recent work that was relevant to our review and we therefore did not rely on its work.

OVERALL REVIEW CONCLUSIONS

At the time of our review, the Ministry and the school boards we visited did not have satisfactory systems and procedures for the acquisition and management of school facilities. The new funding model for pupil accommodation will encourage boards to more prudently manage their facilities and resources and will require the boards to publicly demonstrate that they have done so. However, to help ensure that school boards implement necessary facility management systems and procedures in the most economical and efficient way possible, the Ministry needed to:

- establish procedures to verify the capacity of existing schools and promote experimentation by school boards with various semester, scheduling and other options that make better use of existing capacity in order to reduce the demand for new pupil places;
- provide further guidance to boards on the information needed to identify and dispose of surplus schools more expeditiously, and require boards to justify decisions to build new schools rather than purchase available surplus schools from neighbouring boards;
- coordinate and support boards in implementing, where required, the information systems necessary for ensuring and demonstrating that the schools and the resources devoted to operating and maintaining them have been well managed; and
- provide guidance to trustees in overseeing facility management activities and make appropriate arrangements for the verification of accountability information that boards are required to provide to the Ministry and the public.

DETAILED REVIEW OBSERVATIONS

USE OF EXISTING FACILITIES

Schools are costly to build and maintain. The recognized cost to build and equip new pupil places under the new funding formula will be \$11,718 per elementary pupil place and \$16,484 per secondary pupil place. The operating, maintenance and renewal grant will be approximately \$600 per pupil for elementary schools and \$780 for secondary schools. In addition, many schools are located on valuable property and thus represent a substantial taxpayer investment in land.

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A 1996 study estimated that, in the absence of changes, the province would require 289 new schools by 2001 at a cost of \$2.2 billion. In view of the magnitude of pupil accommodation costs, we expected policies and systems to be in place to promote the economical and efficient use of existing capacity.

SCHOOL CAPACITY

Under the new funding system, school boards will be required to demonstrate to the Ministry that existing facilities are fully used before building or leasing new schools. For this requirement to be enforceable, the Ministry and the school boards will have to agree on the number of pupils that each school can accommodate. While determining school capacity may appear to be a simple matter, it can be very complex in practice because of a number of factors. For example:

- General purpose classrooms have a greater capacity than special purpose classrooms, such as those used for science, technical or music programs.
- The *Education Act* restricts class sizes to eight for certain special education pupils.
- Each of the school boards that we visited calculated a “program rated capacity” for all its schools that reflected each board’s unique program delivery requirements and included any constraints imposed by their individual collective bargaining agreements.

Given the many factors to be considered, a committee consisting of ministry and school board staff has been established to decide how capacity will be determined. In addition, there will still be a need to verify, at least on a test basis, the accuracy of the school capacity information submitted to the Ministry for use in calculating the pupil accommodation grant entitlements of the school boards.

OPTIONS FOR INCREASING CAPACITY

The new accommodation funding formula assumes the traditional attendance model of five hours of instruction per day from September to June. Almost all boards and schools operate this way. However, the school boards that we visited had not significantly experimented with the various options for increasing school capacity in order to defer the need for new pupil places or reduce the use of portables. For example:

- A 1996 study commissioned by the Ministry indicated that the use of semester options could increase the capacity of existing schools by 25% to 50%, yet only one of the boards that we visited had implemented a three-semester, full-year schedule and then at only one school.

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- One board estimated that the capacity of secondary schools could be increased by over 50% by extending the hours of operation, but had not experimented with this option.
 - Some boards used different grade configurations, such as kindergarten to grade 6 and grades 7 to 13, at some of their schools rather than building junior high schools. However, none of the boards that we visited had reduced the use of portables by shifting grades 7 and/or 8 between elementary and secondary schools in order to address imbalances in utilization.
 - Most boards had not implemented systems to effectively monitor the use of classrooms and to link that information to their timetabling, particularly for secondary schools. The Ministry's 1996 study noted that one board had reviewed the use of classrooms and was able to increase the capacity of its existing schools by 3,000 pupil places.

Because pupil accommodation grants continue to be based on traditional attendance models, school boards could implement various options that increase the capacity and use of their existing facilities and thereby provide significant funds for addressing other accommodation priorities.

SURPLUS SCHOOLS

During the 1960s and early 1970s, a number of areas experienced rapid enrolment growth which led to the construction of a large number of schools. Enrolments declined from the mid-1970s to the mid-1980s as the local populations matured, leaving the school boards with significant surplus space in these areas. We found that the boards that we visited had not established effective procedures to identify long-term reductions in their space requirements, to consolidate enrolments at certain schools, or to close and dispose of surplus schools in a timely manner. However, within the last two years, two of the boards had taken steps to address these issues and had conducted special studies of school utilization.

Enrolment data at one board indicated that 16 of the board's 84 schools currently in use were operating at less than 50% of capacity. The special study identified 6 of these schools as being potentially surplus and suggested that they be considered for disposition. However, all 16 schools were still in use 20 months after the study. The second board's special study, completed in May 1997, indicated that 25 of the board's 132 schools currently in use were operating at less than 50% of capacity, but did not suggest which of those schools were potentially surplus. The board was still in the process of determining which schools should be designated as surplus.

In addition to the 216 schools currently in use, the two school boards also had 35 schools which they had closed during the 1980s. The boards' special studies determined that these schools, which were either being used for administrative purposes or being leased to other boards or private schools, were also potentially surplus to the boards' needs.

Because there are a number of fixed operating costs involved, the per-pupil cost of operating schools increases as enrolment declines. In cases such as those mentioned above where enrolments are less than 50% of capacity, the increase in per-pupil cost is significant. For example, the first of the above special studies included a detailed analysis of the financial impact of closing the six schools identified as being potentially surplus to the board's needs. The study identified net annual savings of approximately \$1.5 million, or more than \$1,300 per student, resulting from the elimination of the fixed operating costs for the six closed schools offset by the additional costs at the schools receiving the displaced students. In addition, the

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board could benefit from the sale of the six surplus properties which had an estimated market value of more than \$5 million.

The new funding model removes the ability of boards to cover the increased per-pupil cost of operating and maintaining surplus schools through local taxes. Also, boards will not qualify for grants for new pupil places in growing districts as long as surplus capacity exists elsewhere in their jurisdiction. These changes are intended to encourage boards to review school use and close surplus schools more expeditiously.

Since 1981 the Ministry has required boards to develop and publish school closure policies. Board policies must specify: how and when schools will be considered for closure; how community input will be obtained; the minimum time a board must take before reaching a decision; and the kinds of impact analyses that must be publicly presented. However, the boards are not required to decide on school closures in a timely manner. Moreover, although the impacts on the affected community may be fully presented, other broader impacts on a board, such as the inability to apply savings and sale proceeds to meet the demand for new schools in growth areas, may not be presented.

An *Education Act* regulation requires boards to offer closed surplus schools to their coterminous board and to other public sector bodies before selling to others. However, the Ministry does not have procedures to help ensure that neighbouring boards purchase surplus schools in those situations where it is more cost effective than constructing a new school.

Recommendation

To promote the efficient and economical use of school facilities, the Ministry should:

- establish procedures to verify the existing capacity of schools;
- encourage and assist school boards to evaluate the feasibility of various approaches to increasing capacity and improving the utilization of facilities;
- provide further guidance to boards to help them identify and dispose of surplus schools more expeditiously; and
- require boards to justify decisions to build new schools rather than purchase available surplus schools from neighbouring boards.

Ministry Response

- *A Pupil Accommodation Review Committee, which is composed of ministry and school board staff, is currently reviewing the accuracy of the Facilities Inventory System. School capacity information submitted by school boards is being compared to the design drawings for each school. It is expected that boards will be advised what their capacities are by July 1998. It is the Ministry's intention to develop an ongoing process to ensure that school capacity information is up-to-date and accurate.*

- *The block grant approach to providing grants for new pupil places will encourage school boards to find the most effective and efficient approaches to school accommodation as it will allow them to retain any savings generated by implementing changes that improve their utilization of existing schools. To encourage and assist school boards in evaluating the feasibility of alternative approaches to improve utilization, the Pupil Accommodation Review Committee will coordinate information sharing and research.*
- *Boards are expected to implement pupil accommodation review policies by September 30, 1998, and finalize school consolidation decisions before December 31, 1998 so that decisions to consolidate schools can become effective for the 1999/2000 academic year.*
Boards will have an opportunity to reduce the capacity figures used in the determination of the Grants for New Pupil Places for 1999/2000 and subsequent years by disposing of schools which they have identified as being surplus to their needs by December 31, 1998.
- *The Pupil Accommodation Review Committee will also review and advise the Ministry on the need for boards to justify the construction of a new school rather than purchase an available school from a coterminous board or a neighbouring board.*

LONG-TERM PLANNING FOR ECONOMIC USE OF FACILITIES

The number of pupils attending a school fluctuates over time as the local population ages, regenerates and ages again. For example, at the school boards we visited, some schools serving growing neighborhoods had many portables which resulted in utilization rates in excess of 150% of permanent school capacity, whereas some serving mature communities had utilization rates of less than 50% of permanent capacity.

Ideally, new schools are planned to accommodate a sustainable level of enrolment so that overcrowding or under-utilization of space is minimized over the lifetime of the school. Enrolment peaks are accommodated with temporary space options such as portables. This approach to planning attempts to avoid the significant costs of operating under-utilized schools.

Prior to the new funding formula, the balance between permanent and temporary pupil accommodation had been determined primarily by the availability of capital grants from the Ministry to build new schools. For example, if grants were constrained, the use of portables increased in growth areas.

Under the new funding formula, the Ministry provides grants to accommodate enrolment growth in excess of a board's capacity. The annual grants are intended to be sufficient to amortize loan principal and interest over a 25-year period. However, the grants are recalculated every year and are reduced or eliminated if enrolment declines. Thus, boards face significant financial consequences if enrolments decline below the level incorporated into the decision to build a new school.

To minimize this risk and to establish an appropriate balance between permanent and temporary pupil accommodation, the boards require reliable information about the impacts of portable use and future enrolments. More specifically:

- There was agreement among the boards that we visited that high utilization rates were not desirable from a learning perspective due to the stress resulting from overcrowding. However, they were not aware of any studies that had identified the point at which overcrowding would cause a decline in student achievement.
- In order to identify the optimum balance, from an economic perspective, between using portables during enrolment peaks and having empty classrooms during troughs, boards require reliable information about the relative costs of classrooms and portables. Although the boards that we visited had information about the initial cost of portables and classrooms, none of the boards had analyzed the differences in the operating costs of its classrooms and portables.
- Although the planning departments of the boards that we visited prepared five-year enrolment forecasts to assist in accommodation decisions, there was general agreement that many factors, such as changing fertility and immigration rates, limited the reliability of long-term forecasts. Research into methods of improving the reliability of long-term enrolment forecasts would help to reduce the risk inherent in school investment decisions.

Because all boards and the Ministry would benefit from research on these issues, it would not represent an economic use of resources for them to perform it individually. There is a role for the Ministry to coordinate research efforts and determine whether reliable information can be produced and, if so, whether its impact on the long-term costs of providing pupil accommodation justify the cost of producing it.

Recommendation

To help ensure that pupil accommodation decisions represent the best long-term value, the Ministry should coordinate research on:

- **the relationship, if any, between school utilization rates and student achievement;**
- **the relative operating costs of permanent classrooms and portables; and**
- **the methods for preparing reliable long-term enrolment forecasts.**

Ministry Response

The Pupil Accommodation Review Committee will coordinate research and information sharing in these areas. To the extent that research funding is available, the Ministry will support commissioning research.

DEVELOPMENT PARTNERSHIPS

A 1996 study sponsored by the Ministry indicated that the use of development partnerships could achieve significant savings in both the initial capital cost of new facilities and the ongoing operating costs. An example of such a partnership where an independent analysis of the savings achieved has recently been done is the Humberwood Centre that opened in Toronto in 1996. The project has four partners: the public school board; the separate school board; the municipal library board; and the City's parks and recreation services department. The following table compares the costs incurred by the school board partners to the Ministry's new funding formula benchmarks.

Comparison of Joint Development Costs and Ministry Benchmarks

	Humberwood	Formula	Savings
Construction Cost per Pupil	\$7,232	\$9,132	20.8%
Total Project Cost per Pupil ¹	\$9,355	\$11,718	20.2%
Operating Costs	\$4.62/sq. ft.	\$5.20/sq. ft.	11.2%
Site Area (acres) ²	10	13.5	25.9%

¹ Excluding the cost of the land.

² The 10 acres excludes 1.5 acres attributed to the municipality based on cost-sharing percentages.

*Sources: Ministry of Education and Training,
Report of the Expert Panel on the Pupil Accommodation Grant and
Review of the Humberwood Centre Feasibility Study*

In addition to the savings already identified, the boards have agreed to reallocate classrooms and costs as enrolments fluctuate. This arrangement will delay or eliminate the need for portables to accommodate the rapid enrolment growth forecast for the public junior high school because the separate elementary school will have surplus capacity for the next several years.

The final report of the Ontario School Board Reduction Task Force, also in 1996, stated that "the province has seen little willingness on the part of most boards to capitalize on opportunities for savings from cooperatives and consortia between neighbouring school boards." Although five of the six boards we visited either had entered into or were planning development partnerships, the majority of new pupil places were still being constructed independently by each board.

The boards we visited were unable to demonstrate that development partnerships were entered into whenever feasible. Although coterminous boards were aware of each other's development plans, their planning staffs did not meet periodically to review these plans in order to identify partnership opportunities, nor did they meet with their municipal counterparts for this purpose. Opportunities to partner with contiguous boards along border areas had also not been considered.

The boards we visited stated that joint developments have been impeded by the fact that funding was received at different times and from different sources. Parties which had received funding approval were typically unwilling to delay their projects until potential partners had

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received their funding. The new funding formula removes the timing of funding as a barrier to partnerships between coterminous boards because both will receive funding at the same time if they qualify for grants for new pupil places. As well, there will be more incentive for boards to enter into partnerships because any cost savings achieved will be retained by the boards.

There may also be opportunities for boards to share facilities with other public entities and private sector organizations. However, none of the boards that we visited had established procedures for identifying potential partners or criteria for evaluating their suitability.

There were also no procedures to ensure that all provincial capital grants to public entities include requirements or incentives for cooperation and development partnerships. For example, although some municipal library boards provide library services to schools, most schools operate their own libraries regardless of their proximity to municipal libraries (even where they are both in the same building, as at Humberwood).

Recommendation

To help ensure that school boards take advantage of opportunities to reduce costs through development partnerships, the Ministry should:

- require boards to summarize and report on their efforts to find partners for each new school development and, where independent developments take place, to explain why a partnership is not feasible; and
- encourage other ministries to include conditions or incentives in their grant programs requiring recipients to enter into cooperative or development partnerships with school boards where feasible.

Ministry Response

- *Although school boards build replacement schools from time to time, the majority of development projects involve new schools for which sites must be purchased. In order to fund the purchase of land for new schools that are needed as a result of new residential development, boards must pass an education development charges by-law. The process of passing a by-law requires boards to prepare a background study that includes their policy regarding possible cooperative arrangements with municipalities, other school boards or other public or private sector agencies, for the provision of new schools. In addition, boards must describe in subsequent background studies how their policy was implemented or why it was not implemented.*

The Accountability Framework will also require boards to report the information that they included in their background studies. The Pupil Accommodation Review Committee will review and advise the Ministry on how well the requirements under the Education Development Charges Regulation are working before the Ministry imposes additional reporting requirements on school boards.

- ***The Ministry of Education and Training has in the past encouraged other ministries to support cooperative or development partnerships with school boards and will continue to do so.***

LIFE-CYCLE COSTING

School facilities represent long-term investments for school boards. We were informed that the expected service life of a school is approximately 50 years.

The cost of ownership of a building is the total of all expenditures made to operate and maintain it over the course of its service lifetime, including: planning, design and construction; financing; operating, maintenance and renewal; and disposal. Due to the long service lives of schools the majority of the costs of ownership are incurred after construction. For example, a school board in another jurisdiction determined that the initial costs of a school, including financing, represented less than 30% of the cost of ownership.

In order to manage their buildings in an economical manner, boards must employ systems and procedures that focus on minimizing the total cost of ownership and not just on minimizing initial capital expenditures. One such procedure is life-cycle costing.

Life-cycle costing is a process of budgeting for the total cost of a building over its expected useful life. Costs are estimated for each year of service from the planning stage through to eventual disposal. Actual results are also recorded in order to improve cost estimates for future projects and to provide information for deciding on the repair or replacement of existing equipment and facilities.

The Ministry's funding formula announcement specifically encourages boards to take a life-cycle approach to their spending on accommodation. However, with the exception of some energy conservation projects, boards have focused more on minimizing capital expenditures than on making investments to reduce future operating costs.

School boards have a variety of building materials and equipment from which to choose for both construction and replacement purposes. Such materials and equipment vary in price and durability, as do the costs of cleaning, operating and maintaining them. Where new technology is involved there is also a risk that the items purchased may not perform as expected. However, neither the boards we visited nor the Ministry had collected data regarding the performance of various materials and equipment. In addition, the boards had not developed procedures for identifying the best long-term value and preparing proper business cases to support their purchase decisions.

Boards must also take into account their borrowing costs and the expected useful life of buildings in determining which choices represent the best value over the long term.

Recommendation

To assist boards to better manage pupil accommodation costs over the long term, the Ministry should:

- **help boards to evaluate systems that support a life-cycle approach to accommodation spending decisions and to share implementation and maintenance experiences with each other; and**

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- coordinate the collection and sharing of performance data for materials and equipment and provide guidance to boards regarding the preparation of business case analyses to support major purchase decisions.

Ministry Response

The Pupil Accommodation Review Committee will be asked to provide advice on approaches to evaluating systems that support life-cycle cost analysis. The Committee will also be asked to provide methods of coordinating the sharing of data on performance of materials, business cases, worked examples and other analytical tools to help boards. From this information, best practices will be identified and shared province-wide via the Ministry's website. School boards will be encouraged to adopt these practices.

MONITORING OPERATING COSTS AND RESULTS

According to the Ministry's most recent *Report on School Board Spending*, school boards had budgeted to spend \$1.3 billion on custodial and maintenance services in 1997. These expenditures consisted of salaries and benefits for custodial and maintenance staff (58%), utilities (20%), supplies (14%) and contracted services (8%).

The 1996 *Report on School Board Spending* indicated that there were significant differences among boards in their spending per pupil. For example, at the boards we visited, the custodial and maintenance expenditures ranged from \$576 to \$1,052 per pupil. A survey conducted by a school board association in 1996 found that these expenditures ranged from \$2.39 to \$4.66 per square foot at the 37 boards that responded.

Explanations for these large variances in spending have been difficult to obtain because of differences in school utilization rates, building ages, service levels and accounting practices which limit the comparability of school operating costs within and among school boards. For example, none of the boards we visited had identified the levels of service that were required to meet health, safety and program objectives in order to determine budget and staffing requirements. Instead, the frequency of various cleaning and routine maintenance activities was determined by the availability of funds and thus fluctuated from year to year. Without relating service levels to costs, it cannot be determined whether lower spending is due to more efficient practices or less service.

In addition to the lack of service level information, the boards that we visited lacked detailed information about their operating costs. For example, none of these boards had systems in place to segregate custodial spending by task, such as cleaning windows or floors, or to allocate to each repair job the maintenance expenditures, such as labour, equipment and supervision costs, incurred by in-house trades staff.

In conjunction with the new funding arrangements, the Ministry has developed an accountability framework for pupil accommodation grants. In addition to requiring boards to publish custodial and maintenance expenditures for each school in an annual report, the

Ministry plans a number of steps to improve the comparability of the reported information. For example, the Ministry will introduce a standard chart of accounts with clearer definitions to help ensure that school boards record expenditures in a consistent manner. Boards will also be required to report building ages and utilization statistics in their annual reports.

Although the proposed reporting requirements will enable boards to compare operating costs on a per square foot or per pupil basis to other boards, they will still not have the information needed to effectively monitor their performance or to identify necessary corrective actions when performance deficiencies are detected. Specifically, they will still be unable to:

- compare the cost of performing specific services and repairs internally to the cost of contracting them out;
- identify the least-cost alternatives for accomplishing service level and quality objectives;
- allocate costs to programs and other activities and identify those which do not produce sufficient benefits to justify their cost;
- monitor the incremental costs incurred by community use of board facilities; and
- hold managers and staff accountable for providing defined levels of service and quality economically and efficiently.

Several of the boards that we visited had taken steps to acquire and implement software that addresses some of the deficiencies in their facility management information; however, few resources had been allocated or deadlines established for implementing their information system improvements. Although the implementation of these information systems requires a substantial investment, funding for such expenditures will be constrained under the new funding formula because they will be classified as “out-of-classroom” expenditures. We therefore believe that there is a role for the Ministry to play in assisting school boards to implement the systems needed to provide the information required to manage and report on performance. Such assistance could include the identification of best practices, the coordination of software evaluation and acquisition, and financial support for pilot projects and/or implementation teams.

Recommendation

To ensure that boards acquire and implement the information systems needed to manage their facilities and costs and to report on results, the Ministry should:

- **provide guidance to boards regarding the information and analysis required for effective facility management and related results reporting;**
- **establish a mechanism for enabling boards, which have implemented systems to address facility management information needs, to share their experiences with other boards; and**
- **examine options to minimize the cost of the substantial investment in management information systems that boards must make.**

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Ministry Response

The Pupil Accommodation Review Committee will be asked to develop approaches to help ensure that boards review, assess, and acquire the information systems that are needed to manage their facilities and report on the results. The Accountability Framework will include requirements to share information with respect to the systems used for facility management, and the Ministry will identify and share the best practices through its website.

MAINTENANCE EXPENDITURES

Building components and equipment deteriorate with the passage of time and thus require ongoing maintenance, repairs and periodic replacement. The Ministry expects school renewal grants to total \$193.6 million in the 1998/99 school year.

An economical and efficient program to manage maintenance and renewal expenditures includes having reliable information on the condition of properties and the estimated cost of required repairs. Such information enables management to make expenditures on a planned and preventive basis and thereby reduce the frequency and costs of emergency repairs.

The failure to perform maintenance activities when required can result in additional costs in the future. For example, at one board a roof repair that would have cost \$100,000 in 1991 was deferred until 1998 and will cost \$800,000 because of additional damage caused by the lack of preventive maintenance. In another case, the board did not fund the resurfacing of paved areas that would have cost \$16,000 in 1990 and extended the life of the surface for as much as 15 years. In 1995, the area had to be completely repaved at a cost of \$35,000.

Although most of the boards that we visited had periodically inspected the condition of major mechanical and electrical equipment and roofs, none had established a condition inspection program for buildings and interior finishes. In 1995 one of these boards had engaged an engineering firm to inspect buildings on a one-time basis but only for the 71 schools that were at least 30 years old (63% of the board's schools). The firm recommended that the board spend \$33 million over five years to preserve the condition of these schools.

Three other boards we visited had prepared internal estimates of their deferred maintenance that were based on a combination of accepted formulas for maintenance spending and a knowledge of specific problems rather than on an inspection of each building. In total, four of the boards we visited, representing 12% of the province's schools, had identified deferred maintenance of more than \$200 million that needs to be addressed in future years.

The new pupil accommodation grants and reserve funds provide school boards with predictable funding each year and require funds provided for major repairs or renovations to existing schools or to construct new schools to be used solely for those purposes. Plant management staff at the boards we visited stated that these features of the funding model are a significant improvement over previous funding arrangements because budgets for repairs had always been among the first to be cut by trustees facing increasing pressure to reduce spending. This factor had contributed greatly to the increases in deferred maintenance that the boards were experiencing.

One reason for the underfunding of maintenance at the school boards we visited was that maintenance management were unable to convincingly present their cases for increased maintenance spending to the trustees because of the absence of reliable life-cycle and condition-assessment information. As well, without this information the Ministry's grant levels cannot be supported by analyses demonstrating that school buildings can be cost-effectively maintained within the benchmark level of spending. This life-cycle and condition-assessment information is also necessary for boards to be able to meaningfully compare their repair and maintenance expenditures to those of other school boards.

Recommendation

To help ensure that school boards do not continue to defer needed maintenance, the Ministry should:

- **require the boards to conduct objective, reliable condition assessments of each school on a periodic basis and estimate the cost of needed repairs;**
- **require the boards to include such information in reports to the trustees and the Ministry; and**
- **monitor grant levels to assist boards to manage their assets prudently over the long term.**

Ministry Response

The Pupil Accommodation Review Committee will be asked to provide advice on the components of a long-term plan that will be included as a requirement of the Accountability Framework. The plan will include condition assessments and methods of evaluating: the amounts made available for renovation/repair and maintenance work to be done over a five-year period; the types of repairs, renovations and maintenance along with estimated costs and anticipated benefits of the work to be done; the adequacy of the amounts proposed for renewal; options that will include the costs of delaying expenditures; and how the board will know that it is achieving results by developing approaches to ensure that the Facilities Management function is accountable to the trustees.

The Ministry will, through its Accountability Framework, be monitoring boards' use of ministry grants. This information will be used in assessing the overall efficiency of the model in meeting student needs.

DOCUMENTATION OF OBJECTIVES AND PROCEDURES

Given the number and complexity of activities associated with the acquisition and management of school board facilities, prudent operating practice requires that service objectives and the procedures followed to achieve them be documented. However, with the

exception of the maintenance services division at one of the boards we visited, the departments responsible for the activities we reviewed had not documented such objectives and procedures. For example, criteria and procedures were not documented for: pre-qualifying architects and general contractors; inspecting and evaluating the performance of in-house staff and outside contractors; and monitoring and managing custodial and maintenance operations.

Documenting objectives and procedures would help school boards to avoid the loss of knowledge that otherwise occurs when individuals leave. This is now a matter of particular concern as a number of boards expect to experience significant staff turnover due to early retirement and staff reduction programs arising from amalgamations and other reform initiatives.

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In addition to helping maintain service continuity, documentation also assists managers to identify: the resources required to perform each procedure; procedures that are too costly relative to their contribution to achieving operating objectives; and opportunities to achieve objectives at less cost through automation. For example, the board that had completed documenting maintenance services procedures in the spring of 1997 was able to identify service improvements and make changes that are expected to save more than \$274,000 annually.

Recommendation

To assist school boards in maintaining service continuity and evaluating the efficiency, economy and effectiveness of operating procedures, the Ministry should:

- encourage school boards to document their objectives and the procedures to achieve them; and
- support efforts to share ideas and conduct pilot projects that reduce costs and/or improve services.

Ministry Response

- *The Pupil Accommodation Review Committee will, as part of its development of the Accountability Framework, be developing measures that will assist school boards to document their objectives and evaluate the effectiveness and efficiency of their operating procedures. The Ministry will also monitor board actions as part of the requirements of the Accountability Framework and the Facilities Inventory System.*
- *The Pupil Accommodation Review Committee will coordinate sharing of information, ideas and board research activities to avoid duplication of effort.*

THE ACCOUNTABILITY FRAMEWORK

To strengthen accountability the Ministry intends to require each school board to produce an annual report that will include, for each of the board's schools, information on:

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- the site size, age, capacity, enrolment and after-hours use;
 - facility operating costs such as heating, lighting, cleaning, general maintenance and repairs;
 - the cost and nature of major renewal projects; and
 - the cost, design, capacity and financing of new schools or additions.

The Ministry intends to summarize and publish this detailed information in an annual report that will permit the school boards and the Ministry to compare results among the boards. Also, the school capacity, enrolment and building age data will be used by the Ministry to determine the amount of pupil accommodation grants for the boards.

Although this reporting framework will provide much needed information, the Ministry and school boards will still be unable to conclude on the relative performance of school boards in managing their pupil accommodation expenditures until the information gaps discussed earlier in this report have been addressed. For example, information about service levels, building condition, and deferred maintenance is needed to interpret differences in repair and maintenance costs.

Also, there is a need to establish appropriate verification arrangements that provide trustees and the Ministry with assurances that:

- reported grant determination and performance information is reliable;
- grants for new schools and school renewal have been spent for the purposes intended; and
- policies that they have established have been complied with.

Trustees are accountable to the communities that elected them and to the Ministry with respect to accommodating their students and operating and maintaining the facilities in an efficient and effective manner. The significant changes to school board funding and governance place new expectations on trustees. Consequently, in its December 1997 report, the Education Improvement Commission recommended a new model of governance for trustees as well as adequate provision for the costs incurred in the orientation and training of trustees. Such orientation and training need to include the trustees' policy-setting and monitoring responsibilities as they relate to facility management activities.

Recommendation

To help ensure that the facilities management information produced by school boards is reliable and to assist trustees in meeting their responsibilities for setting policies, monitoring performance and taking corrective action, the Ministry should:

- **establish procedures for independently verifying school board grant determination and performance information; and**
- **provide trustees with best practices and training materials on governance that include their role in overseeing facility management activities.**

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Ministry Response

- *School board performance information will be evaluated by the Ministry under its Accountability Framework. The Pupil Accommodation Review Committee will develop and advise the Ministry on procedures to ensure that the performance information and grant uses and amounts are independently verified.*
- *The Ministry will seek support from the trustees' associations to provide appropriate training material on their role in overseeing the facilities management function.*

School board staff and trustees will have access to all ministry information regarding the pupil accommodation grant formula and the best practices resulting from the implementation of the model by school boards.