

Chapter 3

Section 3.13

School Renewal and Maintenance

Background

Ontario has 72 district school boards with about 5,000 schools and 1.9 million students. About half of Ontario's schools were built at least 45 years ago.

In its 2002 budget, the government announced that it was taking action to upgrade and renew school facilities, starting with the most pressing needs. In 2002, it hired consultants to inspect the physical condition of each school in Ontario, assess each school's capital renewal needs, and input the results into a database. The inspections took place in 2002 and 2003. The consultants concluded that addressing the capital renewal needs of Ontario schools for the five-year period from 2003/04 to 2007/08 would cost \$8.6 billion, of which \$2.6 billion would be required to address urgent needs. The replacement value of Ontario's schools in 2003 was estimated to be \$34 billion. In May 2004, the Premier reiterated the need for action, stating that "too many students have been left in crumbling buildings that do not meet the proper standards of safety and comfort." Also in May 2004, the Minister of Education announced that the government "will help fund \$2.1 billion worth of essential repairs and renovations to Ontario's publicly funded schools" through its "Good Places to Learn" initiative.

In 2007/08, the Ministry provided school boards with more than \$1.7 billion in grants for operating school facilities; the grants are used primarily for ongoing maintenance, custodial services, and utilities. The Ministry also provided \$382 million in capital renewal grants for expenses such as repairs and renovations.

Audit Objective and Scope

Our audit objective was to assess whether selected school boards had adequate policies, procedures, and systems to manage and maintain their school facilities efficiently and cost-effectively.

We examined facility management at three school boards. They were the District School Board of Niagara, the Durham Catholic District School Board, and the Kawartha Pine Ridge District School Board. Figures 1 and 2 show how much funding for school renewal and facilities operations the three boards received during the past five years, as well as provincial totals in these areas.

Our audit covered custodial services, maintenance, capital renewal projects, and the purchasing practices related to them. Our audit did not include the construction of new schools or additions to existing schools. We interviewed ministry staff and

Figure 1: School Renewal Funding, 2003/04–2007/08 (\$ million)

Source of data: Ministry of Education

School Board	Annual Funding					% Increase over 5 Years
	2003/04	2004/05	2005/06	2006/07	2007/08	
District School Board of Niagara	7.1	7.5	7.3	8.3	9.5	33.8
Kawartha Pine Ridge	5.6	5.9	5.8	6.5	7.1	25.0
Durham Catholic	2.5	2.9	2.6	2.7	2.8	12.0
all school boards	293.3	324.1	318.5	342.4	381.7	30.1

Figure 2: School Facilities Operations Funding, 2003/04–2007/08 (\$ million)

Source of data: Ministry of Education

School Board	Annual Funding					% Increase over 5 Years
	2003/04	2004/05	2005/06	2006/07	2007/08	
District School Board of Niagara	31.6	33.1	34.6	34.5	35.5	12.3
Kawartha Pine Ridge	26.0	27.1	28.2	28.0	28.6	10.0
Durham Catholic	16.5	17.7	18.6	18.7	19.2	16.4
all school boards	1,476.3	1,562.4	1,636.6	1,660.8	1,718.7	16.4

school board staff in facilities departments and other departments at all three boards. We also met with facilities department staff from other school boards to obtain their perspectives on facility management.

Our audit followed the professional standards of the Canadian Institute for Chartered Accountants for assessing value for money and compliance. We designed tests and procedures to address our audit objective. We based them on audit criteria that covered the key systems, policies, and procedures that should be in place and operating effectively. We cleared these audit criteria with senior management at the three boards we audited.

Summary

The initiative in 2002 and 2003 to inspect each school in Ontario and enter the results into a database provided the Ministry and school boards with valuable information on the state of Ontario's

schools and where renewal funds should be invested. Such a database can only continue to be useful, however, if it is kept up to date.

Our audit of three school boards included a review of capital renewal expenditures, including the money spent under the Good Places to Learn initiative. We found that funds were not always spent in accordance with Good Places to Learn requirements nor on the highest-priority needs. We also recommended that the Ministry develop an action plan to address schools that are considered to be uneconomical to maintain.

All three schools boards we audited generally had good policies for the competitive acquisition of facility-related goods and services, and all three boards were generally following their prescribed policies. However, one board did not follow its own policies in purchasing approximately \$3.5 million in plumbing services from four suppliers. In particular, we noted:

- Contrary to board policies, these services were not acquired competitively—many invoices were deliberately split to keep individual payments below \$5,000 and thus avoid having to

get written quotations from several suppliers; and

- Invoices were not detailed enough for board staff to verify the amounts charged—when we obtained more details from one supplier, we found thousands of dollars' worth of errors and overpayments that had not been detected. Further review of just a sample of invoices found that the board had been overcharged a total of \$81,500.

With respect to maintenance and custodial services at the three boards we visited, we found the following:

- There is little formal monitoring; expected service levels are rarely established; and only limited feedback is being obtained from teachers, students, and parents on how well their individual school is being maintained and cleaned.
- School boards should more formally track the comparative costs for these services between schools within each board or between boards in the same geographical region. We believe such comparisons would provide useful information in highlighting possible best practices as well as inefficient or costly practices that warrant follow-up.

Electricity, natural gas, and water costs are a major expense. All three boards had introduced energy conservation measures and were making energy conservation a high priority for their schools. However, more can be done in this area. For instance:

- Boards should be comparing energy costs between schools to identify situations where energy costs differ significantly between buildings of a similar age and structure.
- Neighbouring boards should be comparing their energy costs per square metre (this useful information is available from the Ontario Public School Boards' Association) and following up on those instances where costs differ significantly between the boards. We noted instances where the energy costs per square

metre of neighbouring boards differed by over 40%.

We sent this report to the school boards we audited and to the Ministry and invited them to provide responses to our recommendations. Responses from the school boards and, where applicable, from the Ministry to specific recommendations are summarized following each recommendation. Overall, the school boards and the Ministry generally agreed with our recommendations and, in some cases, are already taking action to address them.

Detailed Audit Observations

SCHOOL RENEWAL

Information on Renewal Needs

School buildings deteriorate over time. Specifically, their structure, interior finishings, plumbing, and electrical and heating systems age and need funding to be kept up. Also, older buildings sometimes need extensive renovations to meet new health, safety, and other regulations. Often, the longer repairs to one part of a building are deferred, the greater the risk of damage to other parts of the building. For instance, a leaky roof can damage ceilings, floors, furniture, and equipment.

As mentioned, in 2002 and 2003, consultants hired by the Ministry inspected each operating school building in Ontario. On the basis of the results, the Ministry's consultants noted the following:

- The “major problems include leaky roofs, cracked windows, insufficient heating, cracked pipes and plumbing, and failing lighting systems...”
- Eighty-five percent of Ontario's students were being taught in buildings that needed at least one major repair.

- The “state of Ontario’s school buildings is getting in the way of the instruction being taught within them.”

The consultants recorded the results of the inspections in a database and used capital planning software to estimate by when each capital renewal project would need to be undertaken and how much it would cost. Their work indicated that meeting the renewal needs for Ontario schools from the 2003/04 to the 2007/08 fiscal year would cost a total of \$8.6 billion. About \$3 billion of this amount would be needed to meet 2003/04 and 2004/05 high and urgent needs, and \$2 billion would be needed to meet all 2003/04 and 2004/05 medium needs.

We felt that this was an excellent initiative for the Ministry to have undertaken because it provided the Ministry and school boards with objective information on which to base future capital renewal decisions and therefore was helping to ensure that taxpayers would get the “best bang for their buck.”

The Ministry provided boards with training materials for updating the database as well as several opportunities to ensure the accuracy of the information in the renewal inspection database. However, some issues arose when, in March 2005, each school board reviewed its school renewal needs in the database for completeness and accuracy. One board we audited found that the data on its schools did not include high and urgent needs totalling \$12 million. Another board advised us that the Ministry would not allow it to add omitted components of a building to the database. For example, it could not add a sprinkler system left out of the original list of a school’s renewal needs. All the boards we visited were concerned that the analysis assumed that certain problems could be fixed by just replacing a component with a similar component. They expressed concern that the effect of changes in building codes or programs on the timing and costs of projects was not taken into account.

Despite the fact that the underlying data may not be as comprehensive as all boards would like,

the capital needs database resulting from the province-wide assessment is an excellent planning tool. However, its continued usefulness will be largely dependent on the ability of the Ministry and the boards to refine the data and keep the database up to date. In a March 2004 report to the Ministry, consultants recommended that boards should have processes to ensure that the database is kept current. To that end, starting in late 2006, the Ministry required that school boards input the capital renewal projects that had been completed since the initial inspections. The Ministry told us that the majority of the 72 boards had updated information as of August 2007. However, one of the three boards we audited had not yet done so.

The boards we audited believed that formal reinspections should be conducted every five years to determine whether priorities or estimated costs have changed. In 2006, one school board hired an assessor to reinspect most of its schools. The assessor noted significant changes not reflected in the database. For example, renewal needs initially identified as costing about \$2 million were now estimated to cost \$4 million.

RECOMMENDATION 1

To help ensure that the school renewal capital planning database contains up-to-date information and accurately reflects major repair and renewal needs, school boards and the Ministry of Education should:

- ensure that the database is periodically updated with completed renewal projects; and
- periodically reassess the condition of school buildings and adjust the database accordingly.

SUMMARY OF SCHOOL BOARDS’ RESPONSES

The boards agreed with the recommendation. The boards indicated that they are updating the database on an ongoing basis.

MINISTRY RESPONSE

The Ministry also agreed with this recommendation. The Ministry regularly advises boards of their responsibility to update their capital renewal activities as they relate to planned and completed projects in the database, to ensure that the database reflects the current condition of school buildings.

Use of Renewal Funding

Good Places to Learn Funding

In May 2004, the government announced a three-stage Good Places to Learn (GPL) initiative. The initiative was to provide the financing to help “fund \$2.1 billion worth of essential major repairs and renovations to Ontario’s publicly funded schools.” Under Stage 1 of GPL, the Ministry was to “provide boards with an estimated \$75 million annually in financing” to support the borrowing of funds for about \$1 billion in major repairs. Stage 1 began in March 2005 to address 40% of the \$2.6 billion in identified 2003 and 2004 high and urgent renewal needs. How much each board got was based on the board’s share of the high and urgent needs in the province.

Each board’s trustees were required to pass a resolution on how they would spend Stage 1 GPL funds. Only projects that met high and urgent needs in schools that the board planned to keep open for 10 years or more were eligible.

We looked at the use of Stage 1 funds at the three boards in our audit. Specifically:

- Were Stage 1 funds used for high and urgent needs?
- Were the amounts spent close to the estimates in the database?
- Did projects start after March 2005 as required?

At one board, we found that \$2.5 million of its \$2.8 million in Stage 1 funds had been used on ineligible projects. For example, this board

claimed to have spent \$810,000 of its GPL funding on a project that had actually been finished and paid for in 2003, before GPL was announced. When we pointed this out to the board, the board immediately took steps to ensure that the originally selected projects were correctly accounted for through the board’s capital renewal program, not GPL Stage 1 funding.

At another board, we reviewed projects at four schools. Despite frequent ministry directions that GPL funds may only be used for projects with needs of a high and urgent nature, we found that Stage 1 spending exceeded estimated costs in the database for projects at three of the schools by approximately 25%. For example, \$2.9 million in GPL Stage 1 funding was spent on a school with high and urgent needs of only \$2.2 million. At another school, with high and urgent needs estimated to cost a total of \$2.9 million, GPL Stage 1 funded \$3.5 million in actual costs.

In 2006/07, GPL Stage 2 provided funding to finance the borrowing of “\$500 million to address additional high and urgent renewal needs not funded in Stage 1, and recognize lacking or inadequate specialized spaces, such as science labs, gymnasias or broad-based technology.” We understand that these projects were finalized after we completed our audit.

In 2007/08, under GPL Stage 3, the Ministry provided school boards with “an additional allocation to support a further \$500 million to continue to address high and urgent renewal needs not funded in Stage 1 and Stage 2, and to continue to recognize lacking or inadequate specialized spaces.”

Annual Capital Renewal Funding

School boards annually receive capital renewal funding from the Ministry. This funding is to pay for repairs and renovations to schools. It is based mainly on enrolment and must be spent on tangible projects, although not necessarily on projects of high need or of an urgent nature. Ongoing maintenance is to be funded from grants for school operations.

We reviewed how the three boards we audited were using their capital renewal funds. We expected they would have a formal plan to ensure that these funds would be used predominately for the high and urgent renewal needs not paid for by GPL funding. But one of the boards did not prepare a formal capital renewal strategy or get approval from trustees for how to use the funds. We also found that boards were not always using the funds for identified urgent capital renewal needs. For instance:

- In the 2005/06 and 2006/07 fiscal years, one board spent about \$500,000 of its \$2.5-million annual capital renewal funding on ongoing operational expenses. Examples included air-conditioning service, bulk air filters, fire-alarm service calls, and tree trimming.
- Meeting one board's assessed high and urgent needs would cost an estimated \$50 million. Stage 1 GPL funded only \$20 million. Yet, over the past three years, this board spent about 14% of its annual capital renewal funding of \$18 million on painting and asphalt projects. None of these projects were on the list of identified high and urgent needs.

RECOMMENDATION 2

To help ensure that one-time and ongoing renewal funding is spent prudently, school boards should:

- formally rank all capital renewal projects to ensure that they are prioritizing the most urgent ones appropriately;
- require that trustees approve capital renewal plans and any significant revisions to them; and
- spend Good Places to Learn (GPL) and annual capital renewal funds only on eligible projects.

SUMMARY OF SCHOOL BOARDS' RESPONSES

The boards agreed with the recommendation. The board that had used \$2.5 million of GPL funding on ineligible projects has stated that all its GPL projects now comply with ministry requirements. Similarly, the board that spent about \$500,000 of its annual capital renewal funding on ongoing operational expenses stated that all its future capital renewal spending will comply with ministry guidelines. All three school boards also indicated that all their future capital renewal plans will be submitted to their boards of trustees for approval.

MINISTRY RESPONSE

The Ministry has initiated an Operational Review Project to identify leading practices in facilities management, amongst other topics, and to assess school board practices against these leading practices. These practices include the standard that school boards should develop an annual and multi-year facility maintenance and renewal plan and that this plan should be reviewed and approved by senior management and the board. All 72 school boards will be reviewed against this standard over a three-year period through this project. Boards are being encouraged to review their current practices and move toward full adoption of leading practices.

We note that boards are able to fund the “out-of-scope” components of their GPL projects through their School Renewal Grant, including projects with needs that have since become high or urgent, as well as projects that address accessibility and health-and-safety issues.

Also, in March 2008, the Ministry announced an additional \$250 million for 2008/09 to continue to support GPL renewal needs.

Prohibitive-to-repair Schools

As a result of the initial inspections of 2002 and 2003, 136 schools were considered to be in very poor condition. Repairing them would be too expensive to be cost-justified—in other words, they were “prohibitive to repair” (PTR). The schools were put in this category on the basis of their Facility Condition Index (FCI), a standard measure of facility condition in the building industry. The FCI for a school is a percentage calculated by factoring in the school’s replacement value—based on the number of student spaces in the school—and the school’s five-year renewal needs. The higher the FCI, the less economical it is to make the necessary repairs. The Ministry defined a prohibitive-to-repair (PTR) school as having an FCI equal to or greater than 65%.

Figure 3 is a chronology of events relating to PTR schools. As it indicates, the list of PTR candidate schools had increased from 136 to 260 by late 2006. The reasons for the increase included:

- the Ministry’s revision of the basis for calculating the FCI;
- changes in the condition of many schools since the 2002/03 assessment; and

- the boards’ identification of renewal needs not considered in the 2002/03 assessment.

After its approval of funding to consolidate or replace 57 PTR schools in September 2007, the Ministry continued to analyze the remaining identified PTR schools for funding purposes. By March 31, 2008, it had approved financing—worth approximately \$515 million—to consolidate or replace a total of 104 PTR schools. Also in March 2008, it announced that school boards’ Stage 3 GPL allocations would include the Stage 1 and Stage 2 funding the boards would have received for the remaining identified but unfunded PTR schools had those schools been included in the earlier GPL allocations. (Under stages 1 and 2 of GPL, the high and urgent needs of Ministry-identified PTR schools had been excluded from GPL funding because the Ministry did not consider repairing PTR schools to be justified.) In the same announcement, the Ministry said that it would continue to analyze the remaining identified PTR schools and that the final PTR decisions would be made in the 2008/09 fiscal year.

Figure 3: Events Relating to Prohibitive-to-Repair (PTR) Schools

Prepared by the Office of the Auditor General of Ontario

2002-03	<ul style="list-style-type: none"> ● Ministry-hired consultants assess the condition of each school in province.
2005	<ul style="list-style-type: none"> ● Ministry announces GPL program will provide \$50 million annually to finance \$700-million worth of new construction. Construction is to replace “120 of the worst schools in the system that are too expensive to repair.”
June 2006	<ul style="list-style-type: none"> ● Ministry revises FCI calculation to allow boards to use gross floor area as well as the number of student spaces to determine the replacement cost of a school. ● This increases the number of PTR schools from 136 to 208.
October 2006	<ul style="list-style-type: none"> ● Ministry permits boards to identify other schools that they also believe are PTR schools.
Late 2006	<ul style="list-style-type: none"> ● Total number of PTR schools identified by boards and the Ministry exceeds 500. ● After evaluating boards’ requests, Ministry invites boards to submit business cases for the 260 PTR candidates.
September 2007	<ul style="list-style-type: none"> ● Ministry approves \$350 million in PTR financing to address renewal needs for 57 schools. Some schools are to be consolidated and others will be replaced.

RECOMMENDATION 3

To help ensure that students have acceptable, suitable environments to learn in, the Ministry of Education should develop an ongoing process to identify and address urgent capital renewal needs before schools become prohibitive to repair.

MINISTRY RESPONSE

The Ministry expects boards to develop an annual maintenance and renewal plan that reflects the needs of their facilities. The Ministry has committed \$2.25 billion in funding to help boards address high and urgent renewal needs since 2005 and a further \$700 million to replace schools in the worst condition. The Capital Priorities Program announced for 2008/09 will provide another \$500 million to support boards in, among other things, replacing schools that are prohibitive to repair. The Ministry also provides over \$300 million annually for renewal funding. This funding has reduced the backlog of renewal needs for schools.

SCHOOL CLOSINGS

The decision to close a school is always hard. Most often, declining enrolment, and renewal and programming needs are the main reasons for closing schools. Declining enrolment leads to unused capacity at a school and reduced funding to operate the school (because most ministry funding is based on the number of students). In the end, it can be uneconomical to continue to operate such a school. In recognition of these challenges, in 2004 the Ministry said it would provide “approximately \$199 million annually to boards to make up for the cost to maintain and repair empty spaces.” The amount saved by closing a school is also affected by the school’s condition. The worse a school’s condition, the more expensive it is to maintain. So more

savings result when the school closed is one that needed significant upkeep or renewal.

The *Education Act* stipulates that the decision to close a school is up to individual school boards. But it also allows the Minister of Education to issue guidelines on school closure. The Ministry issued such guidelines on October 31, 2006, to replace the guidelines previously in place. While it was developing the guidelines, the Ministry asked boards for a moratorium on school closings. The moratorium began in December 2003 and ended in 2006 when the guidelines were issued.

The guidelines are called *Pupil Accommodation Review Guidelines*. They require that boards develop a framework to assess the value of their schools. When deciding whether to close a school, the board must determine the school’s value to students, the community, the school board, and the local economy. The board must also consult the community as part of the review process.

There is another factor that could persuade a board to keep open a school that it might otherwise close. It is the availability of “top-up” grants to help boards adjust staffing and operations for schools with declining enrolment and resulting unused capacity. In 2006/07, the Ministry provided \$218 million in such grants, of which \$188 million helped with school operations and \$30 million helped with school renewal.

These top-up grants are calculated differently for urban schools than for rural schools. The top-up grant for an urban school is limited to 20% of what the school would be funded for at full capacity. Thus, a board must absorb the operating costs of urban schools that operate below 80% utilization. But rural schools can qualify for funding that covers the full operating cost projected for the capacity of the school regardless of actual utilization.

We looked at the effect of these grants on the boards we audited. One board, experiencing declining enrolment, closed one urban and one rural school. The different effects of top-up grants on the amounts the board saved at these two schools is shown in Figure 4.

Figure 4: Annual Savings from Closing a Rural and an Urban School (\$)

Source of data: one of the school boards audited

Type of School	Total Savings from Closing the School	Amount Covered by Top-up Grants	Net Savings to the Board
rural	155,000	135,000	20,000
urban	160,000	80,000	80,000

Note: net savings at individual boards may vary

Although the total annual savings were about the same from closing either school, had the board decided to accept the top-up grant and keep both schools open, the net cost to keep the rural school open would have been far less, giving the board considerably more financial incentive to do so. But savings to the province from closing the school would not have been realized because the top-up grants would have continued. (The savings calculations do not include transportation costs, which could affect net savings at either school.)

As mentioned, declining enrolment, unused capacity, and expensive renewal needs are factors in school-closure decisions. We noted the following on potential future trends in these areas:

- *Declining enrolment*—Student enrolment peaked at nearly 2 million students in the 2002/03 school year. However, it had fallen by 68,000 students by 2007/08. It is expected to decline by another 70,000 students by 2012/13, according to the Ministry.
- *Unused capacity*—The Ministry has reduced class sizes in primary grades, thereby decreasing the capacity of schools. In the past three years, the decrease in capacity actually outstripped the decrease in enrolment. As a result, the number of unoccupied spaces in schools fell from 215,000 (2004/05) to 176,000 (2005/06) to 160,000 (2006/07). However, a planning consultant has projected that this trend will reverse itself in the next 10 years. Unoccupied classroom spaces are

expected to grow by 35% to 40% in elementary schools and could increase by 30% to 35% in secondary schools.

- *Expensive renewal needs*—The same consultant noted that most of the surplus space will be in older schools with higher renewal needs and operating costs, and that closing such schools would realize significantly higher savings compared to closing newer schools. This planning consultant concluded that, overall, closing older schools would significantly reduce the province's school renewal needs.

If these projections are accurate, there may be more financial pressure to close schools in the future, and it will be important for both the Ministry and school boards to adopt a long-range, proactive process that addresses student needs and financial pressures in an objective and fact-based manner.

RECOMMENDATION 4

To help school boards make the best possible decisions on closing schools, the Ministry of Education should:

- review the impact that top-up grants have on keeping schools open to ensure the grants are meeting their intended purpose; and
- assess the impact that its guidelines are having on school closures and address any concerns identified.

MINISTRY RESPONSE

The Ministry agreed with this recommendation. In general, ministry funding policies are intended to be very responsive to the individual circumstances of each school, and are designed to support schools experiencing enrolment fluctuations and to prevent school closures that would result in pupils having to be transported long distances to other schools. Boards are encouraged to make decisions about school closures on the basis of the needs and circumstances of students, and so funding implications

arising from these decisions are intended to be as neutral as possible.

The Ministry does consult with boards about their pupil accommodation processes and invites their suggestions for possible changes to the guidelines and processes.

ACQUISITION OF GOODS AND SERVICES

Contracting for Services

All three boards we audited had adequate policies for ensuring that they acquire goods and services competitively and through a fair and open process. Also, our work indicated that two of the three boards were generally adhering to their established policies for facility-related purchases.

While the third board had good policies in place, it was not always adhering to them. One policy required written quotations from at least three suppliers for any purchase with an estimated value of \$5,000 to \$49,999. For less costly purchases, verbal quotations from a single supplier would suffice. The consultants that inspected all of the province's schools in 2002/03 identified \$1.7 million in high and urgent plumbing needs at three of this board's schools. In June 2005, board staff advised the Board of Trustees that three plumbing projects totalling \$445,000 were to be undertaken at these schools. A plumbing contractor was hired for these projects without any competitive process. By the time the work was completed, the contractor had billed the board \$1.1 million. In total, over the period from September 2003 to April 2007, the board paid this contractor about \$2 million.

We noted that, starting in late November 2006, every one of this contractor's invoices was just below \$5,000. Also, the amount charged for labour was always the same—\$2,600 (40 hours at \$65/hour). At one school, invoices of just below \$5,000 accounted for \$230,000 of the \$276,000 billed for plumbing work between November 2006 and March 2007. This made us suspect that these

invoices might not have been properly generated. Our suspicions were confirmed when we were advised that plant staff had told the contractor to keep invoices below \$5,000. This occurred around the time we released our *2006 Annual Report*, in which our school board audit report covered the purchasing practices at four boards, including the requirement for competitive quotations for purchases over \$5,000. Intentionally keeping invoices below \$5,000 should not be used to justify not following purchasing policy, and it limits the board's ability to determine whether the amounts paid were reasonable.

We also reviewed billings from another plumbing company that was hired without a competition. Between January 2005 and April 2007, the board paid the company \$1.5 million. Billings from this company were usually split up among several invoices, each for \$5,000 or less. We also found that this vendor had overcharged the board \$30,000 because it had double-counted the GST in its billings. The board recovered the overpayment after we advised it about the errors.

Reviewing Billings

Billings from the same plumbing contractor that received approximately \$2 million of work consisted of a one-page invoice plus the packing slips listing materials. Prices were not included on the packing slips. The invoices did not itemize materials used, their cost, and other charges such as markups. They also did not include any documentation supporting the amounts charged. Only after November 2006 were the hourly rate for labour and the number of hours worked shown. But, as mentioned, this information was identical on every invoice.

We requested supporting documentation for material prices and labour hours billed from the contractor. Prior to providing us with the documentation, the contractor reviewed selected invoices for work done at the three high schools and found a number of errors in billings to the board, as follows:

- For the work done at two high schools, the contractor reviewed the paperwork for 10 out of a total of 54 invoices. The 10 invoices totalled approximately \$250,000. The contractor found errors in seven of the invoices, amounting to overcharges for materials of \$10,000. Also, only at this time did the board learn that the contractor was charging a 25% markup on materials.
- For the work done at the third high school, the contractor reviewed invoices from November 2006 to March 2007 totalling approximately \$300,000. The contractor identified overbillings totalling \$41,500 (\$8,500 for materials and \$33,000 for labour).

We understand that the board has since recovered these overpayments. However, since seven of the invoices in the first sample of 10 had errors, we believe the board should review the other 44 invoices, which totalled \$550,000. The board should pay special attention to the \$400,000 billed for labour, since a large amount was overbilled for labour at the third high school.

RECOMMENDATION 5

To help ensure that their purchases of goods and services are economical, school boards should:

- ensure that all purchases are made competitively and in accordance with board policies;
- conduct reasonableness reviews to ensure that supplier invoices are not artificially split into multiple invoices for smaller amounts;
- require that invoices have enough detail for board staff to assess their accuracy and reasonableness; and
- check invoices for possible errors before they are paid.

SUMMARY OF SCHOOL BOARDS' RESPONSES

Two boards indicated that they continue to follow prudent purchasing policies. The board that

had not followed its own policies in purchasing plumbing services advised us that it has implemented all of our recommendations. Specifically, the board indicated that the following has occurred since the audit:

- Plumbing services provided to the board have been tendered specifying labour and material markups.
- Immediately after concerns were raised over invoicing inconsistencies, board staff directed vendors to detail their invoices itemizing labour and material costs, provide backup invoices, clearly identify percentage markups on material for maintenance work, and discontinue the splitting of invoices.
- All invoices from the plumbing contractor we referred to have been thoroughly reviewed, resulting in further credits totalling approximately \$5,300.

MINISTRY RESPONSE

In December 2006, the Ministry issued a policy memorandum to school boards to highlight best practices in procurement and to require boards to review their procurement policies and publicly post these policies on board websites. In addition, the Ministry has identified leading practices for procurement through the Operational Review project and is assessing boards against these practices.

SCHOOL UPKEEP

Our audit included assessing the processes boards have for ensuring that custodial services and maintenance services are well managed. Mostly board staff deliver custodial services, while usually a combination of board staff and external service providers delivers maintenance services.

Setting Clear Expectations

All school boards receive school operations funding to cover the costs of heating, lighting, maintenance, and cleaning. The amount boards receive is based on factors such as enrolment at the board's schools, the schools' geographical location, and community use of the schools. The funding formula is meant to ensure that boards receive equitable funding to keep their schools clean, well-maintained, and adequately heated and illuminated. School boards determine how they will allocate these funds.

None of the three boards we audited had established measurable service expectations for their maintenance and custodial services. As a result, they cannot formally assess whether the funds have been spent cost-effectively and expectations have been met.

Such expectations do exist in other jurisdictions. For example, the U.S.-based Association of Higher Education Facilities Officers (Association) has defined five different levels of custodial service. From highest to lowest, the custodial levels are:

- orderly spotlessness;
- ordinary tidiness;
- casual inattention;
- moderate dinginess; and
- unkempt neglect.

The Association also publishes information on the costs and the number of employees needed to achieve each level of service depending on the size of the facility.

One of the boards we audited did indicate that it was planning to establish an expectation for its custodial services similar to what the Association defines as "ordinary tidiness." The two other boards did not have any such plans, however. The only service requirement they had established—the frequency of cleaning tasks—does not indicate the level of cleanliness that is expected day to day.

Assessing Quality of Service

Four important sources of information on the quality of custodial and maintenance services are feedback from staff, inspections, complaints, and surveys.

Staff Feedback

The facilities departments at all the boards we audited communicated with staff about their school's custodial and maintenance services. Also, the board that is considering establishing a defined service-level expectation took the initiative to hire a consultant to obtain feedback from key users. The consultant reported that the main custodial-service concerns were inconsistent quality of custodial service; no service-quality standards; and limited supervision of custodial staff, particularly at night when most of the cleaning is done. The maintenance concerns included inadequate supervision; maintenance staff giving priority to their own projects; and maintenance staff not doing the work requested on a timely basis, leading to repeated requests.

Inspections

Inspections are another way boards can determine whether all assigned tasks have been completed and whether a school is being maintained and cleaned at expected levels.

All of the three boards that we audited conducted supervisory inspections of custodial work. However, only one board was using standardized checklists to ensure that inspections were consistent and results were recorded. Our other observations on inspections of custodial work were as follows:

- Supervisors at one board conduct informal inspections of custodial work. But there are no requirements for how many inspections should be conducted per year. For the most part, inspections were documented only

when there were recurring staff performance problems.

- Another board had a policy whereby supervisors must inspect every school twice a year for cleanliness. But only one of the board's four supervisors had documentation to show that approximately half of the required inspections had been completed.
- Supervisors at the third board did not regularly document inspections conducted. We were advised that supervisors informally evaluated cleanliness and made recommendations to custodians. Over the past few years, documented inspections have been limited to problematic schools.

The three boards inspected maintenance work only informally. They did not document the inspections and did not specify how frequently they should be done.

On the other hand, we noted a good practice at one board: the manager of maintenance services used work-order reports to identify schools where a significant amount of work had been completed; review the volume of work done by trade and by maintenance area; and determine where there might be productivity problems. However, while this practice produced useful information, it would be enhanced by documenting the analysis done and any actions taken on problems noted. The other two boards did not monitor work-order reports on a regular basis.

Complaints

None of the three boards maintained a formal log of complaints about custodial or maintenance services. However, senior facilities staff indicated that senior school staff would advise them if complaints were not handled quickly and effectively. Principals at one board could raise concerns to senior board staff through their Principal Advisory Committee.

Surveys

In 2004, the Ministry discontinued School Facilities Information System (SFIS) surveys. Staff at the boards told us those surveys gave them valuable information on facilities and the condition of schools. Since then, other than a consultant's review conducted at one board, the boards we audited had not surveyed any school users—such as principals, teachers, students, and parents—about their level of satisfaction with a school's physical condition and environment. We did note that a board we did not audit surveyed its parents in spring 2007 on whether its schools were clean and in good repair. This is a practice other boards should consider.

RECOMMENDATION 6

To help ensure that funding for custodial and maintenance services is spent well and that work is properly completed, school boards should:

- establish certain basic service-level objectives for custodial and maintenance services;
- periodically inspect the work of staff for quantity, quality, and completeness and document the results; and
- conduct surveys to determine the satisfaction of school users with the services provided.

SUMMARY OF SCHOOL BOARDS' RESPONSES

The boards agreed with the recommendation. One board had taken steps to implement tools that will help with audits and quality control. Another board developed a new custodial manual, log book, and inspection form, along with appropriate supporting training, which were issued in the 2007/08 school year. Another board indicated that there is a daily cleaning schedule specific to each school and that plant operations supervisors periodically inspect the

work of staff to ensure that service expectations are met. Although not all inspections are documented, corrective action is taken for sites that do not meet the required service level. One board indicated that, although it has not conducted surveys, there are many other avenues for feedback within the board.

MINISTRY RESPONSE

The Operational Review process has identified as a leading practice that school boards should have cleaning and maintenance standards for all schools, and report annually on the results. The process includes an assessment to ensure that boards have appropriate internal controls to:

- ensure that custodial and maintenance services are effective and efficient in maintaining an optimal student learning environment; and
- effectively manage custodial and maintenance operations and expenditures.

Cost Management

Custodial and Maintenance Service Costs

Boards should ensure that custodial and maintenance services are cost-efficient. This requires obtaining data on how much is spent on upkeep and analyzing that data. For example, data on custodial costs could be broken down to the cost per square metre at each of a board's schools. The board could then compare schools in this respect both against each other and against relevant benchmarks. Next, it could investigate anomalies, and find possible best practices to implement board-wide.

The Ontario Public School Boards' Association conducted and reported on a useful assessment: how much boards throughout Ontario spent on maintenance and custodial services. Figure 5 shows the results for the three boards we audited and the provincial average for the five-year period ending

Figure 5: School Board Expenditures on Maintenance and Custodial Services, 2000/01–2004/05

Source of data: Ontario Public School Boards Association

School Year	Annual Expenditure (\$/m ²)			
	Board A	Board B	Board C	Prov. Avg.
2004/05	41.05	51.32	60.75	51.81
2003/04	38.53	49.57	62.86	51.45
2002/03	38.15	47.69	67.96	49.70
2001/02	34.84	44.22	67.93	48.25
2000/01	35.34	43.18	72.09	47.19

August 31, 2005. Clearly, there are significant differences between the amounts per square metre being spent at different boards. However, boards have done little follow-up analysis of this useful information to determine whether certain boards have best practices that could be followed by other boards.

Although all three boards tracked some custodial and maintenance service costs on a per-building basis, none of the three boards we audited adequately tracked total maintenance and custodial costs per building. As a result, they did not formally compare the overall costs of similar buildings within the board and at other boards. They also did not assess the costs against external benchmarks.

With respect to spending on maintenance, none of the boards we audited had documented guidelines for prioritizing maintenance activities. Maintenance budgets were drawn up mostly on the basis of what funds were available. They did not take into account the board's actual maintenance needs.

All three boards had access to reports on the cost of custodial supplies per school. But again, they could not demonstrate how this information was used. On the other hand, all three boards implemented several initiatives to reduce costs and improve effectiveness. For example, they purchased automated floor scrubbers to increase efficiency and effectiveness and were using pre-measured dispensers to ensure that cleaning products are used efficiently.

Preventive Maintenance

Preventive maintenance can help minimize future costs and prolong the life of buildings and equipment. All three boards had preventive maintenance programs in place, but their efforts to track the amounts spent and the work done varied. They also did not document how they determined the frequency with which they conducted preventive maintenance (for example, did they inspect major equipment such as heating and cooling systems as often as the manufacturer recommended?).

Staff informed us that lack of funding prevented them from undertaking certain preventive maintenance tasks. These included preventive maintenance of mechanical systems (including heating, cooling, and plumbing) and electrical systems. Doing this work could reduce long-term maintenance costs and service disruptions. It could also extend equipment life.

RECOMMENDATION 7

To help minimize costs and prevent service disruptions, school boards should:

- compare maintenance and custodial costs between schools within boards to identify variances that may be indicative of both good and poor practices and take corrective action; and
- determine whether additional expenditures on preventive maintenance could reduce long-term costs.

SUMMARY OF SCHOOL BOARDS' RESPONSES

One board indicated that, although it did not compare maintenance and custodial costs between schools, its preventive maintenance system does deal with major equipment, thereby reducing long-term costs.

Another board advised us that it has established cost-centre accounting codes for all loca-

tions and formally implemented the tracking of maintenance and custodial costs. The board has also undertaken a review of all facility-related work requests to assist in identifying and prioritizing preventive maintenance.

The third board stated it would continually look at its preventive maintenance program and is now automating some of its functions to increase equipment reliability.

MINISTRY RESPONSE

The Ministry has agreed to undertake a study of school operations costs in collaboration with school boards and unions representing school board maintenance staff, and the design of this study is under way.

The Ministry's Operational Review process has identified leading practices for school board maintenance, and individual school board review reports will highlight best practices in preventive maintenance and custodial expenditures.

Energy Management

School facilities use a significant amount of energy. According to the Ontario Public School Boards' Association, total utility costs for Ontario's 72 school boards—which include electricity, natural gas, and water—have increased from approximately \$245 million in the 1998/99 fiscal year to \$401 million in the 2004/05 fiscal year. This is an increase of 64% over that six-year period. In 2004/05, energy costs at school boards ranged from \$9.95 to \$29.41 per square metre. Figure 6 shows the amounts spent on energy at the three boards we audited and the provincial average over the five-year period ending August 31, 2005.

Figure 6: School Board Expenditures on Energy, 2000/01–2004/05

Source of data: Ontario Public School Boards Association

School Year	Annual Expenditure (\$/m ²)			
	Board A	Board B	Board C	Prov. Avg.
2004/05	12.11	14.56	17.04	15.87
2003/04	12.09	12.48	16.76	15.56
2002/03	11.74	14.79	19.67	15.43
2001/02	10.23	12.56	20.76	15.01
2000/01	11.89	13.76	17.25	14.76

Practising Energy Conservation

We found that, while they could be doing more in certain areas, all of the boards we audited were taking action to lower their energy costs. For example:

- One board we audited had developed policies for temperature settings, operating times for heating and cooling systems, and the operation of computers and audio and video equipment. It also had conservation policies for lighting, fridges, and freezers. At the time of our audit, the board was not yet monitoring compliance with these policies, but the development of policies was a good first step.

This board had also established an Energy Conservation Committee that set forth several initiatives to reduce energy consumption and to educate people on energy conservation. In May 2007, it announced that about 50 schools had achieved total savings of approximately \$80,000 annually.

- Another board sent a memorandum on energy saving to staff in 2007. It said that, in the summer months when no students are present, air conditioning would be turned off and asked that staff turn off or unplug all non-essential equipment. This board also planned to develop an energy policy that includes standard temperature settings and ventilation schedules. This board had also recently established an Energy Management Committee.
- The third board had prepared a draft energy plan that included temperature settings, run-

ning times for air-handling units, and exterior lighting periods.

Measuring Energy Consumption

None of the three boards we audited had established energy consumption targets to, for example, reduce electricity, gas, and water consumption by a target amount. On the other hand, staff at one board have been entering energy-consumption and -cost data into a database. They compare the monthly consumption of electricity and gas with the monthly average over the previous four years. They told us that they follow up on variances greater than 20%. Although this is a good initiative, we found no documentation of any actions taken on such variances, and they were three months behind in entering electricity data and 24 months behind in entering gas data. Another board had a system for measuring and monitoring energy consumption by school, but it did not formally compare energy consumption from school to school. The third board had recently started to track consumption and costs for management purposes.

Analyzing Consumption Data

Boards should be assessing their energy efficiency to identify savings opportunities. For instance, they could group schools that are similar in terms of age, size, mechanical systems, and utility usage; compare their energy consumption; investigate anomalies; and look for energy conservation best practices.

Another useful comparison would be between coterminous boards (boards sharing the same or part of the same area of jurisdiction) and between boards that are geographically similar. One of the boards we audited did such a comparison. It found that it spent \$17.04 per square metre on energy in the 2004/05 fiscal year while its coterminous board spent only \$11.05. It was planning to implement certain practices of the more efficient board, such as standard temperature settings, ventilation schedules, and shutting down of computers and

turning off of lights when not needed. As a result, this board's 2007/08 energy budget of \$4,450,000 was \$480,000 less than the previous year's budget. We understood as of February 2008 that the board was expecting to save approximately \$430,000.

We compared other coterminous boards and found significantly different rates of energy consumption worth investigating. One board spent \$17.33 per square metre and its coterminous board spent \$12.11. At another pair of coterminous boards the amounts were \$20.25 and \$14.32.

Schools' energy consumption can also be benchmarked against other types of buildings, such as one- to three-storey office buildings that function like schools.

RECOMMENDATION 8

To help ensure that energy costs are minimized, school boards should:

- develop a formal energy-management program with specific energy conservation targets; and
- compare energy consumption among similar schools within and between boards as well as total energy consumption among boards in the neighbouring area and investigate significant variances for evidence of best practices or areas where energy savings may be realized.

SUMMARY OF SCHOOL BOARDS' RESPONSES

The boards agreed with the recommendation. In July 2008, the Ministry launched an energy conservation initiative for all school boards. The program will collect and share data on energy consumption in all Ontario schools; promote best practices in operating and maintaining schools to reduce overall energy consumption; and work with individual boards to create a conservation strategy for their schools in compliance with the *Energy Conservation Leadership Act, 2006*.

One board advised us that it has specifically engaged in:

- developing new policies and administrative regulations on environment and energy;
- targeting strategies for energy conservation;
- developing an Enviro Action Plan for the board; and
- participating in a recognized green building-rating system that "facilitates and certifies higher energy and environmental performance of buildings and communities."

Another board introduced in summer 2008 building automation systems in several of its schools to track consumption data.

MINISTRY RESPONSE

In addition to the energy conservation initiative, the Ministry's Operational Review project has established leading practices in energy management which include establishing a multi-year energy management plan, systems to track energy consumption, and the use of centralized technology to automate energy conservation.

Attendance Management

Facilities staff are allocated sick leave of two days per month or 24 days per year. At all three of the boards, facilities departments tracked staff absenteeism. Figure 7 shows the sick-leave statistics for maintenance and custodial staff at those boards for the past two years. As it indicates, in 2005/06, the number of sick days ranged from 8.6 to 13.4 days for custodial staff and from 6.7 to 11.3 days for maintenance staff.

The human resources departments at Boards A and C prepare weekly reports on staff attendance. For example, the reports at one board identify employees who took more than three sick days in a week and 15 or more consecutive days of sick leave. These employees are brought to the attention of their supervisors. If asked, this board's human

Figure 7: Average Number of Sick Days Taken, 2004/05–2005/06

Source of data: the three school boards audited

	Board A	Board B	Board C
Custodial Staff			
2004/05	8.6	13.3	8.7
2005/06	8.6	13.4	9.1
Maintenance Staff			
2004/05	7.6	7.3	12.6
2005/06	6.7	9.1	11.3

resources department can also produce reports to identify potential abuses of sick time, such as absences on Fridays and Mondays.

At Board B, the employee attendance system does not flag employees with significant numbers of absences. This board's human resources department does not provide any attendance reports. This board's practice, instead, is to leave it up to supervisors to identify employees with problematic attendance.

RECOMMENDATION 9

To help minimize sick-leave absences, school boards should:

- track the attendance of all employees; and
- inform supervisors of any employees with high numbers, or unusual patterns, of absences and, if improvements are not noted, consider implementing a more formal attendance improvement program for such employees.

SUMMARY OF SCHOOL BOARDS' RESPONSES

The boards agreed with the recommendation. Two boards agreed that more work in this area is needed. One board indicated that supervisors are informed of high incidence rates and unusual patterns of absence, and that corrective action is taken.

MINISTRY RESPONSE

The Ministry is supporting the Efficiency and Effectiveness Committee of the Council of Senior Business Officials (COSBO) in its examination of school boards attendance management programs. The report from this project will highlight current absenteeism levels and attendance management programs in district school boards, and integrate the data with additional research on best practices.

Attendance management policies and systems to support employees and minimize the cost of absenteeism has been identified as a leading practice through the Operational Reviews process.

LEGISLATION AND REGULATIONS FOR SCHOOL FACILITIES

School boards must comply with all relevant fire and municipal building codes and other legislative and regulatory requirements. The facilities staff at all three boards we audited said that it is difficult and time-consuming to keep current with such requirements.

One board has its legal staff review the *Ontario Gazette*, which publishes new legislation and regulations. The facilities staff at the two other boards indicated that they identify changes to legislation and regulations informally. For example, they learn about changes through contacts with various government, regulatory, and industry agencies and associations.

The facilities staff at all three boards agreed that having one central organization responsible for making the 72 school boards aware of legislative and regulatory changes would save individual school boards from having to do their own tracking and reduce the risk of non-compliance.

RECOMMENDATION 10

To help ensure that all school boards are aware of changes in legislative and regulatory requirements affecting facility management and to minimize duplication of effort, the Ministry of Education and school boards should work on centralizing the collection of this information.

SUMMARY OF SCHOOL BOARDS' RESPONSES

All three boards we audited indicated that centralizing the collection of legislative and regulatory requirements that affect facility management would be a worthwhile initiative.

MINISTRY RESPONSE

The Ministry agrees with the recommendation. In the past, the Ministry has co-ordinated the distribution of critical information, such as the Ministry of the Environment's drinking-water regulations, to all school boards.

The Ministry will continue to highlight regulatory requirements affecting facility management for school boards and will work with school board associations to support appropriate information and training initiatives.