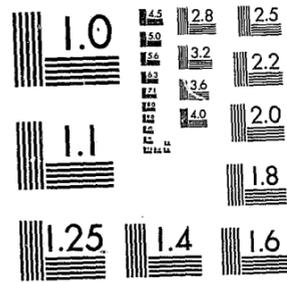


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SCHOOL VANDALISM: PROBLEMS AND RESPONSES

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JAMES WHITE, Principal Investigator
- ANTI FALLIS

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Project
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of Education.

Ministry
of
Education

SCHOOL VANDALISM: PROBLEMS AND RESPONSES

U.S. Department of Justice
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ABSTRACT

The purpose of this report is to provide school personnel with a summary of vandalism prevention programs and activities which have been used by school systems in Canada and the United States. InfoResults Limited was contracted by the Ontario Ministry of Education to review material collected by the Ministry, to update an ERIC (Educational Resources Information Centre) literature search, and to investigate the anti-vandalism measures employed by nine Ontario school boards.

No attempt is made in this report to determine the extent, or causes of school vandalism. In the literature review very few reports were found of experimentally controlled studies designed to evaluate the effectiveness of anti-vandalism measures.

School vandalism problems and possible responses are presented using a system of classification developed by the authors. In the first section of the report vandalism is considered as a general problem and several programs, procedures, and responses which have been tried are described. Programs which involve students, teachers, the school system, or the community are outlined. The remainder of the report describes possible responses to specific acts of vandalism.

Responses, such as alarm and patrol systems, boundary identification, and lighting, are discussed as means of preventing or reducing school intrusion. Three measures used to prevent theft, a no cash policy, marking and inventory systems, and key control, are described. Methods used to prevent damage to the interior hardware and exterior of a school are described.

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INTRODUCTION

In the past few years school vandalism has received increasing attention from administrators, trustees, and researchers. Many agencies have initiated studies of the extent, causes, and characteristics of vandalism. These studies include a comprehensive review of costs and programs in the United States by Greenberg in 1969 (35),¹ an investigation into the nature, costs, and contributing factors of school vandalism in Alberta by Schott in 1976 (77), a national survey of vandalism costs and preventive measures by the Canadian Educational Association in 1977 (22), an over-view of problems in Ontario by the Bureau of Municipal Research in 1977 (21), a conference on vandalism sponsored by the Youth Services Network of Metropolitan Toronto in 1977 (89), and the Mississauga Task Force's investigation and report of 1976 (71).

Each of these studies provided useful information regarding vandals, vandalism, and vandalism prevention. Most tended to focus on vandalism in general as opposed to school vandalism, and were more interested in describing the situation and identifying causes of vandalism than developing prevention programs. For a discussion of various definitions of school vandalism, see Appendix I.

John Zeisel of Harvard University has written the best available text on the prevention of school vandalism. His book, Stopping School Property Damage (91), focusses mainly on

¹ Throughout this report the complete citation for articles, books, etc. may be found in the reference bibliography, pages 59-64.

design responses; that is, ways of designing schools in order to reduce their susceptibility to damage by vandals. The book's primary limitation, however, is its emphasis on design responses and non-malicious vandalism. We have not attempted to repeat the many design responses presented by Zeisel. Where appropriate we refer the reader to a section of Zeisel's book which considers the subject in detail. For details of how to acquire this book, see reference bibliography.

The objective of this report is to provide educators with an action oriented summary of vandalism prevention activities and programs which have been tried by school boards. As Greenberg stated in 1969, "Our research effort, although it uncovered the fact that a host of procedures are being undertaken to bring the rate of vandalism under control, failed to uncover any one set of anti-vandalism techniques that could be universally applied to school districts" (35).

When this project began it was intended to summarize the various programs and actions which had been found effective in reducing school vandalism. A very thorough literature review prepared by the Department of Research and Evaluation of the Edmonton Public School Board epitomizes the present state of the literature:

"Many of the proposed solutions are based on conjecture on the part of the authors and/or school administrators. Some solutions, however, have been tried in at least one school or school district and a subsequent reduction in vandalism has been observed. No experimentally controlled studies designed to determine the relative effectiveness of any one proposed solution was located by the present researcher" (31).

The lack of research is further demonstrated by the following statement:

"Most of the suggestions are not made on the basis of any research that indicates probable success in reduction of incidents of school vandalism but because someone believes it is a 'good idea.'"

Coursen expands this statement by writing,

"this is the most distressing part of the literature on school vandalism; it is full of suggestions and assertions but remarkably short on concrete facts documented by scientific research" (30).

Our literature review confirms the lack of experimentally controlled studies designed to evaluate the effectiveness of anti-vandalism measures. Even the very few researchers who have attempted to evaluate programs systematically have not done a thorough job because of their inability or failure to use appropriate control groups.

No effort is made in this report to look at the extent, types, or causes of vandalism. These issues have been analyzed and commented on by other authors. Here we attempt only to outline some of the programs and procedures which have been used by school systems to combat vandalism. The object of the study is to provide school personnel with ideas they can use to reduce school vandalism.

The research consultants' terms of reference required a review of materials already collected by the Ministry, an updated ERIC¹ literature search, and discussions with employees of several school boards in different parts of Ontario.² While we have made use of the additional literature and materials acquired, we are aware that not all literature sources have been reviewed. This report represents a first effort to summarize the types of school vandalism prevention programs. Some readers may find much of the information elementary. Others, we hope the majority, will find the information useful.

¹ A literature search of the Educational Resources Information Centre data bank was conducted by the Educational Information System for Ontario.

² See Appendix II for a list of organizations contacted.

HOW TO USE THE MATERIAL

The problems and possible responses have been presented using a system of classification developed by the authors. In the first section vandalism is considered as a general problem and several programs, procedures and responses which have been tried are outlined. Programs which involve students, teachers, the school system, or the community are outlined. In the remainder of the report possible responses to specific acts of vandalism, such as intrusion, theft, and damage are described. An outline of problems and responses may be found in the table of contents.

A school system may react to acts of vandalism either piecemeal or by means of a comprehensive preventive program. For example, window breakage may be controlled either by boarding up the windows or by eliminating the cause of breakage, which may be student frustration or alienation. We believe that school vandalism can best be controlled, as Greenberg observes by,

"beginning to treat the problem diagnostically rather than symptomatically - i.e. determine the nature and causes of vandalism first, then apply appropriate deterrent or preventive techniques"(35).

The major steps in the development of a vandalism control program are as follows:

1. Define The Problem.

Determine carefully the type of vandalism that is occurring, its location, its frequency, its reasons for occurring, its perpetrators, and the cost of repairing it. This can be best done by a small committee.

2. Select A Prevention Strategy.

Set specific measurable goals, then select a strategy which will meet those goals. The strategy should be cost-effective, directed at the cause rather than the symptoms of the problem, consistent with current administrative policies, and unlikely to cause negative side effects.

3. Implement the Program.

Carry out the designed program.

4. Monitor and Evaluate The Program.

Determine carefully the actions taken, their specific impact, and the extent to which the program objectives were met.

Throughout this report, we have not attempted to determine the cost-effectiveness of various responses because this will vary from situation to situation, depending upon the severity of the problem, the finances available, and the manner in which the preventive strategy is implemented.

VANDALISM IN GENERAL

There are many ways a school system may respond to vandalism. Individual acts of vandalism may be responded to according to the specific type of anti-social activity, such as intrusion, theft, or breakage, exhibited by the vandals. Individual acts may also be treated as symptoms of a more general problem. This section of the report outlines a number of general anti-vandalism programs which are designed to respond to the general problem. They are primarily, preventive in nature by contrast with responses which can be made to specific acts of vandalism. The major general vandalism prevention policies identified in the literature and in conversation with school board employees involve the development of favourable attitudes by channelling students' energies into socially acceptable and interesting activities. The other major prevention programs concern teacher involvement, maintenance programs, community participation, and policies on prosecution and restitution.

Student Programs

A number of programs have been tried which encourage students not to vandalize their schools. These usually involve several activities, such as, incentive programs, information programs, and specially designed playgrounds.

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films, a \$1.00 per student vandalism account as described above, and a series of awards for individuals, classes, and schools. The program appears to have been used most successfully in Grades K-8. Project Pride literature reports a 60% reduction in vandalism over an eight year period in the San Bruno school system where it began.

However, no formal evaluation of this program has been found, nor is one provided by the commercial agency which has developed the program. Moreover, while the most highly publicized part of the Project Pride is the development of students' pride in their school and community, it should be noted that the brochure produced by the agency includes the seventeen recommendations outlined below, only one of which is concerned with students' self-esteem.

1. Have good architecture.
2. Use plastic windows.
3. Repair damage immediately.
4. Chain and lock all panic hardware at night.
5. Place metal strips over cracks, door edges, lock areas.
6. Install an alarm system.
7. Use night lighting in strategic areas.
8. Hire extra guards or security patrol on Halloween and July 4.
9. Enlist assistance of local police.
10. Enlist help of school neighbours.
11. Use fencing.
12. Use landscaping strategically.
13. Institute a restitution program.
14. Institute a reward system.
15. Use a few strategic signs.
16. Maintain attractive schools.
17. Help children attain self esteem.

Obviously if the other sixteen actions are implemented vandalism can be expected to decrease. Therefore, it is difficult to know how much student self-esteem contributes to the program's success by comparison with the other recommended activities.

Information Programs

Several Boards have started poster contests for students. Usually, winning posters are reproduced and distributed among the schools. This type of program is relatively inexpensive, but its effectiveness is difficult to determine.

As part of their vandalism prevention program, the North York Board of Education developed a series of case studies which were used at student conferences on vandalism. Each half day conference was designed to inform students of vandalism problems, and to stimulate their interest in the prevention of damage (16).

The Edmonton Public School Board literature review summarized the value of educational programs well when it stated:

Many authors suggest that in order to deal effectively with vandalism on a long term basis the stress should be on educational programs. These educational programs are mainly directed toward the student, although informing the community as to the extent and financial effect of vandalism on their neighbourhood is also advocated. Education programs in the school mainly involved activities such as student assemblies, class discussions, guest speakers and mini-courses. These activities focus on a wide range of subjects such as vandalism, the law, valuing and decision making skills, self-image and positive relations with others, respect for property, personal responsibility and self-discipline, and citizenship. Assemblies and classroom discussions or courses can involve speakers such as security officers, police and the students themselves.

Police have been used in many schools to teach courses on citizenship, the law, etc. Police-in-school Liaison Programs have been set up in which police teach such courses, patrol schools, and do informal counseling. There have been some criticisms made of this type of program. It is suggested that police do not always have the skills needed to make these programs succeed. Some communities do report, however, a decrease in juvenile referrals after instituting this type of program (31).

Students' feelings of frustration often underlie vandalism and violence in schools. A Conflict Management Student Leadership Program, designed to deal with these feelings of frustration and powerlessness, was developed and tested in California. It consisted of special training for seventy-five students from three schools. It was generally judged to have been a success but, because of the relatively small number of participants, its application appears limited (70).

Playgrounds

The use of special playgrounds to reduce vandalism has been promoted by Adventure Education Concept, Inc. An Adventure Playground operated at Harbourfront in Toronto has been used by elementary students from ten schools in the Toronto area. Children are allowed to use a wide range of materials to create any type of environment they desire. The children are encouraged to work together to create an environment using lumber, pipes, bricks, clay, cloth, etc. They are encouraged by the playground supervisors to work on individual or group projects of their choosing. Students attended the playground on four half-days. The Harbourfront playground director stated that the playground has reduced vandalism, but no formal evaluation has been made that we know of.

Some elementary schools have installed discovery or creative playgrounds. These are static playgrounds which include logs, tires, forts, etc. The assumption appears to be that this type of playground will be of more interest to students than conventional swings and teeter-totters, but we learned that in at least one instance students had vandalized a creative playground. These playgrounds have not been evaluated as to their effects on vandalism.

Teacher Involvement

The role of the teacher in reducing vandalism has received relatively little attention in the literature. A 1959 survey of staff of Syracuse schools indicated that a teacher's attitude may contribute to school vandalism (35). Analysis showed that teachers in high damage schools had a low degree of identification with the school. The teachers in low damage schools, however, appeared to be more concerned with personal relationships and with their effectiveness as teachers. One educator suggested that school vandalism prevention and control programs have only minimal results unless teachers are visibly involved in the program (15). She recommended that teachers cultivate in students respect for public property by affirmative action in regard to classroom materials and furnishings, and that they discuss the effects of public vandalism in class, stressing the idea that when something is damaged or broken students suffer most.

It has been suggested that courses in values should be part of the school curriculum so that children will come to realize that vandalism is both wrong and criminal (21). Rather than instituting a course on values, however, the Scarborough Board of Education is reported to have developed guidelines for teachers to assist them in imparting societal values while teaching regular curriculum (21). For curriculum ideas and activities designed to promote respect for property and the law, see the Ontario Ministry of Education publication: "From Laws to Values: Curriculum Ideas For Teachers" (61).

School Environment

The following section on ways school programs and regulations can be modified to reduce vandalism is based on a literature review conducted for the Edmonton Public School Board (31).

A school system which is organized to be relevant and responsive to the needs of students may help to reduce vandalism. One way to achieve this is through the development of alternative programs and schools, so that students' needs can be identified and programs developed to meet these needs. It is thought that more trade and vocational schools are needed, along with work experience programs, career education, and special education programs for students with emotional, behavioural or learning problems. The literature review undertaken by the Edmonton Public School Board did not find any studies which have evaluated the effect of alternative programs on the rate of vandalism in schools (31).

Reducing the size of schools and classes has also been suggested as a way of reorganizing the school system in order to reduce vandalism. It is thought that children will be better able to identify with a small school and will be less likely to cause damage if they see it as 'their' school. There is, however, no mention in the literature of any school system which has tried this approach and found it to be effective (31). Attempts have been made, though, to reorganize larger schools so that they operate on a "house" basis. Although students are all contained in one facility they function in smaller settings with which it is hoped they can more easily identify (90).

A finding from an Edmonton damage/loss study (32), was that inappropriate organization of the school day, that is, length of the periods, lunch breaks, and dismissal times, was perceived to lead to increased vandalism. It was found that most damage occurred between 1:30 p.m. and dismissal. Several reasons were suggested why damage occurs in the afternoon.

1. After the lunch break the staff is not always in the classroom areas before the students return from lunch. The lack of supervision leads to more damage.
2. The children's level of "excitement" is higher after spending the noon hour being active (especially where the lunch break is long). This leads to more damage.
3. Students are not always asked to leave the building at the end of classes. The lack of supervision at this time leads to more damage.
4. Core subjects are usually taught in the morning, whereas subjects such as art and music are often taught in the afternoon. There is often more pupil interaction and excitement during these activities and this in turn may increase the likelihood of damage or loss.
5. At the high school level there are more students with unassigned time in the afternoons. This is thought to increase the likelihood of damage or loss. Students with unassigned times are believed to be more likely to use it to complete assignments, etc. in the morning than in the afternoon(32).

Broadening the role and power of the student government has been suggested by some authors as a way to make schools more relevant to students and thereby reduce vandalism. Students at all levels could have more input in such areas as the development of rules for student conduct and student discipline. Making the student government body more meaningful should help students to identify more with their school and therefore, less likely to damage it (31). For example, The Lincoln-Way School in Frankfort, Illinois reports a low rate of student vandalism because of the Student Service

Organization (SSO). Members of the SSO monitor study halls and cafeteria lines, act as receptionists, operate a lost and found service, and serve as gym monitors.(58)

Maintenance Programs

Several writers have observed that deterioration breeds more deterioration, that is, a building which is poorly maintained invites further destruction (90). Often deterioration is caused by accidental damage, ordinary wear and tear, or weathering. But, if these are allowed to develop, conditions favouring vandalism become established. The relationship between poor maintenance and vandalism may work by example (one spot of graffiti leads to another), or by tone (no one cares for this building, so there is no harm in damaging it some more). Poor building maintenance can create a poor school environment which affects students and staff in such matters as discipline, school pride, and teacher morale (42).

Aspects of a maintenance program which may prevent the occurrence of some forms of school vandalism are: repairing visible damage as quickly as possible; establishing high standards for the school's appearance; employing custodians who like to be involved with the students; and enlisting the students as janitors. School walls, floors, and ceilings are especially susceptible to 'the epidemic effect' of vandalism (91). Quickly repaired damage is less likely to recur.

Repairing broken windows, repainting scratched or graffiti-marked walls, etc. contribute to keeping a school in an attractive condition. The maintenance program at Wethersfield, Connecticut schools, in the opinion of one author, accounts for low vandalism costs (76). The philosophy of the program is that students are not likely to vandalize a building that shows people are taking care of it. One way they try

to show this is by making improvements or initiating refurnishing projects before the need for them is apparent.

The involvement of maintenance staff with the students may help to reduce vandalism. The principal of one elementary school in Ontario stated that his caretaker's morale-building projects around the school were responsible for the low level of vandalism. There were no broken windows, or damaged equipment or books. The caretaker won the respect of the children by taking a personal interest in them and initiating relevant contests and projects (84). Establishing a program whereby students act as school janitors may further help to reduce vandalism as students learn the cost of vandalism or place pressure on peers not to commit acts of vandalism (22,90). However, no studies were found in our literature search which evaluated these approaches.

Community Involvement

Parents and other community residents should be part of a school's security efforts. Their cooperation can only be gained if they are made aware of the extent of school vandalism, its cost to tax payers, its disruption of the school program, and the ways they can help. A number of community programs are outlined.

Public Awareness

Educators and board employees interviewed for this study strongly disagreed as to the wisdom of publicizing school vandalism. Some welcome publicity of the procedures they are using. Others firmly believe that any mention of vandalism in the media increases its incidence. However, it seems that many preventive measures, such as, intrusion alarms, patrols (especially those using dogs), and equipment marking, appear

to be more effective when they are publicized. Concern about the cost of vandalism and support for various programs can only be generated by means of public information programs. While making people aware of a social problem may increase its occurrence in some cases, not talking about it will not make it go away.

The 1976 Mississauga Task Force On Vandalism recommended that the City co-operate in the funding of a public awareness program with the school boards and the local police commission (71). The Mississauga Vandalism Project, in operation since October 1977, has used a number of standard information techniques, such as, press releases, and public displays and information kiosks in schools and shopping centres (52). The impact of these types of general information activities is extremely difficult to measure and, to the best of our knowledge, no attempt has been made to formally evaluate them.

A vandalism task force, established by the Kingston Police Department, was apparently able to raise the level of community awareness regarding vandalism (27). During the summer of 1978 an extensive public relations campaign was mounted which consisted of two public meetings, a display at a shopping centre promoted by the local media, a radio hot-line show, speeches to various business groups, a poster campaign, and distribution of some 2,000 vandalism kits to Kingston residents. To encourage the public to report incidents of vandalism, a telephone sticker with the police's number was included in these kits. As usual, the effect of this public awareness campaign has not been formally evaluated.

In Mesa, Arizona, the Board of Education launched a project called MOVE (Mesa's Operation for Vandalism Eradication). The project emphasized the cost of broken windows,

broken lights and damaged equipment and the need for the community, particularly parents, to be involved in anti-vandalism programs. A special plea was made that persons with citizens' band radios should report acts of vandalism. Service clubs and all parent-teacher groups were informed that district personnel would present an anti-vandalism program on request and a brochure was mailed to every home within a two-block radius of each school describing the problem, the district's efforts to reduce vandalism, and ways in which residents could take part in a joint community project (58).

School Watchers

Anti-vandalism programs involving parents of school children and neighbourhood residents have been tried in many areas under various names, such as, parent patrols, block associations, neighbourhood watch, operation vigilance and so on. It was hoped that they would deter acts of vandalism, increase the chances of apprehending vandals, and develop a sense of community and parental responsibility. The degree of involvement varies, but in all cases, school watchers are asked to report to the police any suspicious activities occurring at a school.

The 1977 Canadian Education Association's report revealed that 22% of the forty-seven school boards surveyed have tried appealing to the community to lower vandalism. On a scale from one to nine, the average success rate given to this method was four (22). Although Zeisel (91) states that the co-operation of neighbours and parents in such programs is an inexpensive and effective method of school surveillance, a recent literature review indicates that none of these programs has been evaluated (31).

A school watcher program is relatively inexpensive to organize, but it is not free from problems. One problem is the maintenance of interest. This might be overcome by the use of a newsletter which keeps participants informed of program success. Perhaps a more serious problem is fear of retaliation by vandals who are apprehended by the police. Two boards mentioned that their programs had encountered difficulty because of this fear. In most organized programs, the neighbour or parent can call the police anonymously. Any attempt to identify informers or have them appear as witnesses will discourage many people from assisting. The primary limitation of this type of program is that it can only cope with vandalism visible from outside the school.

Several types of school watcher programs have been tried. Parent patrols may be organized on a formal or informal basis. Informal programs involve asking the parents of school children to watch the school grounds during non-school hours. They are asked to drive slowly by the school in their cars or to walk around the building in the evening, on weekends, and during vacation periods. The existence of these patrols may deter vandalism and also increase the opportunities for the police to apprehend vandals. Watchers are asked only to report any suspicious activity, not to confront a potential vandal. Because of the unpredictability of surveillance, the approach has been deemed effective, but it is subject to parental apathy and non-participation for fear of retaliation. In Illinois, school watching is referred to as POP (Parent Observer Program) or SOS (Save Our Schools). Although no controlled evaluation has been undertaken, it appears that the vandalism rate dropped during the first year of this parent patrol program (1). In Osseo, Minnesota, signs stating, "This School is Protected by Community Residents and the Parent Patrol," were placed on school entrances to scare off the

would-be vandals (58). (The use of deterrent signs is described on pages 33-34 of this report.) More formally, block associations have been formed by parents and other community members in Brooklyn, New York. Using a special code number instead of their names, members report any suspicious activities to the police.(58) In Sault Ste. Marie, Public and Separate School Boards are co-operating with the Sault Ste. Marie Police Department to operate a neighbourhood watch program called Operation Vigilance. The public board's program involves approximately 70% of its schools; the separate school boards' program involves half of their schools. The procedures used by both boards are similar. Police officers and teachers conduct a door to door canvass of neighbours of the participating schools asking them to advise the police authorities if they see, or suspect, evidence of vandalism in a school. Residents are not required to give their names. A booklet which describes the program and contains an information card is also distributed. The information card lists the telephone number of the police emergency service and reminds the callers to provide the exact location of the incident.

The effectiveness of this type of program has not been formally evaluated. Police forces generally appear to like the program because it provides them with an opportunity to approach taxpayers on a positive basis. The only problem appears to be the harrassment of neighbours who have reported vandals. In some cases, the vandals were able to identify the informants because their house lights were on. Strong police support for informants appears to be essential.

A similar program was reported by The Fairfax County, Virginia, Public Schools (58). The schools send out a letter to residents in sight of a school describing the costs of

vandalism to taxpayers and asking them to call the school security number if they see any of the following actions: persons on the roof of the school; anyone throwing objects at windows; anyone shooting a weapon of any kind; any kind of fire on the school grounds; anyone tampering with driver education sedans or school buses; anyone operating minibikes on school grounds; or any other suspicious or criminal acts. The Edmonton Public School Board sends out a similar letter to residents near their schools.

A reward system to stimulate students and community residents to volunteer information on school related vandalism incidents was implemented and financed by California's San Juan Unified School District. A local weekly newspaper publicizes acts of vandalism resulting in losses of \$3,000 or more, and offers a reward for information about acts of vandalism. Informers using a code number, send information to a postal box. School officials believe the program has contributed to the arrest of several people involved in arson and vandalism, and helped recover stolen property (58). A less formal program is operated by the Kent County Board of Education. This board advertises that anyone witnessing an act of vandalism can report its occurrence anonymously and receive a reward. In one recent case a young person was apprehended and convicted because of this information reward system. The Frontenac Board of Education encourages taxi drivers to park in their school lots while waiting for calls. They are asked to report any suspicious activities to the police on their radio.

Including students in the school's security operations may help to deter vandalism. Students in teams have volunteered to patrol parking lots and unused classrooms during spare periods or on the weekends. At one American school, a

weekend patrol squad of twelve students maintain communication with each other and the local police station through the use of walkie-talkies (58). Student patrols may have a positive influence on the vandals because of peer identification.

The Durham Region Police established an experimental program called: Teens on Patrol (TOP) in 1978 which, although not school related, might be successfully applied to a school's anti-vandalism program. This program was patterned on one which has been operated by the Rochester Police Department since 1967. The Durham program (which extended over a nine week period during July and August, 1978) employed seven students between the ages of sixteen and nineteen years who were supervised by a university student. The students, identified by T-shirts bearing the Durham Region Police crest, were assigned to recreation areas, such as arenas, pools, and parks. Their activities involved observing and reporting acts of vandalism and unsafe conditions, discussing the problems of vandalism with park users, and helping to prevent injuries and maintaining the peace. The project leader informally evaluated the success of the program, and stated that statistical evidence of the project's effect on vandalism could not be estimated. He claimed, however, that no major incidents of vandalism were reported to the Durham Region Police in any of the parks patrolled by TOP students (38).

Community Use Of Schools

Use of school facilities by both adult and non-adult community members is believed by some writers to be an effective deterrent to vandalism (31,58,90). The development of a widespread sense of pride in and responsibility for the school may contribute to a lower rate of vandalism in community or open schools. Zeisel, however, believes that, because the community school approach is so comprehensive, it is hard to

know which aspects contribute to the reduction in property damage. He states that approaches vary greatly, and that no analysis of which approaches have been successful has been undertaken (90).

The degree of community involvement ranges from merely using the school's facilities to having an effect on the design of a school. One article describes a community's involvement in a program of 'beautification' of the school campus. They designed plazas and laid mosaic tiles. The principal of the school indicated that because of this project the pride of the community in the school is shared by the students and the prevalence of vandalism at the school had dropped (31).

One concern with open schools is the amount of vandalism associated with their being used after regular hours. Night class users have in some instances stolen fire extinguishers and other valuables which cannot be adequately secured. However, the Sault Ste. Marie District Roman Catholic Separate School Board and the Muskoka Board of Education have reported little or no vandalism due to the use of schools by community groups. The Kent County Board of Education encourages public use of their facilities by locating tennis courts on school property and day care centres in schools, and by allowing community groups to use schools at night. Such use of schools discourages vandalism because the lights are on in buildings, people are present longer and adults, who are inconvenienced by such acts of vandalism as equipment theft, may apply pressure on their children and other members of the community to protect school property.

Prosecution and Restitution

The literature indicated a split among educators as to the usefulness of prosecuting vandals or their parents. Some believe that prosecution will deter students from further acts. A Durham County judge recently began to sentence vandals to jail terms (62). On the other hand a Canadian criminologist expressed skepticism as to whether prosecution is useful in terms of either rehabilitation or punishment. He believes there are many youths whose vandalistic tendencies may be increased by the courts (85).

While there is uncertainty as to the value of prosecution, many school systems have established restitution programs, whereby a school attempts to recover the cost of damage from identified vandals. These programs are thought to reduce the cost of vandalism to a school, create awareness of the high cost of vandalism, and encourage parents to supervise their children more closely. Restitution is not only a form of punishment but a way of demonstrating to the vandal the monetary cost of the damage.

Usually the restitution claim is for the cost of the damage but in some programs the vandal must work off the damage incurred at the school or in the community (21,40). One American school district calculates the number of hours the student must work by determining the total damages and dividing by the minimum wage (58). The claim is usually made against an identified vandal and/or his parents but in some programs the student council is held accountable (57). Restitution programs can form one part of a comprehensive vandalism prevention program, such as the Project Pride program operating in California (42), or they can operate on an ad hoc basis (18).

Legal questions determine the nature of these programs and here the American and Canadian systems differ. Many American districts allow a school board to take civil action to recover vandalism losses. A procedure is developed for indentifying and prosecuting the vandal and enforcing the restitution claim, which usually necessitates the school administration working closely with the courts. In many cases, a claim can be settled out of court. A California district adopted the following procedure for recovery of losses due to vandalism when the vandal was identified as a student.

1. The entire cost of the damage done is calculated, including the salaries of clean-up personnel, extra security guards, and staff investigation time.
2. The responsible adult (most likely the parent of the minor responsible for the vandalism) is sent a letter outlining the child's responsibility, the fact that it appears to be clear that the adult is liable for the damages, and the school district's intent to recover these damages. The adult is asked to get in touch with a district official to discuss repayment.
3. If no word is received from the adult, the district officials confer with the local county counsel's office (which provides legal services to the school district) to start preparation of legal papers.
4. A final letter is sent to the adult stating that the district intends to take legal action if not reply is received promptly.
5. If no response is received, a civil suit is filed against the adult.
6. Suspension or expulsion of the vandal is used as a back-up measure. (58).

In Canada, on the other hand, restitution can be asked for without prosecution, or as part of sentencing. When juveniles are found guilty, the judge can impose a number of conditions on the the youth as terms of probation (5.30[1] [g],

Juvenile Delinquent Act). Where negligence can be proven on the part of the parents, the judge may order them to pay restitution (5.22 [1]) (21). But they are not liable unless it is possible to prove that they were negligent and knew or ought to have known that the children would be likely to cause the damage. Some groups would like the law changed to ensure that parents and guardians be held liable for a criminal act committed by a child (11,44). The federal government has proposed legislation that would place the responsibility for illegal behaviour on the offender himself but does not contain provisions pertaining to second person liability (82).

Alberta's School Act requires parents to pay for damage caused by their children. Since 1975, the Edmonton Public School Board has enforced this policy. Students who commit minor offences are asked to pay. If the payment is not received, they are taken to a civil or small claims court. Students who commit more serious offences, such as a break-in, are dealt with at criminal court and, if the full cost of the damages is not included in the judgement, the Board of Education tries to recover the damages in civil court. An education official is reported to have stated that daytime vandalism has been substantially reduced (40).

Zeisel states that restitution does not seem to be cost effective, since it often entails more cost than is received in compensation. One drawback is the difficulty in identifying the offenders. Statistics based on a Los Angeles Restitution Program showed that only 30% of the offenders are identified. Moreover, since 95% of the restitution is received after three letters have been sent to the identified vandals and their families, to involve the courts in prosecuting those who have not paid at this stage may produce a harmful image of the criminal justice system (91).

INTRUSION

This section outlines ways of discouraging and preventing unauthorized persons from entering both buildings and school property. The four major preventive measures discussed are alarm systems, patrol systems, lighting, and exterior building hardware.

Alarm Systems

Alarm systems, ranging from the simple to the highly sophisticated, can be employed to prevent several forms of vandalism, such as malicious damage, break and enter, or arson. These systems are most effective when the school is unoccupied. The following outlines the various systems designed to prevent intrusion.

Types

There are numerous alarm systems, most of which may be integrated with various means of detection, such as heat sensors or equipment monitoring systems. Alarm devices fall, into four major types: silent, audible or visible, space detection, and closed-circuit television. Some factors to consider when selecting a security system are cost-effectiveness, reliability, purpose (whether to apprehend or frighten the vandal), and the intended response.

The cost-effectiveness of a system is a primary consideration. Some schools have installed systems which cost more than their previous vandalism losses. Koch (45) cites a case of a Western Canadian urban school system which instituted a security alarm system at an annual cost of \$177,000 to reduce vandalism losses which were estimated to be \$100,000 per year.

No reports were found of systematic tests to determine the relative reliability of different alarm systems. The false alarm rate can be as high as 95%. Such a system is of little value if it encourages the police, or other persons monitoring the system to ignore or give a low priority to answering the alarm. Any school considering the installation of an alarm system should investigate thoroughly this aspect of a system.

The issue of whether to apprehend or scare away vandals has been well presented by Schnabolk (75).

Deciding whether to capture or just frighten a vandal depends on several factors: school atmosphere, type of vandalism, surrounding neighborhood, and so forth. There are advocates of both techniques, and both groups make a strong case. Proponents of capture, for example, maintain that the most practical way to discourage vandalism is to involve police. Have them arrest every intruder and make sure school officials press charges....On the other side are those who believe that since the purpose of security systems is to protect property, simply scaring off vandals before they do any damage is sufficient. These advocates maintain that involving police is unnecessary because a young vandal will be frightened off the premises by a ringing bell, a blasting siren, or a flashing light....The decision to capture or frighten greatly affects the type of security equipment selected. Moreover, the decision is a complex one which many schoolmen find difficult to make. A helpful rule of thumb to keep in mind here is, "When in doubt choose capture"(75).

Response to alarms usually involves both police and school officials. The police are called because they have the authority to apprehend intruders. Security or school officials must be present to provide keys to the buildings so the police can enter and search the area. Security guards and school personnel usually do not enter a building without police support if they believe intruders are inside, especially if they have reason to believe the intruders are

adults. Any alarm must be backed up by a group of persons who respond quickly when the alarm is set off.

Placement of the selected alarm device is a major concern. It is almost impossible to protect an entire school but installation should occur at entry points and vulnerable areas, such as the administrative offices, cafeteria, library, and storage rooms. Only after an evaluation of a school's security needs can an appropriate system be chosen.

The following is a brief description of the various types of alarms as outlined by Schnabolk (75) and other authors (4,5,21,22,28,30,58).

a) Silent Alarms

Upon the activation of an intrusion detector, a monitoring system is alerted by means of phone lines. There are two types of telephoning devices.

i) Tape Deck/Telephone Dialer

This self-contained unit, when activated, automatically dials two or three pre-selected numbers, usually those of the police station and the chief custodian. A pre-recorded message describes the location of the incident. In order to prevent the tape from sticking it is advisable to use a dialer that does not exert constant pressure on the tape. To avoid false alarms, a circuit delay or timer can be used to permit anyone who accidentally triggers the system to deactivate it.

ii) Lease Line Communication System

This system operates in conjunction with a 24-hour answering service, from which it leases a line solely for alarm purposes. When an intrusion detector is activated, the answering service notifies the police, or relays the message to a central monitoring location where visual and audio alarms are triggered. Some systems allow the recording of sounds made by the intruders.

Stickers indicating a school is protected by a silent alarm may contribute to the efficiency of this kind of system. Obviously, one advantage of a silent alarm is that it increases the chances of capturing the vandal instead of frightening him off the premises.

b) Audible and Visible Alarms

These systems, when triggered by an intruder, set off a siren or a light on the top of the school. The sirens emit a high-pitched sound wave of 100 decibels and usually frighten the intruder out of the school. A revolving red light visible for 3,000 yards, or a high intensity strobe light, may be mounted on top of or in a conspicuous location outside the school. These systems are relatively inexpensive and a combination light and siren is available. If the light is mounted on the roof, a vandal may not be aware his presence has been detected. A siren system quickly alerts a vandal to the fact of his detection. The three major disadvantages of these systems are: that they depend on nearby residents or passers-by to notify the police, they alert intruders that their presence has been detected, and they may be set off by people who simply want to create a disturbance.

c) Space Detection Alarm System

Five types of interior intrusion devices are available which can be used to detect the presence of people. These systems can be equipped with either audible or silent alarms.

i) Microwave Sensors

In this system a wall-mounted unit transmits a high frequency signal into an area which may be as long as 200 feet. The signal waves drift throughout a room, or hall, filling it. When movement is detected, the signal changes in frequency, and an alarm is triggered. False alarms occur frequently with microwave systems, however, especially if they are installed improperly. An alarm can be triggered by any moving objects, such as blinds or hanging fixtures, or by movement outside the protected area which the sensor may accidentally pick up.

ii) Ultrasonic

These units send out a signal at frequency levels above human audibility and pick up any changes in frequency that may be caused by movement. Their range is small,

about 35 feet, but several units can be connected to protect a long hallway or several classrooms. They can, however, be activated by air conditioners, heaters, thunder, or a ringing telephone.

iii) Passive Infrared

This device detects heat waves from a human body within a range of 20 feet. False alarms are unlikely because signals are not emitted.

iv) Audio

An entire school may be protected by connecting an amplifier to the existing public address system. Classroom speakers are used as microphones, which are switched on at night, and which can be set to convert particular sound level into an alarm. They can also be used to record the conversations of vandals.

v) Mechanical Detectors and Other Devices

A wide range of other types of detectors are available. These include:

Magnetic Contact Switches. Opening a door, window, or cabinet with a switch attached breaks a circuit, and signals an intrusion. These switches can be used together with the space detection devices outlined above. One disadvantage is that, if they are not concealed, they may be stolen.

Door Buttons. These can be mounted near the hinge of a door frame where they cannot be seen. They are prone to sticking, however, and are difficult to install.

Taut Wire. A wire is stretched across an entrance and, if broken, activates an alarm. It can be used on top of fences, roofs, and windows.

Pressure Pads. Pads containing parallel wiring are concealed under rugs, or other floor coverings. When they are stepped on, the wires make contact and an alarm sounds.

Photoelectric Beams. Either visible light or infrared barriers can be placed on either side of a path, or in hallways. When a person breaks the light beam an alarm is tripped.

d) Closed-Circuit Television

A fixed or movable television camera continuously scans an area. Although very expensive, the system serves several purposes. It enables one person to monitor all exits and hallways. If it is connected to an intercom system and remote control door locks, the operator can control the access of all visitors. When a low-cost light sensor is attached, the system can be used as an unmanned intrusion detection system outside school hours. The very presence of cameras can act as a deterrent to vandalism.

Evaluation of Alarm Systems

While no formal evaluations of alarm systems have been conducted in Canada, the Canadian Education Association surveyed forty-seven school boards in 1977 and found that 60% of the responding school systems had an electronic alarm system operating (22). Most of these boards gave alarm systems a "highly effective" rating, but stated that they did not prevent hit and run window breakage. In Etobicoke an audio system, installed in 1972, covers the borough's ninety-eight public and high schools, monitoring fire alarms and heating systems as well. The cost per building for installation was approximately \$1,500, with total costs in the range of \$150,000; a reduction in the cost of vandalism from \$193,580 in 1972 to \$120,906 in 1977 has been claimed (34). Officials feel that publicizing the system contributes to its success.

The only formal evaluation of an alarm system was conducted in the Portland, Oregon, Public School System. It was undertaken to determine the effects of a centrally-monitored silent-alarm system on the incidence of burglary, property loss, property recovery, and clearance rates (64). The devices were first installed in eleven public schools with a very high incidence of vandalism in February 1975. After a two year period, burglary data were compared to the pre-installation period, and to eleven control schools. The

system was considered to have reduced burglaries and property loss. After two years, a 27% reduction in burglary frequency and a 42% reduction in property loss due to burglaries were obtained in the eleven schools where it was installed. Recent experience of the Portland police suggests that the system has been even more effective since it has been expanded to include twenty seven schools (74). It should be noted that the alarms were first installed in those schools with the highest prevalence of vandalism. The evaluation study did not utilize a rigorous research design so comparison of schools with and without alarm systems is not appropriate.

Other reports of the successful installations of alarm systems in American schools are available. A microwave motion detector was installed in one junior high school in Colorado Springs, Colorado, on a test basis. In one year the system cut the number of break-ins from an average of four to none (9). In Fulton County Georgia, a microwave sensor detection system using a cathode ray tube unit and a computer tape printout at a local police station was installed in eighty one schools. The Director of Buildings and Grounds estimated that about 80-90% of vandalism and theft in unoccupied buildings was eliminated; consequently the district received two 10% decreases in insurance rates (59). Ultrasonic systems have also been installed in New Jersey (54) and Chicago (7). The use of the school's intercom system as a microphone system has reduced vandalism in one school system in Kentucky (59) and in schools in Montgomery County, Maryland (39). Miller and Beer (51) describe a centrally-monitored security system in the Fort Wayne Community Schools. This system includes pre-amps to detect and transmit noise, magnetic door switches, fixed temperature devices to signal temperature changes in the buildings, and smoke detectors. The reduction of vandalism in seven schools from \$22,450 to \$550 in one year was attributed

to the system. The principal of a Dallas, Texas, junior high school estimates that hallway incidents and problems in cafeterias have been reduced by 80% by a closed-circuit television surveillance system (59).

Both criticisms and problems have arisen. Alarm systems have been criticized because they do not deal with the causes of vandalism, may alienate students, and may become targets for vandals (31). Hostetter (39) believes that an after school hours alarm system shifts vandalism to school hours. Centrally-monitored alarm systems are often viewed as impractical by school boards whose schools are widely scattered. Telephone systems cannot make calls if a long distance number is involved, and the time required for police to respond to alarms may be too great. This is especially important if a high proportion of false alarms occurs.

Publicity about an alarm system may have a greater effect on potential vandals than the system itself. It is for this reason that the Etobicoke Board of Education encourages publicity about their alarm system. The Frontenac Board takes a somewhat different approach; they do not put stickers on the windows informing potential intruders of an alarm system because they prefer to apprehend intruders.

Patrol Systems

Various forms of security patrols have been used to reduce vandalism. In Canada almost all patrol systems are intended to protect schools while they are not in use. In the United States a large number of people are employed to patrol within schools during school hours. Patrols may be conducted by commercial security services, individuals, police, or board staff.

Security Services

A school system can hire a private agency or individual on a contract basis to provide full-time or intermittent surveillance of problem schools. This service tends to be expensive if used continuously, so it is often used only as it is needed. The Sault Ste. Marie Public School Board has employed a security guard service for the past four years for surveillance of all core schools during long weekends and special events, such as Halloween. This patrol is estimated to cost \$400 - \$500 per annum, and is judged to justify the money spent. The Hamilton-Wentworth Roman Catholic Separate School Board employs a night guard at a cost of approximately \$450 per month to inspect school buildings and parking lots. He is given a list of schools to visit each night.

One school district in Prince Edward Island has contracted since 1974 with a private security agency for periodic surveillance of school buildings within an urban area. The school administrators feel the service pays for itself through reduced cost of repairs, particularly glass damage. On several occasions, the guards have apprehended people in the act of breaking and entering, and have discovered several fires (24). The Sudbury District Separate School Board undertook a trial patrol of fifty-five of their seventy-seven schools for eleven days in 1978. While they believed the patrol to have been successful, they decided to install alarm systems because of the patrol's cost of \$200 per day (48,49). The Hamilton Board of Education suspended a surveillance patrol of problem schools after a seven month period because no significant change in the incidence of vandalism was observed (22).

Twenty-four Hour Shift Custodians and Live-in Custodians

Placing the school's caretakers on staggered shifts has been found to reduce night time vandalism. The caretakers provide a measure of security to an otherwise empty school while completing their regular maintenance duties. As well, since they are employed by the school board, they are under that board's direction. The major problems are the high job turnover associated with shift work, the victimization of caretakers by vandals, their fear of being alone at night, and the caretakers' lack of awareness of an intrusion at other parts of the building.

The Kent County Board of Education presently has some of its caretakers on twenty-four hour shifts, and report little difficulty in scheduling, since some employees prefer to work at night. There is some danger in keeping only one caretaker in the school during periods when vandalism was likely to occur, such as Halloween. Rural schools frequently have caretakers check the school buildings during weekends.

Live-in custodian programs involve the residency of a custodian and his family in a house, trailer, or apartment on the school grounds, or within the school. For considerable detail regarding both twenty four hour shifts and live-in programs, see Zeisel (91).

Police Patrols

Most police forces are too short-staffed to provide intensive surveillance of all schools. Requests can be made to provide increased patrolling of particularly vulnerable schools, or to arrange for overnight stake-outs in schools. The police are particularly effective in responding to a school alarm which has been triggered. The Hamilton-Wentworth Roman Catholic Separate School Board paves a driveway around

the perimeter of their schools to facilitate police patrols. The Sault Ste. Marie Police have recently agreed to leave their cruisers and patrol on foot at the rear of separate board school buildings (73). The police attempt to get the names of loiterers and pass them on to the controller of the plant who in consultation with the principal decides if charges will be laid (73).

Some Ontario school boards have posted signs which allow the police legally to take action against trespassers. According to the Sault Ste. Marie Separate School Boards, no trespassing signs posted at schools have had poor results. Police had asked for the signs to gain the authority to instruct loiterers to leave, but they found they could not instruct one group to leave without evicting all others, even if the others were just children playing (73).

Some commentators do not feel police surveillance is a good preventive measure. If the vandals watch for the patrols and then wait until the police car has left the area, crime may increase. Irregular patrol schedules are essential.(85)

Other Patrol Programs

Some schools have successfully used trained guard dogs to prevent vandalism (29). The Lakehead Board of Education schools are protected by guard dog patrol program, used in conjunction with an alarm system and floodlighting. The superintendent of plants feels the mere presence of the dog, which is taken to different schools each night, is enough to ward off potential vandals (63). An American district, which maintained seven dog patrols at a cost of \$40,000 per year, found the patrols did not stop school break-ins (9). It must be noted, moreover, that the question of who would be liable if an intruder were attacked and injured by a dog is still unresolved (46,47).

A patrol program has been developed by the Etobicoke Board of Education who use their night mail delivery men as part of their security system. To ensure unpredictability of their visits to different schools, the men vary their schedule. While making deliveries they check each school and respond to alarms from other schools when requested through a radio system which is tied into the central monitoring system at the board head office.

Patrols during school hours are also important. All staff members and students should be warned to be suspicious of strangers roaming around the school. The walk-in burglar can steal personal property, small items, or equipment. In some schools, students, staff, and custodians regularly patrol schools during the school day. Other types of patrol systems involving parents, students, and other members of the community have been tried in various jurisdictions. For details, see the section on Community Involvement, pp. 10-16 above.

Evaluation of Patrols

We are not aware of any Canadian evaluations of patrols. Generally, patrols are used to monitor schools where problems have been reported, but it is relatively difficult to evaluate their effectiveness. Although they are sometimes used as substitutes for alarm systems, their relative cost-effectiveness has not been determined.

BARRIERS TO ACCESS

There are many things a school can do to physically discourage intrusion by vandals. The more important of these are discussed under the headings of boundary identification, access to buildings, and lighting.

Boundary Identification

The school boundaries should be well delineated so people know when they are on school property. Fences discourage casual trespass either on foot or in cars. While some writers believe a school should be tightly secured by means of fences and gates, this would inhibit community use of the school. Fences and hedges should be used rather to control the flow of traffic than to attempt to prevent all access to school grounds. The use of chains and gates across driveways to discourage unwanted cars may be useful in response to specific problems. Unfortunately the use of such barriers also hampers police in driving through school grounds. A hedge around the perimeter of the school grounds emphasizes the private nature of the property and may deter trespassers. Hedges should, however, be kept relatively low to enable neighbours to see over them, and to discourage students from hiding behind them. Thorny plants and hedges provide effective internal and external barriers to students but also attract litter which is difficult to remove. Thorny trees can be used closer to school buildings than other types of tree because they are not likely to be used to gain access to roofs.

Signs have an important role to play in identifying both the physical boundary of the school property and the limits of acceptable social behaviour. The Frontenac Board and the Sault Ste. Marie Public Board have posted their school grounds to provide police with the necessary legal authority to prosecute trespassers. The wording of the signs was determined in consultation with local police. Other kinds of signs are often used to establish what the public may or may not do on school property. They clearly state that school yards may not be used for such activities as golf practice, walking dogs, or repairing cars. While such signs may not directly prevent vandalism, of course, they do establish what types of activities will not be tolerated on school property.

Some schools put signs or stickers near doors and windows to indicate, for example, that the school is alarmed, that no money is left in the school, or that all equipment is marked. These types of signs are part of other programs which are discussed in greater detail elsewhere in this report. The Canadian Education Association has stated "Neither 'positive' signs (reward for information leading to...) nor 'negative' signs (trespassers will be prosecuted) have much beneficial effect according to the school systems that have tried and abandoned them, or are still using them. While the positive signs are apparently somewhat more effective than the negative ones, both types received consistently low ratings on the 1-9 scale" (22).

Access To Buildings

Intrusion into school buildings can be reduced by using appropriate locks or closures on doors and windows, and by storing away ladders or poles which might be used to gain access to the roof. In general, school buildings should be

designed to discourage intrusion. Even ventilation shafts, skylights and roof openings should be protected with grilles or baffles to prevent vandals from filling them with stones or flammable liquids.

Special door hardware products have been developed for schools, such as, high security locks, anchor hinges with non-removable pins, and spanner-head screws. There is a trend toward concealed hardware, which can escape the vandal's attention, provides rugged durability, and is insulated against fire (81). Zeisel (91) suggests the removal of locks and handles from doors which are not used for external access. Some Bracebridge area schools have removed handles from some exterior doors and directed traffic through fewer entrances. However, while panic door opening hardware meets the need for a quick exit in case of fire, it often allows easy intrusion. See Zeisel (91) for a discussion of design techniques which use panic door opening hardware.

Door locks must be kept in good repair to prevent them from being easily opened by insertion of a knife blade or similar object. A deadbolt lock is best because its latch bolt is held firmly in place and cannot be pushed back into the lock. Latches on spring locks or snap-fastening locks can be jiggled out of place quite easily. Locks which operate using cylinders rather than pins, or locks using interlocking pins, are virtually pick-proof.

If a door has a glass panel, which when broken would permit someone to reach the inside latch, the glass should be replaced with an unbreakable material, or boarded over. Many schools are replacing glass with break-resistant plastics, installing wire screens over windows or glassed doors, and permanently closing off many windows. Windows may be covered

with plywood during the summer months to reduce intrusion and breakage. (For details, see pp. 44-48 below.)

In most school systems, one responsibility of the caretakers is to ensure that all windows are locked each evening. Security patrols also should check for unlocked windows. Window hardware should be of a type which can be easily checked visually.

Ground to roof and roof to roof access are discussed in detail by Zeisel (91). He outlines several design measures which can be used to reduce access to school roofs. There should be no foot holes on exterior surfaces; walls should be designed too high to be climbed with short poles; only trees or shrubs should be planted next to a building which cannot be used for climbing; permanent ladders should not be installed between roof levels or left where they can be used.

Lighting

The matter of security lighting has been the subject of much debate. According to the National School Public Relations Association, lighting is the most frequently employed security measure, yet opinions vary widely on its effectiveness (58). Some school districts have found that lighting is not a deterrent to vandals and, in some cases, the lights themselves become targets of vandalism. Others report success with both interior and exterior lighting. One Ontario school board has experimented with both extra lighting and no lighting but cannot reach a conclusion as to which is better.

Floodlighting has been described as being multipurpose since it not only deters vandalism but also enhances the architectural lines of a building and acts as an extra safety measure (55). A majority of outdoor lighting systems utilize high intensity discharge lamps such as mercury vapor, metallic

additive, and high pressure sodium. The maintenance and operating costs of the mercury vapor lamps are relatively low. Lighting fixtures should be equipped with break resistant lenses and mounted, or recessed flush with walls, at least fourteen feet above ground. General illumination may be used or intense light directed onto potential access or hiding points. Lights might be left on during specific events, such as Halloween. Leaving on classroom lights in certain parts of the school, such as at the rear of the building, or on a blind side, or where serious damage has occurred, appears to help deter vandalism.

The Syracuse Central School System undertook a school relighting project in 1965. A report (8) describes the equipment used, and maintenance and operating costs, but does not evaluate lighting as an anti-vandalism measure. A vandalism survey of sixty-four school districts in British Columbia (20) found that the amount of vandalism (including arson) per pupil experienced by schools with special lighting was very low compared to that experienced by schools without lighting. However, special lighting was of marginal effectiveness in preventing non-fire related acts of vandalism. The Canadian Education Association survey of forty-seven Canadian school boards found that 67% of the respondents left some lights on at night and 75% used exterior lighting (22).

The cost of mercury and quartz iodine lights compared to incandescent lights is discussed in detail in the report on the Syracuse Central School System lighting program (8). They suggest that the quartz and mercury lights are cheaper both in terms of operation and bulb replacement costs.

Evaluation

As with most other procedures in this report, no formal evaluations of the various methods used to reduce access to schools were found in the literature. The reports of success cited indicate that different techniques have worked or appeared to work at different schools. While the techniques may have been successful, the report seldom provides enough information to determine exactly what circumstances existed or to demonstrate why the actions were effective. In any case, many of the anti-vandalism techniques are common sense responses to relatively simple or specific problems. They are not the types of activities which require or justify detailed evaluations.

THEFT

Apart from the measures outlined to prevent intrusion, there are three specific procedures which can be used to reduce the theft of equipment or money from a school building: a no cash policy, equipment identification, and key control.

No Cash Policy

A policy of leaving no money overnight can discourage breaking and entering if it is both strictly adhered to and well publicized. All monies handled by the administration should be promptly banked and staff should be discouraged from leaving money in their desks. All vending machines should be voided daily, and the coin boxes left visibly open during the night.

These procedures were adopted by thirty seven schools in Decatur, Illinois, to curb a rash of break-ins by petty thieves. To publicize the no cash policy, the schools began an information campaign which included a press conference to announce the policy, speeches by administrators at Parent-Teacher Association meetings, and information decals posted outside school doors and windows. After the program began in February 1973, a drop in the number of break-ins occurred (59). One principal in Kent County takes money collected at school dances and similar events to a night deposit drawer at a local bank in the company of the off-duty policeman hired to supervise the dance, and ensures that students are aware that the money has been removed. In the Sault Ste. Marie Roman Catholic Separate School system the no cash policy is enforced

by principals being made personally responsible for all losses not covered by their insurance company.

Marking and Formal Inventory Systems

Thieves are attracted to expensive equipment like musical instruments or business machines. In order to discourage theft of school property and to repossess stolen equipment, marking and inventory control systems should be established.

Marking

The two basic methods of marking, a high speed engraving machine or with an ultraviolet pen, are quite inexpensive. Both engraving machines and ultraviolet pens can be obtained from insurance firms or hardware stores. An ultraviolet lamp is required to read the invisible marking put on with an ultraviolet pen. Metal articles, like tools, audio-visual equipment, and typewriters, should be engraved; an ultraviolet pen can be used on non-metallic objects, like glassware, or balances.

A survey conducted by the Quebec Association of Protestant School Boards reported that nine out of the seventeen responding boards use an engraving system for equipment identification and a total of fourteen operate a formal equipment inventory system. The Association assumes this to be a standard procedure which all of their boards should follow (69). The Etobicoke Board of Education marks capital items by etching with a high speed machine. The Kent County Board also marks equipment with an electrical engraver and have a computerized inventory system.

Not only is recovery of stolen equipment facilitated by engraving but public awareness that a school's equipment is

marked may deter theft. As part of a comprehensive anti-vandalism plan, the ninety-five public schools in Minneapolis applied ownership decals to all equipment and also placed decals on hallway walls, and classroom doors which indicated that all the school's equipment had been identified and recorded with the local police department. The effectiveness of this procedure was not indicated (58).

Inventory Systems

Each school should keep an accurate and current inventory of valuable equipment. The location of each item should be noted, and the inventory signed by the employee who completes it. In the event of a burglary, an inventory provides a quick means of accurately determining and reporting losses. An inventory control sheet can be developed using either manual or computerized recording systems.

Storage of equipment according to its frequency of use can help to prevent theft. Equipment that is not used regularly, such as radios, or film projectors, should not be left out but securely locked away. Equipment which does not have to be moved should be bolted to tables or desks.

Newly arrived equipment should not be allowed to sit in halls or exposed areas for too long. A caretaker should be available at delivery times. A receipt system should be developed so that if a student or staff member removes equipment the school will have a record of where it is. All persons picking up equipment for repairs should be asked to furnish company identification and provide a receipt. Schools have lost typewriters to persons who falsely claimed to represent service firms.

Key Control

Lost keys represent not only a loss of security but also inconvenience and expense. Staff must be allowed proper access to appropriate areas but, at the same time, a rigid system should be set up to control the issuance and use of all keys.

A control system restricts keys to those who need them and provides a detailed record of who has which keys. A double-entry method of key accounting is useful. Two control sheets are kept. Certain information is recorded on the inventory control form: each key code number (so that any key may be duplicated); the number of the classroom or door which each key was assigned; and the date a key is lost, recovered, or duplicated. The second sheet, called the distribution control sheet, lists the names to whom keys are assigned and the dates any keys are lost or replaced. Every year the distribution control sheets are matched against the inventory control (79).

A board rule adopted by the Los Angeles City School District states:

Possession of master keys shall be limited to the engineer, watchman, custodian, principal, vice-principal, and other personnel as designated by the principal. At the beginning of each school year, keys to individual rooms shall be issued by the principal to each regularly assigned teacher. At the close of each school year, or when a teacher will no longer be assigned to the school, whichever occurs first, keys previously issued to him shall be returned to the principal. Each principal shall keep in the office complete sets of individual room keys to be loaned to day to day substitute teachers when they are assigned to the school. These keys are to be returned to the office at the close of each school day (87).

This describes the assigning of responsibility for keys to the individual teacher but not a system for dealing with lost keys. A method used by the Kent County Board of Education provides all teachers with a single key which opens all exterior and classroom doors. Each room containing special equipment, such as the machine shop, auto shop, commercial room, is keyed independently, thereby simplifying identification of those who could be responsible for any theft which occurs. Teachers are made aware that only they and the principal have keys to specific areas.

Since an impression of a key can be made in a matter of seconds in a bar of soap, staff should not lend keys to students. Staff should keep their keys on their persons at all times. (One high school lost lab equipment because a student stole a teacher's key from his jacket.)

A related issue is whether classroom doors should be locked when school is not in progress. The Sault Ste. Marie Public School Board asked principals and teachers to leave classroom doors open to prevent damage in the event of a break and enter. Some teachers, however, were afraid classroom materials and work might be destroyed. The same principle can be applied to locking of cupboards and closets. It is sometimes felt that a thief, determined to steal the contents of locked cupboards, will force them open, thereby causing considerable additional damage. In the mid 1960's the Fulton County School District, Atlanta, Georgia, designed a relatively lockless school. The entire school had only three interior locks: one for expensive equipment storage, another for the cafeteria, and a third for administrative offices. No information of the success of this approach has been obtained (90).

DAMAGE

This section outlines specific ways to prevent or reduce various types of damage committed by vandals at schools. Different forms of damage caused to glass, by means of graffiti, to interior hardware, and to school exteriors are considered.

Glass Breakage

The most common type of vandalism not only at schools but at public and private buildings is window breakage. Not all glass breakage is done maliciously or related to theft; often windows are broken accidentally by people playing nearby. There are several ways of preventing window breakage: by using various break resistant glazings; installing protective guards; reducing the number and size of windows; and by removing stones from school property. Whichever measures are employed, a number of factors should be considered: cost; visibility; safety; security; fire regulations; local by-laws; and environmental factors like sound, heat, or sunlight.

Glazing

Zeisel (91) suggests that the type of glazing used in schools should vary with the floor level. For example, on the ground floor, thick tempered glass, acrylics, or screens should be used, on the second to fourth floors thinner tempered glass, acrylic, or plate, and on the fifth floor and above, plate glass. Since these glazings require different cleaning and maintenance procedures, custodians should have a building plan which indicates the type of glazing in each

window. They also should have detailed cleaning and replacement information.

Polished plate or float glass is a common glazing used in schools because it is relatively inexpensive. It differs from domestic glass in that it is flat, rigid, and usually one-quarter of an inch thick; it thus provides some resistance to breakage.

Tempered glass is the most common type of safety glass. To make it, ordinary window glass is subjected to controlled heating and cooling, which gives the glass increased resistance to mechanical and thermal stressing. Tempered glass is four to five times stronger than ordinary glass. If broken, it does not shatter into shards and slivers, but fragments into a great number of small particles. One disadvantage is that it cannot be cut after being tempered so that special sizes must be custom processed. The Hamilton-Wentworth Roman Catholic Separate School Board has reported using tempered glass without any problems except for powdering when hit hard enough to shatter it.

Laminated glass is made by bonding a layer of polyvinyl butyral plastic between two sheets of plate glass by means of heat and pressure. Although the glass breakage pattern is similar to that of ordinary glass, the vinyl interlayer generally remains intact retaining most shards and increasing resistance to penetration. All auto windshields are made from laminated safety glass, and many store fronts use this type of glass because of its 'vandal-proof' characteristics (60,65).

Wired glass is made when steel wire mesh is placed between two ribbons of semi-molten glass. When passed through

rollers, the ribbons of glass weld together with the mesh embedded in the centre. Again the breakage pattern is similar to that of ordinary glass, and the larger fragments are retained by the wire mesh, which also resists penetration (65).

Two types of thermoplastic glazings, acrylics and polycarbonates, are available for use in schools. The acrylics are up to seventeen times stronger than ordinary glass, have good optical properties, are chemical-resistant, will last at least thirty-five years, and cost more than twice as much as ordinary glass (60). The acrylics are not completely break resistant and have sharp edges when broken. Acrylics cost approximately \$1.00 per square foot. Fiberglass, made from an acrylic base is frequently used because of its impact resistant qualities. The polycarbonates are 100 times stronger than ordinary glass, thus being virtually unbreakable, and will last five to ten years (60). Dents and bubbles, however, may appear upon severe impact. Polycarbonates are expensive, on the order of \$3.00 per square foot.

Both acrylics and polycarbonates save on heating and cooling costs because plastics are poor conductors. Because of their high cost, polycarbonates are usually used only in windows where repeated breakage occurs. One major disadvantage of plastic glazings is that their surfaces can be damaged by scratching, burining, carving, and fading (91). Therefore, they should not be used to replace glass in areas within easy reach of students. Nor are these windows completely vandal-proof, since they can be popped out of their frames by a blow with a sharp instrument or by removing of the putty around the edge of the pane (60). Moreover some Boards reported that fire regulations or local by-laws do not permit the use of polycarbonates.

Protective Guards

The material most frequently used to protect windows is a thin wire mesh security screen. Many schools install screens on ground level windows. Although inexpensive, screening has a few disadvantages. It creates a jail-like appearance, can be cut and turned up, and can obstruct an emergency evacuation.

Some American school districts have tried sliding a panel of porcelain on steel over the windows when school is not in session. This may be appropriate for one, or two vulnerable windows but it is time consuming. A similar procedure is to slide a chalkboard over the windows of a classroom when school is not in session. One school in the Hamilton-Wentworth Roman Catholic Separate School Board finds this approach successfully prevents both broken windows and theft. It is not uncommon for schools to close-up for summer vacations by installing shutters or thermal pane storms, or by nailing plywood over windows.

Reduction of Number, Size and Style of Windows

One popular method of preventing glass breakage is simply to eliminate as many windows as possible, either by designing windowless schools, or by closing off windows that already exist. This has the added advantages of conserving energy, reducing maintenance time, saving the expense of shades, and eliminating injuries from broken glass (77). However, it does create a rather forbidding, monolithic appearance.

Windows that are left should be small enough to prevent easy entry and high enough to prevent a thief from looking inside. Windows near play areas should be eliminated, protected, or made of non-breakable material. Zeisel (91) suggests that larger windows be made up of several small

pieces of glass; if one were broken it could be easily and cheaply replaced.

Removal of Stones From School Grounds

The Canadian Education Association surveyed twenty nine school boards in 1970 to determine the extent of vandalism, especially window breakage, and the use of preventive measures. The report states that the simplest measure, that of gathering stones, was one of the most successful (23). Periodically, stones, or any other missile-like objects, should be removed from the school grounds or vicinity. In some areas, the solution may be to cover the playground with asphalt.

Other Anti-Breakage Measures

Several general vandalism prevention strategies have been cited as being effective in reducing window breakage. Quick repair of a broken window reduces the chance of another's being broken. The Etobicoke Board of Education identifies a broken or cracked window with a sticker marked with the date of discovery. This is very useful in assisting the security patrol and police in determining whether a window is newly broken. Other measures which can be used include exterior and interior lighting, security patrols, alarm systems, neighbourhood watch programs, restitution programs, each of which is discussed in detail in other parts of this report.

Graffiti

The defacement of interior and exterior walls is a common occurrence at schools. Zeisel categorizes three kinds of graffiti: expressive, decorative, and legitimate (91). Self-expressive and decorative graffiti are forms of peer

communication usually containing harmless messages. Legitimate graffiti is the painting of game lines on school walls or grounds by students. Three general responses to this form of vandalism involve maintenance, the use of graffiti-resistant materials, and the designation of approved graffiti areas.

Maintenance

Where graffiti cannot be tolerated or are malicious or obscene, they should be removed immediately. This discourages further defacement. Non-abusive graffiti on approved areas, such as where students congregate should be cleaned but less frequently. One does not want the writing-washing cycle itself to become a competition between the students and the custodians. Legitimate graffiti, such as painting goals or other game lines on school walls or grounds, should be accepted. Zeisel (91) suggests that school officials should either paint necessary game lines on appropriate surfaces after consulting with students, or provide them with stencils so they may paint games lines on neatly.

The method of graffiti removal will depend on the surface and the material used to write the graffiti. Since, as noted above, obscenities can be carved or burned on thermoplastic glazings, it is advisable to avoid the use of these materials in areas prone to graffiti. Removal of graffiti from non-plastic surfaces may involve repainting, steaming with a chemical mixture, or sandblasting. One school board has found a compound called 'OFF' to be quite effective.

Graffiti-Resistant Materials

Smooth, lightly coloured, non-patterned surfaces attract graffiti since defacement is very noticeable. Graffiti are not likely to occur on darkly coloured, patterned, and highly textured surfaces. Surfaces which are relatively easy to

clean, including ceramic mosaic, glazed tiles, ribbed aluminum, plastic sheet, and epoxy paint, should be used in graffiti-prone areas. In the United States, schools are experimenting with vitreous tile which is reputed to act as an armour against vandalism, graffiti, stains, and fading (53).

Graffiti-Approved Areas

Graffiti are recognized as means for students to express themselves and establish their identities, although may be defined as anti-social behaviour by adults.¹ For this reason, non-abusive messages should be channeled onto approved areas. The school may allow non-malicious graffiti on surfaces that can be easily cleaned or repainted in those areas prone to receive graffiti. (Their occurrence on surfaces which cannot be easily cleaned should be discouraged.) Or school may deliberately paint a surface with light colours in order to attract graffiti to a specific location, or not remove graffiti from one spot while constantly removing it from another. A school can designate one wall, a piece of plywood, or a chalk board, as a free graffiti area. This has been successfully tried at Bloomfield, Connecticut: a large boulder weighing several tons was placed in front of the school to act as a surfact for acceptable graffiti. The School authorities reported a marked reduction in graffiti vandalism (88). Recent information regarding the continued success of the Bloomfield boulder has not been obtained.

Free graffiti areas have been criticized. The security chief for Prince George's County (Md.) Schools observed that a

¹ A prime example of social definition of graffiti occurred at a primary school in England. The children painted an animal mural in weather-proof paint provided by the parent-teacher association. On instruction from the education department, it was obliterated (86).

free "graffiti wall has not helped to meet the kinds of needs kids must feel when they destroy school property" (58).

Damage To Interior Hardware

The following section outlines the types of damage which may occur in washrooms, to wall surfaces, and to fixtures and hardware.

Washrooms

Student washrooms are prone to a high degree of property damage in the form of breakage, graffiti, or arson. The following is a summary of measures a school might employ to minimize the damage resulting from washroom vandalism.

Washroom partitions are often vandalized. Some American school districts have eliminated toilet stalls and washroom doors entirely (58). (However, parents objected to the removal of doors from the cubicles in a Frontenac Board of Education school.) Stainless steel and marble are the most durable materials for toilet partitions but are beyond most schools' budgets. The partitions should be made of a hard, mar-resistant and rust proof material, and mounted to the floor and ceiling. To prevent their disassembly, tamperproof screws and hinges should be used. It is advisable to use painted partitions since accumulations of graffiti may require regular removal by washing or painting.

Basins are a major focus for vandals. Some schools have replaced wall hanging sinks with the vanity kind and filled in the space where basins hung with cement. Some schools have removed the sink push rods to prevent damage to the sink, if the students tried to remove the rods, or flooding, if the

overflow valve were plugged. The elementary schools in one Virginia school district moved wash basins and soap dispensers into the hall(58).

Inexpensive and easily replaceable hardware is essential in school lavatories. Many schools have decided not to replace broken liquid soap and toilet paper dispensers but to leave a bar of soap and a roll of paper available instead. Many schools are now using vandal resistant electric hand driers as a precaution against arson caused by the burning of paper towels. In general, recessed hand driers and towel and soap dispensers are less prone to damage than those mounted on a wall. Recessed trash containers are not satisfactory, however, since, if set on fire, they are difficult to remove. Flammable trash containers should not be chosen since they might be used for depositing cigarette ashes or butts. Low-hanging light fixtures should be avoided and mirrors should be of reflective metal or plexiglass.

Since the ceiling surface is accessible to students standing on toilet stalls, a solid ceiling is preferred over drop-in ceiling panels. Water-resistant, easily cleaned floor coverings are necessary for lavatories. Graffiti-resistant wall surfaces are desirable. The school administration, in taking a lenient attitude toward non-abusive washroom graffiti, might provide chalkboards or other erasable surfaces to channel graffiti away from the walls and toilet partitions.

One way of reducing washroom damage is to keep thermostats at 62 degrees Fahrenheit (17 degrees Celsius), and thereby discourage loitering. One Ontario school board decided to provide a minimum amount of toilet paper to prevent students from stuffing the toilet bowl with paper or starting fires. The Hamilton-Wentworth Roman Catholic Separate School

Board requires that toilet seats be made of solid plastic. Zeisel (91) suggests the provision of sufficient private social places in the school to minimize the use of bathrooms for such purposes.

Surfaces

Walls, floors, and ceilings are susceptible to what Zeisel calls "the epidemic effect" of vandalism. If one form of damage is evident, it is likely further damage will occur around the same spot. The most effective preventive measure to use against surface damage is quick repair. Therefore, the materials to be repaired should be inexpensive and easily replaced or repaired.

A vinyl wall covering has been installed on some damage prone walls in a North York Board of Education school. This material is about 1/32" thick, and available in transparent and coloured sheets; it is mark-resistant, costs over \$1.00 a square foot, and can be glued over gyproc or plywood walls. For information on other graffiti-resistant materials, see the appropriate section of this report. The North York Board of Education has installed ceilings made of 1/2" asbestos board or 1/2" masonite. The Kent County Board removed all drop-in tiles from a school's gymnasium and painted the exposed grill work. Further details of design responses to vandalism of walls, ceilings, and floors may be found in the appropriate sections of Zeisel (91).

Fixtures and Hardware

The inquisitive nature of many students and the high volume of pedestrian traffic in schools require fixtures and hardware to be especially durable and, if possible, located beyond easy reach. Wall fixtures, such as thermostats, fire alarm boxes, and light switches are especially susceptible to

mischievous manipulation. These fixtures should not be located in areas where students meet informally. Thermostats, can be placed above arm's reach, recessed into a wall, or covered by a grille. The North York Board of Education has enclosed protruding thermostats with lexan, a polycarbonate glazing.

Zeisel suggests three ways to minimize the frequency of false fire alarms: place the boxes in highly visible areas, avoid one-step alarms which are easy to set off, and use a double bell alarm which gives an administrator the opportunity to stop the second bell from registering at the fire station. (91). The Etobicoke Board of Education has painted the pull bars on fire alarms with a colourless dye in those schools where false alarms are a problem. The dye which turns purple on contact is very difficult to remove with spittle. The North York Board of Education, on the other hand, has chosen not to employ this system for fear of further damage committed because of resentment on the part of the students involved.

Any expensive equipment, such as wall attached loud speakers, usually located in the auditorium or gymnasium, should not be within reach of students standing on seats or benches. Control boxes for lighting, heat, and sound equipment should be covered by lockable grilles.

Fixtures hanging from a ceiling pose a potential threat to personal safety if students decide to jump up to touch them. If these fixtures cannot be replaced with fixtures flush to the ceiling, reinforced attachments can be added to strengthen them.

Students may sit or climb on anything. Radiators, air conditioning units, garbage cans, and window sills must be

sturdy enough to withstand rough usage. The existence of numerous garbage cans in the cafeteria and places where students loiter may help to alleviate littering.

Exposed door hardware is a prime target for abuse and vandalism. Students often use surface-mounted door closer arms as chinning bars. Concealed overhead or floor-anchored closers have been designed to be especially durable. All-steel door holders, necessary on any high traffic doors, provide greater tensile strength than bronze units. Door knobs are only necessary on external doors which are used to enter the building. Door knobs should be removed from all doors which only open from the inside. The number of doors with external locks should be reduced to a minimum in order to prevent students from inserting foreign materials, such as toothpicks, or crazy glue in them. Locks with replaceable tumblers should be used in order to reduce the cost of replacement.

Damage To The School Exterior

School playgrounds, parking lots, and accessories, such as portables or flag poles are susceptible to both vandalism and accidental damage.

School Playgrounds

Zeisel categorizes school play areas as formal or informal. The former include basketball courts, baseball fields, and playground equipment. Informal play places are open spaces around the school and in parking lots where students meet to socialize, partially hidden areas or watering holes, and small spaces or niches just large enough for one or two people. Watering holes and niches are often used for smoking or drinking. Possible design measures to lessen

damage in these formal and informal play areas are described in detail by Zeisel and will not be reproduced here (91).

Parking Lots

Cars, particularly those of a school's staff, are prime targets of intentional and often vindictive malicious vandalism. Daily student or staff patrols may deter these acts, but they may also constitute a risk to the patrol's safety, should a vandal be encountered in the act. Neighbourhood watch programs may also be effective in preventing vandalism from occurring in parking lots. Lighting, chain fencing, and provision of parking lot attendants are measures to be considered if a school is used in the evening. The parking area itself should be adequately paved and curbed to prevent drivers from destroying adjacent grassy areas. Vehicles which have been left in parking lots for several days should be removed, with the co-operation of the police.

School Accessories

School portables are especially susceptible to all forms of vandalism including arson. There is little a school can do to control this vandalism. Even if a school has an intrusion or fire alarm system, to hook up the portables is expensive, and the rate of false alarms may be higher there than in the main building. Because of declining school enrolments portables are not as necessary as in the past, and this may itself create a problem as an increasing number of portables are unoccupied.

Many flag poles have exposed lanyards which can be cut, allowing the flag to be stolen. To prevent this the lanyard may be placed beyond arm's reach. In the event of further problems a hollow aluminum flag pole with a concealed internal lanyard accessible only through a lockable opening should be

installed. Some of these types of flag pole also fold in the middle so they can easily be restrung in the event the opening is broken into and the rope or wire is cut.

Vandalism on school buses has been reported in a few areas (25), though disciplinary problems appear to be a more common problem than damage. To deter fighting and damage to school buses a school district in Maine installed a Super 8 mm monitoring camera with its lens trained on the passenger area (59). At the first sign of a disturbance, the driver activates the camera. The film is shown to parents if a child consistently causes problems. The assistant superintendent is reported to have said students do not resent being filmed. The Board feels the cost of approximately \$260.00 per bus is worthwhile. A side benefit is that this protects the bus driver from false accusations that he has over-reacted to troublesome students.

The section of the school where a school bus loads and unloads travellers may receive more use and abuse than it was originally designed for. See Zeisel (91) for further possible ways to reduce abuse by arriving and departing students. In general, waiting areas should be provided, windows hardened or protected, and an adequate distance from the school building maintained.

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APPENDIX I

DEFINING SCHOOL VANDALISM

Different authors have defined school vandalism in different ways. Though this may not be important in helping to solve a specific problem, it is important in trying to determine the cost of school vandalism. For the purpose of this study we have defined school vandalism fairly generally, having drawn on a number of sources in the literature.

Under the Canadian Criminal Code, vandalism is a criminal offence and is subsumed under the categories of "mischief" and "wilful damage". Mischief is defined as wilfully (a) destroying or damaging property, (b) rendering property dangerous, useless, inoperative or ineffective, (c) obstructing, interrupting or interfering with the lawful use, enjoyment or operation of property, or (d) obstructing, interrupting or interfering with any person in the lawful use, enjoyment or operation of property (67).

The Mississauga Task Force On Vandalism defined vandalism as: "The wilful or malicious destruction, injury, disfigurement or defacement of any public or private property, real or personal, without the consent of the owner or person having custody or control of the property in question" (71). This definition has been widely used by other agencies with minor modifications. A study prepared for the Nepean Police Department suggested that the word malicious should not be included in the definition (10).

The Edmonton Study identified five categories of damage or loss: 1) accidental damage; 2) irresponsible behaviour causing damage; 3) wilful damage-causing behaviour; 4) theft or loss with damage; and 5) theft or loss with no damage (32). For the purposes of their study, they included only categories 3, 4 and 5.

The Bureau of Municipal Research recommended use of the definition of vandalism employed by the Board of Education for the Regional Municipality of Peel which is: "any damage which is the result of irresponsible behaviour" (21).

The major problem in defining school vandalism becomes one of deciding whether or not the act need be malicious, wilful, irresponsible, or accidental. The words malicious, wilful, irresponsible and accidental may be located on a continuum in this order. We believe that all malicious and wilful acts of property damage are vandalism. We do not believe that accidental damage should be considered vandalism. The issue is one of deciding whether or not irresponsible acts which cause damage should or should not be considered vandalism.

To say an act is wilful one must judge the psychological state of the person who acted. Deliberate intent is always implied. To say a behaviour is irresponsible one compares an observed or reported behaviour with an accepted norm. We believe it is easier to distinguish between responsible and irresponsible acts than to distinguish between wilful and nonwilful psychological states. If a student causes damage while acting in an irresponsible manner, the damage should be considered vandalism. If damage occurs while the student is acting in a responsible manner, it should be considered accidental and therefore not vandalism.

We believe school vandalism should be defined as:

1. Theft of any property which belongs to the school system.
2. Arson which destroys or damages any school property. This type of vandalism is often reported separately because of the very high costs involved. One incident can easily distort statistical measures, such as means, medians, and modes.
3. Any damage or breakage of school property which occurs as the result of irresponsible behaviour.

APPENDIX II

ORGANIZATIONS CONTACTED

The Board of Education for the Borough of Etobicoke

The Board of Education for the Borough of North York

Muskoka Board of Education

Kent County Board of Education

Frontenac County Board of Education

Sault Ste. Marie Board of Education

Sault Ste. Marie District Roman Catholic Separate School Board

Hamilton-Wentworth Roman Catholic Separate School Board

The Board of Education for the City of London

Sault Ste. Marie Police Force

Peel Vandalism Project

Solicitor General of Canada

Ontario Youth Secretariat

Marsh & McLennan

Ontario Association of School Business Officials

Adventure Education Concept Inc.