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A study of public, K–12 districts' buildings in the state of Michigan

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A STUDY OF PUBLIC, K-12 DISTRICT'S BUILDINGS IN THE STATE OF MICHIGAN

By

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A DISSERTATION

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ABSTRACT

A STUDY OF PUBLIC K-12 DISTRICTS'S BUILDINGS
IN THE STATE OF MICHIGAN

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C. Dean Atkins

The purpose of this study was to investigate the ages, condition and deferred needs of public school buildings in the State of Michigan. There is not a state policy to assist local school districts in financing the construction or renovation of school buildings. The analysis of data will give the state legislature information on the needs of public school buildings in the State. The analysis of data will provide support to local school districts in budgeting for maintenance or renovation.

The universe studied consists of five hundred twenty-four public K-12 school districts. Fifty-seven districts were identified using the following criteria: wide geographical area, disparity of State Equalized Value per pupil, number of pupils per district, and geographical location to represent rural, resort, city, suburban and one urban district.

A questionnaire was developed to collect data from each district and building. The district survey was a general survey of current data on State Equalized Value, budgets, deferred maintenance, debt retirement and use of buildings. The building level survey requested information on the age, original cost, cost of renovations, replacement value, accessibility for the handicapped, deferred maintenance

projects and a general assessment of the building by the respondents.

The major findings of the study were that:

1. There were no statistically significant relationships between SEV per pupil and the factors of age of buildings, maintenance and operation budgets per pupil and district deferred maintenance costs per pupil.

2. There were no statistically significant relationships between the amount of deferred maintenance and the variables of respondents assessment of the condition of the buildings, age of buildings and the replacement cost index.

3. The study revealed thirty-eight percent of the districts used general operation funds to make major renovations of buildings.

4. Seventy-four percent of the districts are using portable classrooms in their daily operations.

5. Forty-two percent of the buildings are not accessible to the physically handicapped.

6. The average deferred maintenance needs of those buildings reporting deferred maintenance was $562,919 per building.

DEDICATION

To my wife, Kathie, children Krista and Greg whose support, encouragement, and willingness to sacrifice the giving of my time and attention have made this possible, this volume is dedicated.

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This study would not have been possible without the guidance and counsel I have received during the period of my graduate study.

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CHAPTER I

INTRODUCTION TO THE STUDY

Winston Churchill once said, "We shape our buildings: Thereafter, they shape us." As the twenty-first century dawns our needs to replace and maintain school buildings throughout the nation accelerates. The method of using local school district funds to construct, renovate and maintain school buildings may not be practicable to meet future needs in an adequate and equitable manner. Hard economic times in terms of operating revenue for districts pales when compared with capital funding for new buildings.

No school district, regardless of wealth, should enjoy advantages over another in current operating funds, nor should any district enjoy resource advantages over another in the providing of adequate, safe and accessible school facilities (Burrup, 1977). The methods used to finance school facilities are antiquated in comparison to the practices used to finance current educational expenditures. The gap between financing building projects and daily operation is growing as states pass legislation to finance the operation of schools more equitability. The problem of how to provide school facilities adequately and equability is one of growing significance across the United States.

Only in the recent past have state governments contributed to the capital outlay and debt service of local districts. A number of states have shown a willingness to address the issue of capital funding for facilities. Fifteen states, however, fail to provide any formal mecha-

nism for state assistance to capital outlay (Thompson, Honeyman and Stewart, 1988) Funding for capital outlay and debt service for school facilities is totally a local responsibility in fifteen states: Colorado, Idaho, Iowa, Kansas, Louisiana, Michigan, Missouri, Montana, Nebraska, Ohio, Oklahoma, Oregon, South Dakota, Texas and Nevada (Honeyman, Thompson & Wood, 1989). The thirty-five states that provide some plan for capital outlay assistance are often providing a minimal amount in relationship to the local effort needed to finance a project.

The inadequacy of state plans for funding capital outlay and debt service has resulted in a backlog of facility needs among school districts of all sizes (Thompson, et al., 1988). Modernization and replacement are growing concerns, while federal and state mandates, such as reduced class size, handicapped accessibile, Title IX, asbestos abatement, fire alarm system retrofit, required special education programs and expanding curricular needs are cutting into already low budget dollars (Thompson & Camp, 1988).

A major factor in capital needs of school districts is the issue of deferred maintenance needs. Deferred maintenance refers to the cost of renovating, constructing, maintaining and bringing school buildings up to adequate and safe standards. Deferring maintenance needs is a process of choosing between daily instructional needs and building needs. It is a budget procedure that requires a school

district to choose between targeting limited resources on instructional programs or on facility needs (Green, 1987).

In 1987 a report by the Council of Great City Schools, a national association of urban schools, estimated that the cumulative costs of deferred building maintenance nationwide to be $25 billion. A 1991 report by the American Association of School Administrators showed the deferred maintenance needs to be $100 billion. Hass and Sparkman (1988) estimated that a total of 5.4 billion will be needed to fund facility projects by 1996 in the state of Texas alone. These figures are alarming when taken in isolation. There are other public needs such as hospitals, municipal and state buildings, roads, railroads and air infrastructure that will also have needs for renovation or new building. The band-aid approaches indicate the inattention of states to mechanisms for providing facilities in recent decades and this has resulted in an accumulation of large needs which have been inadequately addressed (Thompson, et al. 1988).

Purpose of the Study

The purpose of this study is to determine the ages, condition and deferred needs of public school buildings in the State of Michigan. Based upon the findings of this study recommendations will be made for possible legislative action needed to insure safe access for all students and prudent financial plans for local and state education agencies. The assessment of building needs may provide data for the State to develop policy that will address the needs for

a safe and healthy learning environment.

At the present time there is no state policy nor a mechanism to help local districts finance the construction or renovation of school buildings. The data gathered in this study may assist the legislature and educational leaders to develop a policy and provide needed state level funding to assist in providing safe, adequate and accessible buildings to all school populations. Nationally the literature suggests school buildings are in a condition of disrepair and deterioration. Two-thirds of the states provide some form of financial support for the construction and renovation of school buildings. If the needs of Michigan are similar to those reported in the literature on the nations schools, then this paper may suggest a reexamination of Michigan's lack of policy and lack of a funding mechanism to assist in the financing of buildings and renovations.

An analysis of the data will give additional support to local districts in budgeting for maintenance, capital outlay, and replacement or renovation of buildings.

A review of the literature reveals limited research available to determine the age, condition and needs for replacement of public school buildings in Michigan.

Definition of Terms

Accessibility of School Buildings: Accessibility refers to whether the building meets state and federal guidelines for use by all special populations.

Adequacy of School Buildings: Adequacy refers to the capacity of a building to house the current and projected student population in a safe and comfortable manner.

Assessed Valuation: A valuation set upon real estate or other property by a government as a basis for levying taxes.

Bonded Debt: That portion of the indebtedness of a school system represented by outstanding bonds.

Budget: A plan of financial operation embodying an estimate of proposed expenditures for a given period and the proposed means of financing them. Used without any modifier, the term usually indicates a financial plan for a single fiscal year.

Capital Outlay: Expenditures for the acquisition of fixed assets or additions to fixed assets. They are expenditures for land or existing buildings, improvements of grounds, construction of buildings, additions to buildings, remodeling of buildings, initial equipment, additional equipment, and replacement of equipment.

Debt: An obligation resulting from borrowing of money or from the purchase of goods or services. Debts of school systems include bonds, time warrants, tax anticipation notes payable, vouchers payable and salaries payable.

Debt Service Fund: A fund established to finance and account for the accumulation of financial resources over a long period of time which are to be used for the payment of interest and principal on all general obligation debt, serial and term, other than that payable exclusively from

revenue debt issued for and serviced by school systems.

Deferred Maintenance: Refers to a capital outlay project that has been suspended that may include renovation, construction, and maintenance of fixed equipment to bring the physical plant up to safe and adequate standards.

Fixed Assets: Assets of a long-term character that are intended to continue to be held or used, such as land, buildings, machinery, furniture and equipment.

Long-term Debt: Debt with a maturity of more than one year after the date of issuance.

Maintenance Expenditure: Repairs to fixed assets that do not clearly increase the value and/or useful life of the asset.

Mill: One-tenth of one cent or one dollar per thousand dollars on valuation of property or fixed assets.

Safety of School Buildings: Safety refers to the physical conditions present in the building according to the Occupational Health and Safety Administration's (OSHA) guidelines.

School Facilities: School Facilities refers to the buildings currently in use for instructional programs.

State Equalized Value: The value of property or fixed assets that is one-half the assessed value in the State of Michigan.

Taxes: Compulsory charges levied by a governmental unit for the purpose of financing services performed for the common benefit.

Need for the Study

The assured safety of students is a primary need within society. The condition of the school facility is a major factor in assessing the safety of students or conversely of placing students well-being in jeopardy. With the increase in reliance on local property taxes for general operating revenues many districts are reluctant to request funds for renovation or replacement of school buildings, due to increasing public pressure to lower taxes. Property tax concerns and a growing unwillingness among patrons to support tax increases constitutes an increasingly serious threat to the integrity of educational systems in America. (Thompson & Others, 1988)

A 1988 survey by the National Association of Directors of State Education Plant Services showed that approximately twenty percent of the building now in use were built prior to 1940. Only eight percent were constructed during the 1940s. A large number of buildings were constructed in the 1930s with public work projects of the depression years. Twenty-six percent were build in the 1950s, and another twenty-five percent were added in the 1960s. (Philo, 1990) Property tax revolts and court cases related to school finance contributed to the attitude of "let someone else pay." The state educational reform movement of the 1980s of mandated smaller classes and increased academic requirements including computer labs and increased special education services contributed to a need for more space in spite of

declining enrollments of the 1980s. Environmental concerns of asbestos, underground storage tanks and more recently radon have contributed to increases in expenditures of building maintenance budgets. In part, these regulatory mandates have been the cause of deferring other needed maintenance repairs. (PDK, March 1990). The American Association of School Administrators report "Schoolhouse in the Red" shows deferred maintenance costs to total $25 million in 1983, $41 million in 1986 and $100 million in 1991. (AASA Schoolhouse in the Red) Honeyman reports in a study exclusively of small districts (less than 800 students) throughout the U. S. there is an overwhelming inability of local districts to fund capital outlay at levels needed to keep buildings adequate, safe and accessible to special populations of students. The average deferred maintenance reported in this study approached $300,000 per building and over one-half of the districts that responded reported that buildings were inferior. (Honeyman & Others, 1987) Michigan School Business Officials in a December 1985 report found an anticipated shortfall for capital expenditures projects of over $1.4 million in 416 of the 524 Michigan School Districts. The anticipated capital expenditure shortfall as reported in the above study did not include deferred maintenance projects.

Procedure and Methodology

Questions for Research

The study will address the following questions:

1. What is the age and condition of school building in the State of Michigan?

2. Have maintenance/renovation projects been delayed due to lack of adequate funds?

3. What is the level of funding needed for renovation and maintenance projects?

4. What is level of funding needed for replacement of buildings with new structures?

5. Is the ratio of total maintenance and operation expenditures to per pupil state equalized value significantly different for districts with building needs as compared to those without building needs?

6. Are buildings with needs deferred significantly different that those without needs deferred in the respondents estimation of condition of the buildings?

7. Will the date provide a basis for legislative action to establish a state policy to provide safe and adequate buildings for all children?

Organization of the Study

Following this introductory chapter, a review of selected literature is presented in Chapter II. Chapter III describes the research methodology that was used in the study. A questionnaire was sent to a sample of fifty-seven (57) operating Michigan School Districts with three hundred eleven (311) buildings. This questionnaire was used to

collect district and building data. Descriptive profiles were developed from the collected data. A second category of data was collected and compiled with the questionnaire which included detailed information on each building currently operated by the district.

All data were statistically analyzed to provide the answers to the questions under investigation in this study. Chapter IV describes the analysis of the data. Chapter V provides an summary of the findings, conclusion and recommendations.

Limitations of the Study

The limitations of this study were:

1. The study was limited to a sample of Michigan public school districts.

2. The data collected were based on the knowledge and perceptions of individual officials in each school district and on estimates made by those officials for conditions existing at the point in time when they compiled the questionnaire.

3. The financial data collected and status of deferred needs were general indications of the financial and physical status of a school district. Unique situations, in individual school districts such as involvement in pilot programs or grants and recent bond issues to renovate buildings, may have affected the data.

Chapter II

REVIEW OF LITERATURE

The review of literature is presented in two sections. Section I describes the issues of financing school buildings and capital outlay projects in public schools nationwide. Section II describes the instructional issues that have been identified as factors in educational achievement.

Section I

Financing Of Buildings And Capital Outlay Projects

In the early years of public schooling, the financing of school building was of little concern. Most of the materials were native materials gathered and prepared by local community members. Purchased materials were donated or purchased on a "pay as you go" basis. The building was constructed by community members on a volunteer basis often as a "building bee" which became a community social event. The schools reflected the homes and businesses of the time, being simple and fundamental structures for a small number of students. Schools were constructed by the community members and there was no thought of tax rates or bond referendums. (Wood, 1986)

The National Education Finance Project Study (1970) reported that 100 years ago when legislatures began enacting laws to allow the issuance of bonds for public school districts, they were primarily concerned with three things: protection of the bond purchasers, limitation on the amounts spent on construction, and the limitation of the public debt. Historically, facility planning has been a low priority in the overall school finance picture. The widespread reorganization of school districts that occurred in the 1960s contributed to the demise of the local schoolhouse, and the unified or consolidated school district with increased student population became a new reality. (Thompson & Others, 1988)

State school financing formulas are complex. Only Hawaii (a one-district state) supports all capital expenditures as a state. The remainder of states have both local and state controls on capital expenditures for construction and major renovation of school buildings. "Thirteen states use a local support model with caps on the amount local districts can earmark for debt service. Thirty-six states use some type of joint state/local formula." (Pipho, March 1990) Inequities between districts with high and low tax bases are evident in the district's buildings. Just as the schoolhouse reflected the neighborhood in the early 1900s, it is generally true that today's school buildings reflect the neighborhood that they serve.

Through the early 1900s, the major responsibility of

financing the public school buildings rested with the local community. As late as 1941, it was reported that only 12 states made some financial provision for capital outlay and debt service for local school construction. (Weber, 1941).

Many states have some provision for state aid in facility planning and construction. The methods vary from state to state as delineated below.

Full State Support: Education is the state's full responsibility.

Matching Grants: Grants awarded on a cost share ratio that is determined by the legislature.

Flat Grants: All districts receive some aid, usually in a per pupil formula.

State Loans: Districts may apply for state loan funds.

Building Authorities: Private capital is used to lease or purchase new facilities.

GENERAL STATE METHODS OF FINANCING BUILDING PROJECTS

Flat Grants	Full Funding	State Loans
	Alaska	Arkansas
Alabama	California	Indiana
Indiana	Florida	Minnesota
Kentucky	Hawaii	N. Dakota
Mississippi	Maine	Virginia
North Carolina	Maryland	Wisconsin
South Carolina	Pennsylvania	Wyoming
West Virginia		

Equalized Grants	Percentage Matching	No Aid
Arizona	Delaware	Colorado
Connecticut		Idaho
Georgia		Iowa
Illinois		Kansas
Massachusetts		Louisiana
Minnesota		Michigan
New Hampshire		Missouri
New Jersey		Montana
New Mexico		Nebraska
New York		Nevada

North Carolina
Rhode Island
Tennessee
Utah
Vermont
Washington
Wyoming
Ohio
Oklahoma
Oregon
S. Dakota
Texas

Building Authority
Indiana
Virginia
*Total is greater than 50 states because of multiple predominant methods in some states.

(Thompson, 1990)

After World War II the number of states that contributed to capital outlay and debt service increased dramatically. Possible reasons for this increase include the fact that few school building were built during the Depression and during World War II, a significant post war population growth, with a surplus of state revenues and the growth of minimum state standards for facilities (Barr & Jordan, 1970).

Since the 1960s, most school finance reform has involved state equalization plans for school operations. Few reform efforts have included building renovations and construction. Despite the pressing needs for educational facilities, school districts with low property values have great difficulty financing educational facilities in many states.

State aid for capital outlay and debt service grew from $78 million in 1951, to $633 million in 1970, to approximately $1.4 billion in 1979 (United States Census Bureau, 1980). Yet, even after this tremendous expansion of state aid, it is estimated that 80 percent of all funds for public

school capital outlay and debt service originate as local property tax (Wood, 1970).

On the national level, despite litigation addressing fiscal equity during the 1970s and 1980s, capital outlay and funding of debt service has remained virtually unchallenged, and in most states remains primarily a local responsibility (Wood & Ruch, 1986). Capital outlay is small in comparison to total expenditures in education. The total capital outlay costs in 1979-80 amounted to approximately 7.5 percent of all funds expended for public elementary and secondary education in the United States (United States Census Bureau, 1980). Capital outlay however, is generally a local concern and can impose disparity in the degree of burden imposed on local school districts (Wood & Ruch, 1986).

An increasing number of states have shown an interest in addressing the issue of funding capital facilities. State participation in funding of school facilities has evolved as a consequence of deteriorating buildings. A slow but evident trend toward state involvement in capital outlay projects has emerged. In 1983, thirty-six states provided some measure of direct assistance to school districts for capital outlay projects (Wood & Alexander, 1983). By 1985, thirty-six states had developed some type of plan to assist with capital outlay and debt service in the public schools (Thompson & Camp, 1988).

Historically, state governments have been reluctant to finance the capital outlay and debt service of their local

school districts. As reported by Thompson, Honeyman, and Stewart (1988), the 36 states vary from full state support in Hawaii, Maine and Maryland that attempt to fund 100 percent of debt service, to loan programs in North Carolina and Virginia, to New Hampshire that funds 30% of costs for approved projects and 20% of long-term debt service. Twelve states (Alabama, Arizona, Florida, Indiana, Kentucky, Massachusetts, Mississippi, South Carolina, Tennessee, West Virginia, Wisconsin, Wyoming) fund local district capital outlay reserves on a per unit basis as part of their state formulas.

Other states factor a district's ability to pay in the calculation of state support for capital projects. Ten states (Connecticut, Illinois, Massachusetts, Minnesota, New Jersey, New York, Pennsylvania, Vermont, Washington and Wisconsin) base their state contributions to capital outlay funds and/or debt service on district wealth calculations within the state formula. For example, New Jersey and Pennsylvania reimburse districts for debt service on approved projects, according to an ability to pay ratio determined by an equalized district wealth factor (Thompson et al., 1988).

A vast majority of the states limit the level of debt against which a local district can borrow. In general, 37 states limit debt capacity according to some measure of property valuation. While the base against which these limits is calculated differs from state to state, in general, the limits currently in place range from 2% of a dis-

tricts's assessed valuation in Indiana and 2.5% of assessed valuation in certain districts of Massachusetts to 29% in Montana and 25% in the states of Colorado and Louisiana. Three states (Florida, Minnesota, and Kentucky) limit debt to a level equivalent to the dollar value that a predetermined number of mills will generate. While Connecticut limits debt to 450% of revenue raised in taxes each year, Oregon limits debt according to the number of classes operated by a district times a state adjustment factor times the assessed valuation. At present only Tennessee and Virginia have no debt limit. Capital outlay in Michigan is limited to a debt ceiling of 15% of the district's Assessed Value. (Michigan School Code of 1976, 380.1351) The states with no provision for capital outlay assistance include Colorado, Idaho, Iowa, Kansas, Louisiana, Michigan, Missouri, Montana, Nebraska, Nevada, Ohio, Oklahoma, Oregon, South Dakota and Texas.

Funding for school facilities in Michigan is a local responsibility. Michigan does not have a program to provide funds for school facilities. Failure by the state to provide support for school facilities has led to wide disparities in the quality of school housing (Hudson, 1988).

Louisiana does not allocate state funds to local education agencies to assist them with either school construction or debt service costs for public schools. The inequality of local tax bases among school districts in Louisiana is apparent in the financing of capital outlay

expenditures (Geske & LaCost, 1988).

Financing school construction in Texas is presently the responsibility of the local school districts. A recent study of school facilities estimated it would cost $5.4 billion to house the Texas school population by 1996 (Lutz, Betz, & Middirala, 1987). One and one half billion dollars of the estimated cost would have to be used to renovate, replace or refurbish existing facilities (Haas & Sparkman, 1988).

Capital outlay in Oklahoma is almost entirely a local responsibility. Because of the reliance on real and personal property for support of capital outlay, capital improvements statewide would require expenditures of $620 billion (Bass, 1988).

Even though 36 states provide some type of plan for the financing of capital outlay and debt service in public schools, over 80% of the costs continues to be raised by property tax procedures (Wood & Alexander, 1983). In New Mexico, local bonding has historically supported facility projects. Hughes and Gallegos (1988) reported there are vast inequities due to the reliance upon local wealth and the differences in assessed valuation across the state. North Carolina's School Building Capital Fund relies heavily on the local ability to pay and provides a relatively small amount of funding to meet critical capital outlay needs (King & MacPhail, 1988). In Ohio, capital outlay is financed through a local property tax on real and personal property in the district. A state School Building Assist-

ance Program provides aid only to the most financially distressed districts (Hack, 1988). In South Carolina state funding of school construction began in 1951, however, in 1988-89 the amount school districts could expect to receive for facilities purposes was $80 per pupil. School districts have had to and will continue to fund school construction as part of the local district budget or through bonds funded by property tax (Stevenson & Leonard, 1988). As a result, school districts in South Carolina will require almost $1.5 billion to meet pressing needs for new schools, additions and major renovations (South Carolina Department of Education, 1987). Funds for capital outlay and debt service in Arizona are provided through the state equalization program for financing schools. Because of the state's revenue control limits, growing school districts with a limited tax base have difficulty keeping pace with school facility needs (Jordan, 1988).

Even with the increased participation by these states in funding capital outlay projects and debt service, the districts with state assistance in funding capital outlay are facing similar school facility needs found in school districts in the states with no provision for capital outlay and debt service funding. The state plans for capital outlay and debt service are inadequate and inequitable in meeting the present school facility needs (Thompson et al., 1988).

The poor condition of America's school buildings was

described in a January, 1983 joint report of the American Association of School Administrators (AASA), the Council of the Great City Schools and the National School Boards Association. One hundred school systems were surveyed and the results documented billions of dollars of accumulated deferred maintenance, capital improvements, and compliance with federal and state environmental, health and safety requirements. The study offered $25 billion as a conservative estimate of the total accumulated costs for repair of the nation's public elementary and secondary schools. Districts were found to have budgeted approximately 6.7% of their annual budgets on maintenance and capital improvements for the 1983 reporting year as compared to 8.6% spent in 1970 and 9.6% in 1960. Percentages were shown to have fallen steadily since a high of 14.1% in 1920. The development of deferred maintenance in many school district budgets has been identified as largely responsible for ignoring existing facility needs (Leggett, Murphy, & Hill, 1983). The great demand for new school construction in growing areas forced many school districts to overlook maintenance and modernization of old schools (Graves, 1983). Graves also contended in his report that the design of many buildings constructed during the 1940s and 1950s did not anticipate change in educational programs and those schools are now obsolete.

By 1987, the situation had not changed. In August 1987, a report by the Council of the Great City Schools documented that the cumulative costs of deferred building

maintenance in all school districts in the country would still be $25 billion (Green, 1987). The report offered that the reason for this backlog of deferred maintenance is the small amount of available resources for instructional programs or for facility needs. The report recommends that the situation can only be improved with increased funding from local, state and federal sources for deferred maintenance and new construction. In 1989, a report by the Education Writers Association found that one of every four buildings is in poor condition and that more then half needed maintenance and major repairs.

The current status of school facility problems in not limited by location or general categories of urban, suburban or rural districts. In 1985, Honeyman and Stewart using the Replacement Cost Index model, found that rural Kansas school districts had deferred maintenance and repair of building needs exceeding $25 million. Devin (1985) found additional evidence in Kansas urban school districts. Devin concluded that a positive relationship between local wealth and the condition of school facilities had significantly added to needs for deferred maintenance. The report of the Council of the Great City Schools (1987) estimated the cumulative cost of deferred building maintenance in the 44 largest urban districts nationwide to be $5 billion.

Other state reports contain similar data. In West Virginia, a trial judge in Pauley v. Kelly (1982) described the schools in several counties as deplorable, with serious

health hazards, not adequately heated and in substantial disrepair. The judge identified two principal problems for the condition of school facilities in West Virginia; the total inability on the state level to finance facility construction and the problems inherent in the tax levy system.

The Replacement Cost Index (RCI) was first developed and applied to school facilities in a 1985 study by Honeyman and Stewart. This index attempted to address the issue of historic cost verses current replacement cost ratio analysis. All original and improvement costs are given in historic dollars while the current replacement cost is given in the current dollar value of the facility. For example, if the original cost of a building was $500,000, improvements and renovations cost $400,000 over a span of years, and the current replacement cost is $3,000,000; then the $500,000 plus $400,000 divided by $3,000,000 gives a Replacement Cost Index (RCI) of three tenths (.3). A high value for the computed index for a school building indicates that repair and renovation had maintained the value and condition of the structure over time. By using the index, comparisons of the relative condition of facilities can be made among a number of buildings.

Honeyman et al. (1988), using the Replacement Cost Index (RCI) to estimate the condition of school facilities in small/rural districts in the United States found that the need for new construction and the renovation of many existing structures is common throughout the nation. This study

concluded that there is an overwhelming inability of local districts to fund capital outlay at levels needed to keep their buildings adequate for current and projected student and staff enrollments, safe according to the Occupational Safety and Health Administration (OSHA) requirements, and accessible to special and handicapped populations. Honeyman and Stewart state, evidence from this study suggests that school buildings are deteriorating rapidly and that maintenance needs are increasing as rapidly. Because most states do not provide equalization aid to local districts for facility purposes, the costs of improvements and replacement of obsolete buildings generally falls to the local property tax mechanism.

Honeyman and Stewart (1985) found that in addition to deferred maintenance problems, constant changes imposed by different levels of government affected the need for facilities and maintenance. Government mandates, such as asbestos abatement, access for the handicapped, and stringent safety and fire code compliance were identified in their study. Testing for lead in drinking water and radon detection are recent conditions that the public had been advised of by the media and schools are encouraged, but as of this writing are not required, to undergo expensive tests to detect. Both Public Law 94-142 and Section 504 of the Rehabilitation Act of 1973 required that facilities be accessible for handicapped children. (Smith, 1984)

Other reports have identified regulatory requirements

as adding to the problems of deferred maintenance. Removal of asbestos hazards was a top priority in most United States school systems in 1984 as reported by Gardener (1984), and as reported by McCormich (1985), and Hill (1985). This problem continues to present maintenance and budgetary problems to school districts in 1992.

Graves (1982) examined the wide variance in requirements imposed by state governing agencies upon school facilities. In his report, a small trend to move toward more state funding of school construction is identified. Clark and Hertz (1984) reported that a majority of states have mandatory requirements for accessibility by the handicapped with energy and fire safety as two other areas of major concern.

There also appears to be a growing concern by the courts regarding the ability of school districts to provide adequate facilities. The Tenth Amendment to the U. S. Constitution delegates all powers to the states that are not specifically reserved to the federal government. As the constitution is silent on education, the responsibility for education falls to the individual states. In "Rodriquez v. San Antonio Independent School District" (1973) the U. S. Supreme Court refused equal protection under the Fourteenth Amendment to the U. S. Constitution. The "Rodriquez" case is important because it denied claims of education as a fundamental right under the federal constitution. References to capital outlay have been made in numerous court cases. There is a history of litigation that intimates that states

may increasingly be held responsible for assisting local districts. As litigation has evolved, equity has been subjected to three standards.

Resource Accessibility: Do students have equal access to appropriate resources to meet educational needs?

Wealth Neutrality: Are variations in revenue unacceptably related to local wealth.

Taxpayer Effort: Does equal tax effort produce equal revenue, thereby guaranteeing equal protection. (Thompson, 1990)

In Shofsstall v. Hollins (1973), Arizona, it was noted that funds for capital improvement were more closely tied to district wealth than funds for operating expenses and that the capacity of a school district to raise revenue by bond issues is a function of assessed valuation. The court, in Robinson v. Cahill (1973) noted that the state's obligation included capital expenditures, without which required educational opportunity could not be provided. Of the equity suits in the state Supreme Courts, "Serrano" (1971; 1976) in California had the widest impact. The court ruled in "Serrano" that variations in local wealth were ultimately related to educational opportunity; variations in wealth were violations of equity standards and that equity requires education to be a function of the wealth of the state as a whole. In Serrano II (1976), provisions were made for deferred maintenance funds. In Board of Education of the City of Cincinnati v. Walker (1979), the court decided that

a effective and efficient system of schools is not met if any school had a need for teachers, funds, buildings or equipment. The court also showed a concern for capital outlay funding in Diaz v. Colorado State Board of Education (1977) stating that some districts were better able that others to provide adequate facilities. In Lujan v. Colorado State Board of Education (1982), the court concluded that the fiscal capacity of school districts to raise revenue for bond redemption and capital reserve was a function of property wealth. Most recently, capital outlay financing was an issue in Christiensen v. Graham (1988) in Florida and Helena Elementary School v. State of Montana (1988). In Florida, the court ruled in summary judgment that the state system for financing education did not violate equal opportunity. The Montana court, however, found that the state's system of funding public schools was violative of the state's constitution, and the court attacked facility dependence on local school district wealth. Other state education finance plans involved in the courts include Texas, Missouri, Alaska and New Jersey (Honeyman et al., 1988). In Texas, Edgewood ISD v. Kirby (1987), the courts declared the system of school finance unconstitutional. What is noteworthy about the ruling, according to Haas and Sparkman (1988), was that funds for school facilities and equipment was to be part of the remedy. According to the decision, the state must take legislative action to ensure that each school district has the same ability to obtain by state legislative appropriation or by local taxation, or

both, funds for educational expenditures, including facilities and equipment. This decision was defeated on appeal but a new commission was formed with $5 million to study school buildings in Texas (Education Week, 1989).

The issue that school facility problems are more widespread in urban areas has also emerged in court challenges to state finance systems. In Jenkins v. State of Missouri (1987). the court imposed stringent improvement of the city's schools, including an order to issue $150 million in capital improvement bonds to correct facility conditions. In Robinson v. Cahill (1973), the New Jersey Supreme Court ruled that the state system of financing public education was unconstitutional because it discriminated against property-poor districts in violation of the state constitutional provision for public education.

Court challenges to methods for funding rural and small school districts also exists. In Tennessee Small Counties System v. McWherter (1988) facilities were cited as an issue in rural and small school districts because of the state's failure to provide adequate funding under the state constitution. In Arizona, rural schools are considering a challenge to the state's finance formula. States, such as Michigan, which offer no support for capital outlay funding place the burden for providing school buildings entirely on the local community. Public policy in Michigan is to not include education as an equal right, regardless of residence. Article VIII of the Michigan Constitution of 1963

provides a system of free public elementary and secondary schools. Discrimination is forbidden on the issues of religion, creed, color or national origin. There is no reference to equal educational opportunity for all students.

Section II

Instructional Concerns and School Facilities

The appropriateness of facilities to the educational program is another factor that must be considered in this review. In the past, school buildings were constructed with little attention given to changing trends in educational programs. The role of the school facility in the educational process was beginning to be defined in 1979 (Weinstein, 1979). Today, facilities' planners design facilities to fit programs and enhance their operation (Griffith, 1984). An important relationship exists between a program of instruction and the physical environment in which the program is found (Eubanks, 1985). Eubanks' list of criteria for evaluating a school building includes determining the adequacy of the facility to hours of the prescribed program of instruction, identifying features that add or detract from the program, and identifying major deficiencies in the facilities. Eubanks contended that evaluation of these factors and competent planning can result in a facility that enhances learning, increases teaching efficiency and minimizes the deterioration of a building. Truby (1985) in a review of the Pauley v. Kelly court decision concluded that high

quality educational programs must be housed in high quality facilities. An Educational Research Service (ERS) publication (Robberson, 1985) summarized presentation of the effective schools research and reported that maintaining adequate facilities was found to be important in effective schools. Reeves (1985) found that better student learning is achieved as a result of an improved aesthetic environment.

Swindel (1986), as part of the National Governors' Association Task Force on School Facilities, reported that states have a responsibility to insure a healthy and safe environment for students, who are required by law to attend school. Furthermore, students should be entitled to a facility in which drafts, noise, heat or cold, and general disrepair do not impede their opportunity to learn. Blair (1987) in the San Diego Long Range Facilities Plan 1986-2000, recognized that environment can affect learning and emphasized the importance of physical surroundings to the learning process.

In the University of Michigan Research Institute Project (1971) no solid proof or support was found for the proposition that the physical environment is an important factor in each child's learning. However, Earthman (1985) wrote that conventional wisdom in the area of school plant planning and design seems to indicate that the physical environment does have an effect upon the behavior, achievement and performance of students and teachers who occupy a building. Earthman states, "but this is just a belief that

cannot be empirically demonstrated by those who hold to it." Rossmiller (1987), in the review of resource allocation research, found that adequate facilities and instructional materials are necessary if a school is to be effective, but concluded that fine facilities and abundant materials alone will not ensure school effectiveness. In a 1987 study of five urban school districts, Corcoran, Walker, and White, concluded that the physical condition of the building was: (a) not dependent on grade level of school; (b) not dependent on age of buildings; (c) dependent on the condition of the neighborhood surrounding the school; (d) dependent on the role of district policy; (e) dependent on the principal leadership; and (f) dependent on timely renovation and regular preventive maintenance. Teachers interviewed in this study stated that physical condition of the building had direct positive and negative effects on teacher morale, sense of personal safety, feelings of effectiveness in the classroom, and on the general learning environment. Verstegen (1988) found that although there is little or no research regarding the relationship between student learning and facilities, or physical plant and teacher satisfaction some facilities' planners contend

> "that building new schools could provide the key to true restructuring of education, as current structural arrangements are redesigned to better provide the workplace and learning conditions which foster excellence, equity, and renewal in the education sector." Verstengen, (1988)

CHAPTER III

METHODOLOGY

The purpose of this chapter is to describe the population and sample, sampling method and statistical procedures used in this study. The design of the study and the order of research described in this chapter are under the following headings: Population and Sample, Data Collection Instrument, Procedure for Data Collection, Treatment of Data and Methods of Analysis.

Population and Sample

The population of the study is the 524 K-12 public school districts in the State of Michigan. A sample of the population was selected to distribute the sample over a wide geographical area, and disparity of State Equalized Value (SEV) per pupil. Appendix A shows the eight counties selected with the geographic diversity of the counties. The selection utilized "Bulletin 1013" for fiscal year ended June 30, 1992, published by the Michigan Department of Education. The counties were selected examining multiple school districts in the same county, total State Equalized Value (SEV), SEV per pupil, disparity of SEV per pupil among districts, number of pupils per district and geographical location to represent rural, resort, city, suburban and one urban district. Appendix B is a listing of the sample chosen showing enrollment and SEV per pupil.

The average SEV per pupil in the state of Michigan was $91,805 for fiscal year 1992-93. The average SEV per pupil

for the respondent districts is $87,017 for fiscal year 1991-92. The legislature imposed a "freeze" on SEV for the 1992 calendar year. The respondent districts were within five percent (5%) of the state average. The average number of pupils per district in the state was 2,974 for 1992-93. The respondent districts had an average number of pupils of 2,423. The lower number can be accounted for in the average because only one urban district was included in the sample. With the large number of buildings in an urban district, completion of the survey questionnaire became a very time consuming task. It was resolved that an urban district would not choose to complete the survey due to the time and expense of assigning personnel to complete the survey.

Care was taken to include districts that were in a rural setting, districts that were located in a resort area with characteristically high SEV, districts that were in a small city setting and one urban district. The writer met with the Superintendent and Deputy Superintendents in the urban district to explain the purpose of the survey and enlist their assistance in completing the questionnaire. The counties were selected that contained multiple school districts and had the above specified characteristics. Appendix A shows the geographical diversity of the counties selected.

Tables 3-1 and 3-2 list the districts and buildings, presenting a profile of those reporting with the high, low, mean and standard deviation shown for all respondent dis-

tricts. The population selected is broadly distributed among the districts in the state and represents a meaningful group in terms of size, geographical location, community and level of tax base behind each student.

The sample contained three hundred eleven (311) buildings in the fifty-seven (57) districts selected. Of the fifty-seven (57) districts selected, thirty-four (34) returned the survey, representing sixty percent (60%) of the sample and one hundred seventy-three (173) buildings. The research was exploratory in nature. The study attempted to explore the relationship between the wealth of a school district as measured by SEV per pupil and conditions of the buildings as reported on the survey describing deferred maintenance as reported by the respondents. The writer attempted to study building conditions and needs in relationship to community wealth as measured by budget and SEV/pupil.

If the findings can contribute to a better understanding of the unique building needs of various school districts, it will provide new direction for further research in equity of facilities as a goal of educational finance. The study of related literature reveals many law suits on the equity between districts. Equity with per pupil spending in operations has been a major contention among school districts, and the public, equity is reflected in legislative debates on in formula, out of formula school districts. Specific recommendations for further research will be found in Chapter V.

Data Collection Instrument

A questionnaire was used to collect data from each school in the sample. The form, Appendix C, was adapted from several forms used in other studies. The purpose of the form was to provide information consistent with the purpose of the study.

The questionnaire was reviewed by four individuals with recognized experience in the field of public school administration and school finance. Two of the four are practicing school superintendents with advanced degrees in school administration. The superintendents were asked to review the instrument with particular attention to maximizing the return as school superintendents receive numerous questionnaires each year. The third reviewer is employed by an Intermediate School District in a position of Research and Development and is well versed in statical analysis of data. The fourth reviewer works as a consultant for a firm dealing exclusively with the public sector. The recommendations for revision from these four reviewers were incorporated into the final form before it was mailed to the sample identified in the study.

The data collected were used to develop descriptive data of the school districts surveyed. The descriptive data are displayed as Tables 3-1 and 3-2. The tables show the high, low, mean and standard deviation for major categories in the survey. The tables are separated into a descriptive profile of districts and of buildings.

The questionnaire consists of two parts. The district survey is a general survey of current data on SEV, budgets, deferred maintenance, debt retirement and projected use of the building in five and ten years. The building level survey requested information on the age, cost, cost of renovation/additions, replacement value, size, grade level usage, accessibility for the handicapped and disabled, deferred maintenance projects and a general assessment of the building by the respondent. Using the data gathered, was possible to describe the resources of each district and the building infrastructure of each building within the district. The tables that follow present the data as a composite and range of school districts surveyed.

Table 3–1
Descriptive Profile of Michigan School Districts in the Sample

	High	Low	Mean	Standard Deviation
Enrollment	22,349	136	2,423	3,807
Dist. SEV	$1,551,280,000	$7,800,000	$212,331,574	$309,598,206
SEV/Pupil	$193,375	$28,070	$87,017	$40,819
Total Budget	$128,000,000	$856,000	$12,375,043	$21,755,369
Maint. Bidget	$7,622,101	$57,923	$1,082,467	$1,512,045
Cap. Out of M&O	$1,360,000	$2,500	$135,535	$258,207
Deferred Maint.	$38,899,751	$0	$1,981,228	$6,753,000
Debt Levy (mills)	9	0	3.08	2.61

Table 3–2
Descriptive Profile of 173 School Buildings

	N	High	Low	Mean	Standard Deviation
Enrollment	167	1,628	70	478	279
Year Built	167	1991	1871	1953	19
Orginal cost	83	$8,000,000	$140,000	$1,444,634	$1,817,229
Renovation cost	129	$5,500,000	$0	$991,124	$1,170,092
Replacement cost	159	$308,000,000	$400,000	$7,727,297	$24,424,789
Deferred Projects:					
Roof	33	$200,000	$1,500	$75,167	$56,015
Heat	32	$425,000	$5,000	$111,656	$103,927
Structure	29	$1,500,000	$6,500	$234,879	$351,823
Technology	56	$1,000,000	$15,000	$126,661	$169,596
Grounds	25	$2,225,000	$5,000	$162,920	$455,117
Other	33	$1,500,000	$500	$181,564	$293,780
Total	166	$4,695,400	$1,700	$410,102	$763,261

Procedure for Data Collection

The questionnaire was mailed to the Superintendent of each of the schools in the sample. Multiple copies corresponding to the number of buildings in each district, as listed in "Michigan Education Directory" was included with each district survey. A cover letter, addressed and signed by hand, explained the purpose of the survey. The cover letter is attached as Appendix D. For those who did not respond to the questionnaire in the first twenty-one days, a second copy of the cover letter and questionnaire was mailed out three weeks later. The second letter had a hand written note stating, "Your response is important to this project and will be deeply appreciated. Thank you, Dean." From the first mailing twenty-two (22) responses, or thirty-eight

percent (38%), were received within the three week period. Two (2) more responses, bringing the total to forty-two percent (42%), were received within the second three week period. Both mailings included a stamped self-addressed envelope for the return response. An additional ten (10) responses were received after telephone calls to all the non-respondents over the next thirty days. The additional responses received brought the total to thirty-four (34), or sixty percent (60%).

Treatment of Data

Four null hypothesis were developed as a result of the questions for research posed in Chapter I. Each null hypothesis was treated independently.

Null Hypothesis:

HO1 There are no statistically significant relationships between the condition of school buildings as measured by the State Equalized Value (SEV) and the following factors: age of the buildings, maintenance and operation budget per pupil, estimated cost of deferred maintenance projects per pupil, amount of remaining debt of the district and amount of debt levy.

HO2 There are no statistically significant relationships between the amount of deferred maintenance and the respondents' assessment of the condition of the buildings, age of the building and Replacement Cost Index (RCI).

HO3 There are no statistically significant relationships between the amount of deferred maintenance and the

categories of deferred maintenance of roofing, heating systems, building structure, technology needs, grounds, and other needs.

HO4 There are no statistically significant relationships between the total district budget and the maintenance and operation budget or the capital outlay portion of the maintenance and operation budget.

Methods of Analysis

The statistical program used was Statistical Package for the Social Sciences (SPSS). In the quest for a computer statical package, several computer magazine articles were reviewed. Messages were submitted on a computer bulletin board requesting recommendations for a statistical program. In every instance of review and in responses from individuals, SPSS was mentioned and the most frequently recommended. Among the noted users were Michigan Department of Social Services, the United States Mint, United States Department of Labor and numerous colleges and universities. SPSS is the top selling statistical software package for personal computers in 1992. Ingham Intermediate School District owns a copy of SPSS and were kind enough to allow this writer access to their computers and the program.

A correlation analysis was applied to test if a significant relationship existed between the SEV/pupil and the following factors: age of the buildings, maintenance and operation budget per pupil, estimated cost of deferred maintenance projects per pupil, amount of remaining debt of the district, and debt levy in the district.

A statistically significant correlation will provide evidence that the variables are related, although the magnitude of the relationship may not be large. A correlation does not imply a cause and effect relationship between variables. A statistically significant correlation will indicate the strength and direction of the relationship between variables.

Null Hypothesis Two dealt with the amount of deferred maintenance per pupil, the respondents' assessment of the condition of the building and Replacement Cost Index (RCI). Respondents individual assessment is a subjective judgment. Testing the correlation between the amount of deferred maintenance per pupil and the respondent's assessment of the building established a base of information on the usefulness of a subjective judgment to assess the condition of buildings.

Null Hypothesis Three examined the amount of deferred maintenance and the categories maintenance is deferred in, namely, roofing, heating systems, building structure, technology needs, grounds, and other needs. Statistical significance was tested using each category to determine if a correlation exists and to identify the categories of greatest and least correlation, if any exists.

Null Hypothesis Four examines the correlation between the total budget and maintenance and operation budgets and the capital outlay portion of the maintenance and operation budget.

In addition to testing the statistical significance of the null hypotheses, tables were generated to establish a building profile showing comparisons of buildings in the categories of deferred maintenance, amount of remaining debt, age of the buildings and the categories of deferred maintenance. The tables are useful to provide a data base to use with other school districts throughout the State of Michigan.

The correlations tested were:

SEV/pupil with:	Age of buildings Maintenance budget Deferred maintenance Amount of district debt Debt levy of the district
Deferred Maintenance with	Age of Buildings Assessment of building Replacement Cost Index
Deferred Maintenance with	Catagories of Roofing Heating Building structure Technology needs Grounds Other needs
Total Budget with	Main. & Opera. Budget Capital Outlay of M&O

In addition to the correlations reported, the results of the question, "List any building that will not be used in five (5) and ten (10) years from today" were reported.

All correlations in the analysis are Pearson Product-Moment correlations (henceforth referred to simply as "correlation" or "r"). The purpose of the correlation is to reflect the "relationship" between one (or more) variables

with another. In other words, when something happens to a particular variable (e.g. going "up" or "down" in value) the correlation between it and another variable will reflect what happens to the value of the second variable (will it go "up" or "down"?). Variables that are to be correlated must be "continuous" (interval or ratio); they must be numeric and there must be equal distances between the points of the measurement scale (e.g., inches on a ruler for measuring height or seconds on a clock for measuring time).

These correlations are computed by first converting the values of the two variables, for each case into Fischer Z scores. Then the cross-products of the two Z scores, for each case, are computed. Next, the sum of all the cross-products, over all cases, is computed. Lastly, the average cross-product is computed by dividing the sum of cross-products by the number of cases. This average cross-product value is the correlation. It can vary between -1.0 (a perfect negative correlation) and a +1.0 (a perfect positive correlation). A negative correlation means that "high" scores on one of the variables in question tend to go with "low" scores on the other variable. A positive correlation means that high scores on one of the variables tend to go with high scores on the other variable. A correlation of zero means there is no consistent relationship between scores on one variable and scores on the other variable. The further the correlation departs from zero (in either a positive or negative direction), the more perfect or consistent the relationship between variables.

A correlation will have what is referred to a "probability" associated with it that will range between zero and +1.0. This probability is determined by relating the value of the correlation itself with the number of cases (referred to as the "N") used to calculate the correlation. The probability of the correlation tells us what the odds are that the correlation is really different from zero, given the N and the value of the correlation itself. A probability of 0.01 means there is only 1 chance in 100 that the correlation is really different from zero. Lets say, for example, that the correlation between two variables was +0.45 calculated over 10 cases. For the sake of illustration we will assume the probability for this correlation was 0.34. This means there are 34 chances in 100 that the correlation of +0.45 is, in reality , not really different from zero. When this happens we say that, even though the reported correlation is fairly high (+0.45), it is not significantly different from zero. In the social sciences a probability of 0.05 (only 5 chances in 100) or 0.01 (one chance in 100) are the conventional probability levels used to determine the significance of the correlation. If the number of cases used to compute the correlation were increased to 100 instead of 10, the probability would undoubtly become significant at least 0.05 or lower.

CHAPTER IV

ANALYSIS OF DATA

The results of the statistical analysis performed to test each of the null hypothesis are presented in this chapter. Summary data tables are used to describe those findings. Summaries of data from the questionnaires are presented, as well.

FINDINGS RELATED TO THE NULL HYPOTHESIS TESTED

The Relationship of the State Equalized Value (SEV) per pupil and the variables of age of building, maintenance and operation budget per pupil, district deferred maintenance cost per pupil, amount of remaining debt of the district, and amount of debt levy.

HO1 There are no statistically significant relationships between the condition of school buildings as measured by the State Equalized Value (SEV) and the following factors: age of the buildings, maintenance and operation budget per pupil, estimated cost of deferred maintenance projects per pupil, amount of remaining debt of the district and amount of debt levy.

The Pearson Product-Moment Correlation Analysis was used to test the strength and direction of the relationships. Correlation for each of the independent variables (age of the buildings, Maintenance and Operation Budget per pupil, estimated cost of deferred maintenance projects per pupil, amount of remaining debt of the district and amount

of debt levy) and dependent variable, the SEV per pupil are summarized in table 4-1. At the 0.05 level, one statistically significant relationship was found. A significant correlation was found between the debt levy of the district and the SEV/pupil (r= -.3413). This negative correlation indicated the relationship is inverse. It was found that as the SEV/pupil increased, the debt levy of the district decreased. As the SEV of a district increases fewer mills need to be levied to pay the debt levy of the district. Debt levy is determined by dividing the annual principle and interest by the total SEV of the district. It would be logical to assume a building designed for two thousand (2000) pupils would be very similar in districts with different SEVs. If one district had twice the SEV per pupil as a second district and their annual debt was exactly the same then the debt levy would be one-half the amount in the district with the higher SEV.

The calculations between the SEV/pupil and age of the buildings, maintenance and operation budget per pupil, estimated cost of deferred maintenance projects per pupil, amount of remaining debt of the district and amount of debt levy; not only had relatively low correlations but were also not found to be statistically significant as measured by the probability (p) using .05 as the measure of significance.

Table 4-1

Statistical Correlation of Null Hypothesis 1

Correlations:	Bldg. Age	M/O Budget per pupil	Deferred Maint. per pupil
SEV/Pupil	-.0281	.1623	.0568
p=	.719	.359	.758

Correlations:	Deferred Maint. District Cost	Debt Levy (Mills)	Amount of Debt ($$)
SEV/ Pupil	-.0918	-.3413	.1827
p=	.617	.048	.362

The State Equalized Value (SEV) per pupil is an indicator of wealth of a school district. The State Equalized Value (SEV) per pupil could very well have a direct correlation with the amount of debt a district has incurred. For example, if district A and district B with the same number of pupils build identical buildings, costing the same amount and both districts have chosen to bond the debt over twenty-nine (29) years with identical rates of interest on the bonds with principle retired at the rate of $100,000 per year; then the following illustrates how State Equalized Value (SEV) per pupil is deemed an indicator of wealth for a school district.

District A	SEV/pupil =	$120,000
	Principle retired =	$100,000
	Number of pupils =	2,400
	District SEV =	$288,000,000
	Then, Debt levy is .35 mills	
District B		
	SEV/pupil =	$60,000
	Principle retired =	$100,000
	Number of pupils =	2,400
	District SEV =	$144,000,000
	Then, Debt levy is .7 mills	

The ratio of SEV/pupil to debt levy is directly correlated.

The writer then looked at the other variables shown in Table 4-2. The respondent districts surveyed reported that the SEV/pupil when correlated with building age did not have a significant correlation. The districts with a high SEV/pupil did not have newer buildings than districts with a low SEV/pupil. The SEV/pupil did not have a significant correlation with the Maintenance and Operation Budget per pupil. The connection was not made that as the SEV/pupil increased that the total maintenance and operation budget of the district increased. The SEV/pupil did not have a significant correlation with the deferred maintenance per pupil nor with the total district deferred maintenance costs. Deferred maintenance per pupil nor total district deferred

maintenance can be isolated as corresponding to the wealth of a district as measured by SEV/pupil. Likewise, the amount of debt of a district is not related to the wealth of a district.

The relationship of the amount of deferred maintenance and variables of the respondents assessment of the condition of the buildings (assessment), age of the buildings, and the Replacement Cost Index (RCI).

HO2 There are no statistically significant relationships between the amount of deferred maintenance and the respondents' assessment of the condition of the buildings, age of the building, and Replacement Cost Index (RCI).

The Pearson Product-Moment Correlation Analysis was used to test the strength and direction of the relationships. Correlation for each of the independent variables (respondents, assessment of the individual building condition, age of the buildings, and Replacement Cost Index (RCI) of each building) and the dependent variable of the amount of deferred maintenance for each building are summarized in Table 4-2. At the 0.05 level there were no statistically significant relationships found. The null hypothesis was found to be true in every category.

Table 4-2

Statistical Correlation of Null Hypothesis 2

Correlations:	Bldg. Assessment	Bldg. Age	RCI
Deferred Maint.	.1650	.0626	-.1396
p=	.073	.497	.314

The deferred maintenance as referred to in table 4-2 is the deferred maintenance of each individual building and not the total deferred maintenance of the district. The table and correlations are related to individual buildings, without regard for total district statistics. The amount of deferred maintenance did not have a significant correlation with the assessment of the building by the individual appraisal indicating the building is either Excellent, Good, Fair or Poor. The individual's rating was an individual interpretation of what Excellent, Good, Fair or Poor meant to the individual. There were no directions or conditions imposed by the survey instrument on what constituted Excellent, Good, Fair or Poor. Building age and the amount of deferred maintenance did not have a significant correlation. As buildings became older, the amount of deferred maintenance did not correspondingly increase. The amount of deferred maintenance did not have a significant correspondence to the Replacement Cost Index (RCI). The RCI is the original cost of the building plus renovations and additions costs divided by today's replacement value. The RCI does not take into account money spent on a continuous basis for

upkeep and maintenance but only major renovation and additions. As the amount of deferred maintenance increased the RCI did not decrease in a significant manner.

Also only eighty (80) buildings reported information that is necessary to calculate the Replacement Cost Index (RCI). An inquiry were made of a sample of respondents as to why such figures as the original cost of the building was not reported. It was learned that the research into Board minutes, which are the official records of the district was far too time consuming and costly to provide information to a scholarly study. In one case it was said that the official Board minutes had been lost or destroyed by a previous superintendent. The records did not exist; which is contrary to law. The Replacement Cost Index (RCI) could be a valuable tool to use in comparing buildings, but without adequate data is of limited value.

The relationship of each building's deferred maintenance and the variables of each sub-class of deferred maintenance of roofing, heating, building structure, technology needs, grounds and other.

HO3 There are no statistically significant relationships between the amount of deferred maintenance and the categories of deferred maintenance of roofing, heating systems, building structure, technology needs, grounds, and other needs.

The Pearson Product-Moment Correlation Analysis was used to test the strength and direction of the relationships. Correlations for each of the independent variables

(roofing, heating, building structure, technology needs, grounds and other needs) and the dependent variable of total building deferred maintenance are summarized in Table 4-3. At the 0.05 level of significance all variables were found to have a statistically significant relationship. A significant correlation was found between the individual building deferred maintenance and each sub-class of deferred maintenance. Each correlation was a positive relationship varying between a low of .4887 and a high of .8375. The probability was found to be between a perfect correlation of .000 and .004.

There was a significant correlation found between each sub-category of roofing, heating, structure, technology, grounds and other to the total building deferred maintenance needs. The building deferred maintenance needs are made up of this sub-categories; it therefore should follow that there would be a significant mathematical correlation between the parts and the whole.

Table 4-3

Statistical Correlation of Null Hypothesis 3

Deferred Maintenance

	Correlation	p=
Roofing	.4887	.004
Heating	.6333	.000
Structure	.8375	.000
Technology	.5601	.000
Grounds	.6640	.000
Other	.6621	.000

Table 4-4 is a summary of the total amounts, number of buildings reporting deferred maintenance in each category and the mean deferred maintenance in each category.

Table 4-4

Summary of Deferred Maintenance by Building

	Total	Number	Mean
Roofing	$2,480,500	33	$75,176
Heating	$3,573,000	32	$111,656
Structure	$6,811,500	29	$234,879
Technology	$7,093,000	56	$126,661
Grounds	$4,073,000	25	$162,920
Other	$5,991,605	33	$181,564
Total	$68,076,851	120	$567,307

The table above shows the greatest number of schools (56) deferred maintenance in the category of technology needs. The highest average amount was in the deferred category of structural needs, the average being $234,879 per building. Not all surveys were completed for each sub-category. Some listed only a total amount without separating the amount needed by category. The average total deferred maintenance was over half a million dollars per building.

The survey did not distinguish between critical deferred maintenance needs such as a structural defect, Americans Disabilities Act (ADA) requirements, physically handicapped accessible elevators or technology needs such as

wiring the building for computer networks. It should also be noted that of the one hundred seventy-three (173) buildings included in the survey fifty-three (53) or thirty and six-tenths percent (30.6%) did not report any deferred maintenance needs.

The relationship of the Total Budget and the variables of the Maintenance and Operation Budget and the Capital Outlay portion of the Maintenance and Operation Budget.

HO4 There are no statistically significant relationships between the total district budget and the maintenance and operation budget or the capital outlay portion of the maintenance and operation budget.

The Pearson Product-Moment Correlation Analysis was used to test the strength and direction of the relationships. Correlation for each of the independent variables (maintenance and operation budget and capital outlay of the maintenance and operation budget) and the dependent variable of total budget are summarized in Table 4-5. At the 0.05 level of significance both variables of Maintenance and Operation Budget and the Capital Outlay of the Maintenance and Operation Budget were found to have a statistically significant relationship to the total budget. Each correlation was found to have a positive relationship; that is the variable increased as the dependent variable increased. The Maintenance and Operation budget correlation was .5495 and the Capital Outlay of the Maintenance and Operation Budget had a high correlation of .9150 to the dependent variable of

Total Budget. The probabilities of .001 for the Maintenance and Operation budget and .000 for the Capital Outlay portion of the Maintenance and Operation Budget are very high.

Table 4-5

Statistical Correlation of Null Hypothesis 4

Correlation:	M&O Budget	Cap. Out. of M&O
Total Budget	.5495	.9150
p=	.001	.000

The total district budget did have a significant correlation with the total Maintenance and Operation Budget and with the Capital Outlay portion of the Maintenance and Operation Budget of the district. The Maintenance and Operation Budget and Capital Outlay portion of the Maintenance and Operation Budget are subparts of the Total Budget. There was a significant mathematical correspondence between the whole and the parts. As the total budget increased, the maintenance and operation budget and capital outlay of maintenance and operation did increase in correlation with the total budget of a district.

FINDINGS RELATED TO SUMMARIZED DATA

The respondents were asked to list any buildings that will not be used five (5) and ten (10) years from the date of the survey. There were no buildings listed that would not

be used five (5) years from the date of the survey and one (1) building that would not be used ten (10) years from the date of the survey. The survey asked the respondents to answer the questions, "Has the district made major renovations without a bond issue?" and "Approximate costs of renovations during the past ten years?". All respondents answered "yes" or "no" to the first question. Those that responded in the affirmative indicated an amount that renovation had cost without a bond issue in the past ten (10) years. Twenty-two (22) or thirty-eight and six-tenths percent (38.6%) of the districts have had renovations without a bond issue. The amounts ranged from a high of $33,200,000 to a low of $30,000 with the average being $2,223,750. This was money from the general fund budget and not from a debt retirement fund.

The current debt levy of the districts ranged from a high of nine (9) mills to a low of zero (0) mills. The mean for all districts surveyed was one and ninety-three hundreds (1.93) mills. The table below shows the millage rates for each district with the total amount of debt and an added calculation of debt per pupil.

Table 4–6
SUMMARY OF BUILDING DEBT BY DISTRICT

	DISTRICT ID.	DEBT LEVY	DEBT REMAINING (MILLIONS)	DEBT PER PUPIL
CASEVILE	102	0.00071	0.05	$183
EPB	103	0	0.00	$0
HARBOR BEACH	104	1.06	0.75	$803
NORTH HURON	105	9	0.01	$16
OWENDALE	106	4.12	1.30	$3,988
PORT HOPE	107	0	0.00	$0
UBLY	108	4	0.40	$440
EAST LANSING	201	3.89	63.03	$15,744
LANSING	202	1.91	48.29	$2,161
DANSVILLE	203	1.6	0.63	$708
HASLETT	204	7.63	5.40	$2,033
HOLT	205	7.1	43.10	$8,847
LESLIE	206	4.4	1.75	$1,111
MASON	207	1.8	2.63	$767
STOCKBRIDGE	209	2.3	2.38	$1,312
WAVERLY	210	0	0.00	$0
WEBBERVILLE	211	7.45	6.70	$7,523
WILLIAMSTON	212	5.3	6.70	$4,007
GERRISH HIGGNS	301	0	0.00	$0
HOUGHTON LAKE	302	2.5	1.65	$844
BYRON	401	2.568	1.41	$1,211
LAINGSBURG	403	7.45	7.35	$6,528
NEW LOTHROP	404	7.4	4.50	$4,929
PERRY	405	4.5	2.25	$1,153
MONROE	501	0	0.00	$0
SUMMERFIELD	508	3.2	1.50	$1,676
WHITFORD	509	1.1	0.38	$501
NICE	601	2.6	2.00	$1,176
GWINN	602	0	0.00	$0
NEGAUNEE	603	5.25	6.27	$3,713
BOYNE CITY	701	1.7	1.46	$1,029
BOYNE FALLS	702	3	0.14	$408
COPPERSVILLE	805	4.72	14.15	$5,380
ZEELAND	809	2.65	9.50	$2,787

The debt per pupil shows a high of $15,744 and a low of zero dollars. The mean debt per pupil was $2,357 with a corresponding mean debt rate in 1993 of three and twenty-five hundreds (3.25) mills. Total debt was two hundred thirty-four million ($234,000,000) with an average of six million nine hundred thousand ($6,900,000) per district, of the districts surveyed. There is a great amount of variation among the individual districts. Previously, it was shown in the analysis of HO1 that the State Equalized Value per pupil did not have a significant mathematical correlation with the amount of debt and thus it could be concluded that the wealth of a district as measured by the State Equalized Value per pupil does not have a significant correlation with the amount of outstanding debt per pupil.

It was found through the survey that sixty-one (61) portable units are currently being used in conjunction with the one hundred seventy-three (173) buildings. Twenty-five (25) of the thirty-four (34) districts responding to the survey reported using portables. This accounts for seventy-four percent (74%) of the districts surveyed using portable structures as adjuncts to the buildings.

The one hundred seventy-three (173) buildings surveyed reported that eighty-seven (87) of the buildings were accessible to the physically handicapped and that eighty-six (86) were not accessible to the physically handicapped. The survey instrument did not define access to the physically handicapped nor was there any information included delineat-

ing the recent requirements of the American's with Disabilities Act (ADA) regulations.

FINDINGS RELATED TO DEFERRED MAINTENANCE NEEDS

One of the purposes of this study was to determine if school districts were deferring maintenance needs, and if maintenance needs were deferred, the amount per building deferred and in which general category.

The respondent school districts reported an average deferred maintenance of $562,619 per building. The total deferred maintenance was distributed among roofing needs, heating system needs, structural needs, technology needs, grounds and other needs. Table 4-7 is a numerical description of the findings related to building deferred needs.

Of the one hundred seventy-three (173) respondent buildings, forty-two percent (42%) were not accessible to the physically handicapped. Deferred roof repair was needed in thirty-three (33) of the buildings at an average cost of $75,167. Deferred heating system needs were reported in thirty-two (32) of the buildings at an average cost of $111,656. Deferred structural repair was needed in twenty-nine (29) of the buildings at an average cost of $234,879. Deferred technology needs were reported in fifty-six (56) of the buildings at an average cost of $126,661. Other deferred needs were reported in thirty-two (32) of the buildings at an average cost of $187,238.

The total number of buildings with some deferred needs was one hundred twenty-one (121) or seventy-seven percent

(77%) of those responding to the survey. The average cost of deferred needs was $562,619 per building. The individual categories do not add up to the total as some buildings had deferred needs in more than one category and some respondents gave only a total amount of deferred needs without specifying any categories.

The deferred maintenance needs of the one hundred twenty-one (121) buildings represents needs for fifty-eight thousand four hundred four (58,404) students or deferred maintenance of $9.63 per student.

TABLE 4–7
'Findings Related to Deferred Maintenance

Number of Respondent Buildings	173
Percent not Accessible to Phy. Handicapped	42%
Percent of Bldg. with Deferred Maintaince Needs	77%
Number of Buildings with Deferred Roofing Needs	33
Total Amount of Deferred Roofing Needs	$2,480,500
Average per building	$75,167
Number of Buildings with Deferred Heating Sys Needs	32
Total Amount of Deferred Heating System Needs	$3,573,000
Average per building	$111,656
Number of Bldg. with Deferred Structural Sys. Needs	29
Total Amount of Deferred Structural Needs	$6,811,500
Average per building	$234,879
Number of Bldg. with Deferred Technology Needs	56
Total Amount of Deferred Technology Needs	$7,093,000
Average per building	$126,661
Number of Bldg. with Other Deferred Needs	32
Total Amount of Other Deferred Needs	$5,991,605
Average per building	$187,238
Number of Bldg. with Deferred Needs	121
Total Amount of Deferred Needs	$68,076,851
Average per building	$562,619

CHAPTER V

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Chapter V is organized in three sections. The background and purpose of the study, the literature review, and the statistical methodology are summarized in the first section. The principle findings are presented in the second section. The major conclusions and recommendations for further study are presented in the third and final section.

SUMMARY OF THE STUDY

The purpose of this study was to identify the ages, condition and deferred needs of public school buildings in the State of Michigan. Analyses were made to determine if the condition of the school buildings could be correlated with the wealth of a district as measured by the State Equalized Value (SEV) per pupil. Statistical analysis were made to test correlation of the deferred maintenance against the age of buildings, respondents assessment and the Replacement Cost Index (RCI) of individual buildings. A statistical analysis was made to test the correlation of the individual categories of deferred maintenance with the total amount of deferred maintenance in each building. The total district budget and the maintenance and operation budgets and the capital outlay budget of maintenance and operation were statistically analyzed to determine if correlations existed between the amounts budgeted.

A review of educational literature indicated a growing

national concern for the condition of school facilities. One of the most serious problems, nationally, has been the amount of deferred maintenance in school districts. The states' responses have been increased participation in funding capital outlay and debt service. The inadequacy of this increased state participation is reflected in the condition of school facilities nationwide. The costs for renovation and new buildings remain the responsibility of the local district in the State of Michigan; the State does not have any mechanisms in place to assist local districts with the funding of capital improvements.

The current finance formula for the funding of education in Michigan has been eradicated by the legislature and governor. The property tax base for school construction remains in effect. The same inequities in financing of school operating expenses are perpetuated in financing school building projects in the State of Michigan. Elsewhere in the nation, challenges are being made in courts on the equity of financing school buildings with local property taxes.

Michigan public schools have major needs for renovation and replacement of buildings to make them safe and accessible to all populations. It has been noted that deferred maintenance is a major potential expenditure as school administrators and boards of education have chosen to fund daily operations instead of upkeep of buildings. With operating funds derived mainly from local property taxes the

amount of deferred maintenance has accelerated the problems as reflected in the amount of deferred maintenance. Michigan's current method of funding building projects solely from local property taxes may perpetuate this inequity.

If the reader examines the data from an empirical viewpoint the data may be subject to questions. In defense of the data, they are reported as received from a great variety of school officials filling out the survey. In the first chapter of this paper it was reported that a major limitation of the study was, "data collected were based on the knowledge and perceptions of individual officials in each school district and on estimates made by those officials for conditions existing at the point in time when they completed the questionnaire."

The personal experiences and observations of the reader may be stronger than the data presented. It is not an aberration to believe the data should show that as the SEV per pupil increases the age of school buildings and deferred maintenance would be a negative correlation or that maintenance and operation budgets would increase as the SEV per pupil increases.

As a generalization this writer believes the questionnaire was actually completed and data gathered by individuals with a great diversity of backgrounds and job descriptions. Perhaps, because it was addressed to the Superintendent, the superintendent's name was placed in the block as the contact person and as a return address, despite the fact that the data collection and reporting was delegated.

In some cases the questionnaire was completed by the district Superintendent, or the Assistant Superintendent in charge of the physical plant, while in other instances the data were gathered and compiled by a head custodian or a building principal. It becomes easy to understand that the level of understanding of a building's needs would be construed very differently, depending on the background and knowledge of the individual. This factor, indeed may have skewed the data, and thus is a limitation of the study.

METHODOLOGY

As a result of the review of literature the following questions were asked:

1. Are there statistically significant relationships between the condition of school buildings as measured by the State Equalized Value (SEV) and the following factors: age of the building, maintenance and operation budget per pupil, estimated cost of deferred maintenance projects per pupil, amount of remaining debt of the district and amount of debt levy?

2. Are there statistically significant relationships between the amount of deferred maintenance and respondents assessment of the condition of the buildings, age of the buildings and Replacement Cost Index?

3. Are there statistically significant relationships between the amount of deferred maintenance and the categories of deferred maintenance of roofing, heating systems,

building structure, technology needs grounds and other deferred needs?

4. Are there statistically significant relationships between the total district budget and the maintenance and operation budget or the capital outlay portion of the maintenance and operation budget?

Four null hypothesis were constructed to test these questions and to indicate the relationships and differences which might exist between the dependent factor and the variable factors. The statistical procedures used to test these hypotheses was the Pearson Product-Moment Correlation analysis. The statistical program used was Statistical Package for Social Studies (SPSS). The level of confidence was set at 0.05.

Questionnaires were sent to fifty-seven (57) school districts distributed by a wide geographical area and representing a wide disparity of SEV per pupil. The responses included thirty-four (34) school districts and one hundred seventy-three (173) school buildings. The first page of the two page questionnaire asked for responses and data about the district. The second page was used to gather data on individual buildings. Data from the two pages of the questionnaire were compiled and analyzed.

PRINCIPAL FINDINGS

Relationship of SEV per pupil and the factors of age of buildings, maintenance and operation budget per pupil,

district deferred maintenance costs per pupil, amount of remaining debt of the district and amount of debt levy were correlated for statistical significance.

The findings of this study indicated there were no statistically significant relationships between SEV per pupil and the factors of age of buildings, maintenance and operation budget per pupil, and district deferred maintenance costs per pupil. In summary, the SEV per pupil which is a standard measure of the wealth of a district did not indicate the age of buildings, maintenance and operation budget per pupil, nor were district deferred maintenance costs per pupil statistically different between districts with varying amounts of SEV behind each pupil. The wealth of a district did not exhibit a relationship to the variables enumerated above.

The SEV per pupil did show a statistically significant relationship with the amount of debt levy of the district. The relationship was an inverse relationship; as the SEV per pupil increased the debt levy decreased. The inverse relationship showed that the greater the SEV per pupil the less tax needed to be levied to pay for the construction of school buildings.

Relationship of the amount of deferred maintenance and the variables of respondents assessment of the condition of the buildings, age of buildings and Replacement Cost Index (RCI).

The finding of this study indicated there were no statistically significant relationships between the amount

of deferred maintenance and the variables of respondents assessment of the condition of the buildings, age of buildings and Replacement Cost Index (RCI). In summary, the deferred maintenance per building as reported in the survey did not have a direct relationship with respondents assessment of the condition of the buildings, age of buildings nor the Replacement Cost Index (RCI).

Relationships of each building's deferred maintenance needs and the variables of each sub-class of deferred maintenance of roofing, heating, building structure, technology needs, grounds and other deferred needs.

The finding of this study indicated there were statistically significant relationships between each buildings deferred maintenance needs and the variables of each subclass of deferred maintenance of roofing, heating, building structure, technology needs, grounds and other deferred needs. In summary as each of the sub categories increased the total amount of deferred maintenance increased.

The data also showed a significant amount of deferred maintenance needs to be prevalent in the districts surveyed. The average amount of deferred maintenance needs per building, of those respondents listing the deferred maintenance need, was over half a million dollars.

Relationships of the total budget and the variables of Maintenance and Operation budget and the Capital Outlay portion of the Maintenance and Operation Budget.

The findings of this study indicated a very strong

relationship between the Total Budget and the variables of Maintenance and Operation Budget and the Capital Outlay portion of the Maintenance and Operation budget. In summary, as the Total Budget increased the Maintenance and Operation Budget and Capital Outlay of the Maintenance and Operation Budget also increased.

FINDINGS OF THE STUDY UTILIZING SUMMARIZED DATA

The findings of the study reported that the respondents indicated only one building would not be used ten (10) years from the date of the survey. The study disclosed thirty-eight percent (38%) of the districts had used general fund monies to make major renovations on the buildings.

The debt of districts, per pupil, ranged from a low of zero dollars to a high of $15,744 per pupil. The highest debt levy was nine (9) mills. Seventy-four percent (74%) of the districts surveyed are using portable classrooms in their daily operation. The respondents reported forty-two percent (42%) of their buildings are not accessible to the physically handicapped. The average deferred maintenance needs of those buildings reporting deferred maintenance was $562,919 per building.

CONCLUSIONS

Evidence exists to suggest that school buildings are deteriorating rapidly and that maintenance needs are increasing concomitantly (AASA, 1983; Leggett et al., 1983; Devin, 1985). Where the average age of buildings exceeds

forty (40) years, there is clear indication that the costs of modernization, replacement, and maintenance will continue to increase from already high levels (Honeyman, Wood, Thompson & Stewart, 1988). The average age of Michigan public school buildings reported in the survey is forty-one (41) years, and the condition of the buildings in some cases can be described as barely adequate. If parents begin to question the safety and well-being of the children they send off to school, schools would have to begin massive renovation and replacement programs preceded by bond issues costing the taxpayer added monies.

Perhaps the most serious indicator resulting from this study was the level of deferred maintenance in each building. These maintenance projects have been deferred for a variety of reasons. The most prevalent is a lack of adequate funding for operation of the existing curriculum. When services and programs that directly serve students are reduced or eliminated, maintenance needs such as a re-roofing program are deferred until a major problem erupts. In the instance of roofing, it is often said, "out of sight - out of mind." This applies until the leaks in the roof begin to disrupt the delivery of educational services.

The wealth of a school district as measured by the SEV per pupil did not exhibit a statistically significant relationship to building conditions. The variety and backgrounds of individuals completing the survey was extremely diverse. The respondents ranged from the superintendent of

the district to an engineer in charge of buildings and grounds, or in some cases a head custodian. This variety is representative of how school districts are maintained and of the people responsible for the health and safety of school children.

If the legislature is examining a major reform of school districts, the physical condition of buildings should be included in the reforms. Health and safety of school children should become a major factor in the debates of equalization of funding for the maintenance, operation and renovation of school districts along with the often misunderstood areas of curriculum, course offerings and test results of the 524 K-12 districts in Michigan.

Bonding ability can be related to property wealth or the SEV per pupil. Districts with a low SEV per pupil, that relies heavily on general operating funds for renovation and remolding, are at a disadvantage to those districts with a high SEV per pupil valuation to secure funds from a bond issue. Generally, property rich school districts are better able to generate funds through a bonding proposal because the tax burden is inversely related to the SEV of the district. The district with a low SEV per pupil would have to pass a bond issue with a debt levy much higher to accomplish the same results. Property poor school districts have little bonding capacity and therefore look to state aid operation funds for funding many of their capital outlay projects. Voter defeat of operational millages and of bond issues in recent years has discouraged school administrators

and boards of education from seeking funds for major renovations and maintenance projects. The result is a continued deterioration of the condition of school buildings throughout the state.

The age and condition of school buildings and the reported levels of deferred maintenance are serious problems facing Michigan school districts. The way in which funds are provided for schools is no longer adequate for districts to maintain the buildings for enrollment, special populations, required courses, government mandates, and pupil's health, safety and accessibility. The available mechanism for funding capital outlay projects place the burden and responsibility entirely on the local taxpayer. Both property-wealthy and property-poor school districts are struggling with the available capital outlay mechanisms as voters defeat bond issues, operation budget millage proposals and Headlee overrides at an increasing rate each year. The burden of complying with state and federal requirements for curriculum, course offerings, safety and accessibility as well as asbestos abatement, fire alarm retrofit, radon gas detection and a host of other requirements, have caused districts to use current operating funds for these requirements; thereby increasing the level of deferred maintenance of projects that should be considered routine and essential to the students well-being and comfort. All Michigan school districts need to evaluate the buildings effects on the health, safety and learning of students.

RECOMMENDATIONS FOR FURTHER STUDY

From the principal findings of this study and the conclusions drawn from those findings, the following recommendations for further research are proposed

For districts in this study, an inverse relationship was found between the amount of debt levy and the wealth of a school district as measured by SEV per pupil. Further research is advised to determine an appropriate amount of millage that local taxpayers can bear to assure the safety and welfare of all Michigan school children regardless of the wealth of the district. The study should address the property categories of residential, commercial, industrial and agricultural.

An analysis of maintenance needs should be commissioned and funded by the state legislature to determine a more precise and standardized level of need in each building. As an example, it would be advisable to require precise measurements of everything from windows in need of caulking and tuck-pointing of brick to the age of boilers and heating systems. The study instrument obviously would be long but with the assistance of computer programs such items as window caulking could be elevated to a standardized cost and heat loss could be calculated on the square footage of windows verse brick wall.

One of the most serious problems described in this study involved the levels of deferred maintenance in Michigan public schools. Deferred maintenance is a budgetary

procedure practiced in school districts regardless of the wealth of the district. The legislature and executive branches of Michigan government must investigate the methods needed to adequately maintain and renovate buildings to assure the accessibility, health and safety of every student while in the school building. It is further recommended that a study be made of every new piece of legislation pertaining to school districts to assess the cost of the legislation and effects on building utilization.

The problems of deferred maintenance of over half a million dollars per building, forty-two percent (42%) of the buildings not being accessible to the physically handicapped and the average age of buildings being over forty-one years old cannot be ignored. The health and safety of our children is at risk in some buildings. In many buildings the school does not meet the requirements to be a good learning environment.

Data from every public school building are needed to determine exact needs in the state's schools. The deferred needs depicted in this paper needs further refinement to determine priorities. There is a major difference between the deferred needs of technology, such as installation of a computer network, when compared with a deferred structural need of deteriorating brick and mortar or a leaky roof. Priorities of deferred maintenance needs to be assigned to determine the needs as immediate, such as a roof that leaks, or a deferred scheduled maintenance, such as a roof that

needs to be replaced every twenty years.

When data are compiled the legislature should look at the needs from the perspective of, "Are we providing a safe and healthy environment for school children?" and "What implications will meeting these needs have on the tax structure of the state?" As reported in the body of the study a low SEV per pupil district must tax the public much more than a high SEV per pupil district for the same building or renovation project. At the time of this writing the legislature has recognized the need and desire to equalize operating funds between rich (high SEV per pupil) and poor (low SEV per pupil) districts. It is recommended the legislature study methods of equalizing the revenue for buildings and renovations. Legislative action is needed to fund buildings and renovations. Michigan being one of fifteen states that does not assist local districts in funding school buildings and renovations is not an acceptable arrangement. Equalizing revenue with state funds is only one method of providing funds to upgrade the facilities. A statewide bond would be another method to explore. The state through a public referendum passed a statewide bond issue to build prisons in the early 1980s. Other statewide bonds were passed in the 1980s to clean up toxic waste and to build and renovate state parks. Should school buildings not be considered as important as prisons and other needs? Are children safe in our present school buildings?

In summary, a statewide study to determine the safety of and adequacy of buildings as learning environments needs

to be commissioned by the legislature. The legislature then needs to debate the various tax alternatives to address the problems.

CLOSING OBSERVATIONS

The research process used in this study was based partially on the perceptions of the respondents. Much of the information produced by this study was specific to the point in time at which it was collected and thus may not truly reflect all the capital projects that were underway at the time. Nonetheless, the questions asked to fulfill the purposes of this study have been answered. Indications of the condition of school buildings in Michigan were determined. The level of deferred maintenance and its effect on the current condition of school buildings was determined. The adequacy, safety, and accessibility of school buildings in Michigan were described. More importantly, this study has shown there is a problem in Michigan school district buildings; thus there are serious implications about the health and safety of students. There is a deferred maintenance backlog that is seriously endangering the condition of school buildings. The cause of this backlog can be directly attributed to the fact that the State of Michigan fails to provide any aid or support for local school districts to maintain, improve, expand and repair their school facilities. The condition of school buildings will continue to deteriorate unless action is taken to improve the funding

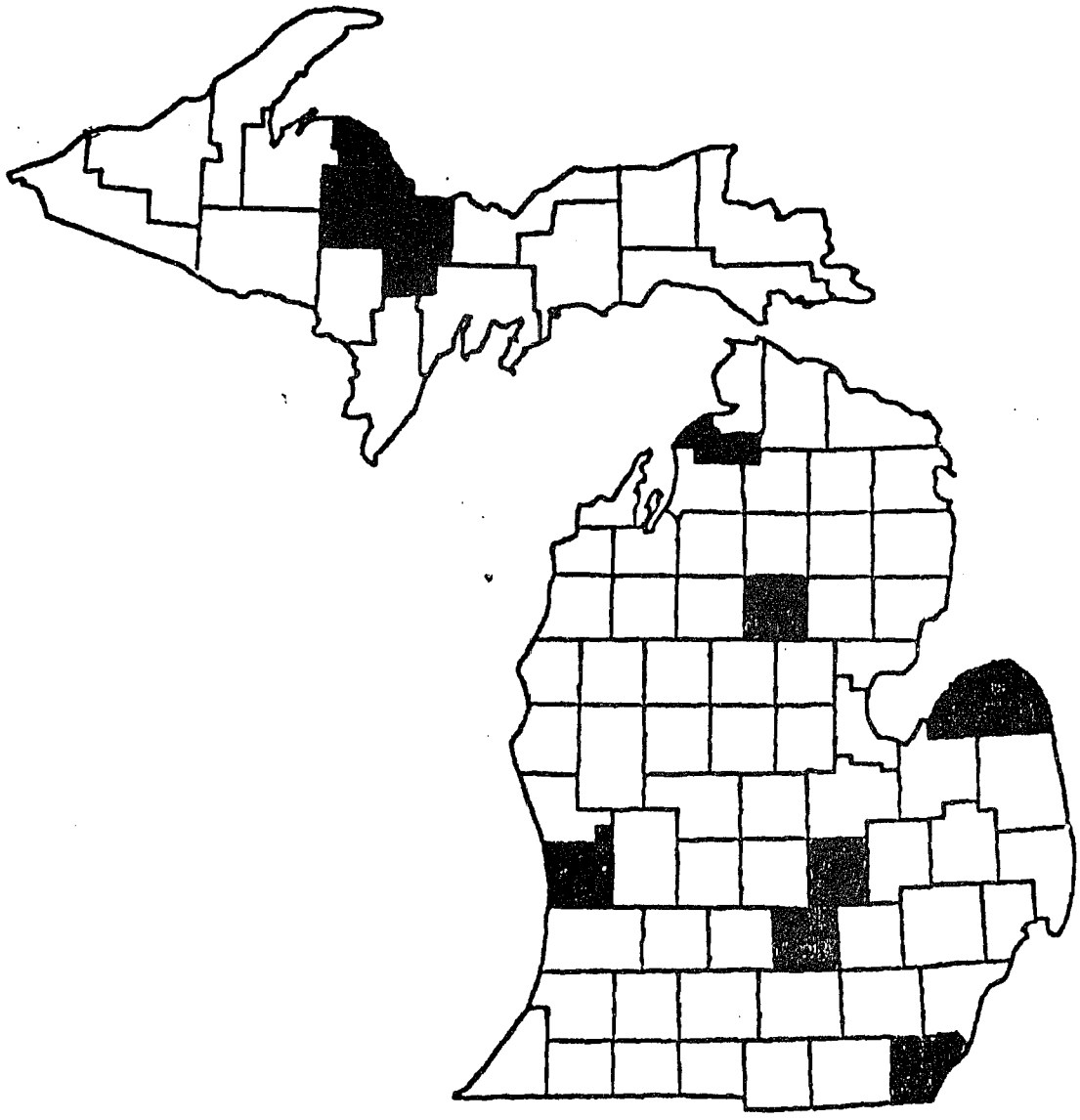
mechanism to local school districts.

APPENDIX A

MICHIGAN COUNTIES SURVEYED

APPENDIX A

MICHIGAN COUNTIES SURVEYED



MICHIGAN

COUNTIES SURVEYED

APPENDIX B

ENROLLMENT AND SEV PER PUPIL

APPENDIX B
ENROLLMENT AND SEV PER PUPIL

	ID NUMBER	ENROLLMENT	SEV/PUPIL
BAD AX	101	1509	$70,387
CASEVILE	102	277	$282,907
EPB	103	1335	$129,134
HARBOR BEACH	104	934	$121,461
NORTH HURON	105	916	$121,044
OWENDALE	106	302	$103,048
PORT HOPE	107	136	$193,875
UBLY	108	910	$78,022
EAST LANSING	201	4003	$141,469
LANSING	202	22349	$69,408
DANSVILLE	203	890	$64,045
HASLETT	204	2656	$76,368
HOLT	205	4871	$58,189
LESLIE	206	1575	$44,700
MASON	207	3423	$70,640
OKEMOS	208	4031	$131,617
STOCKBRIDGE	209	1846	$63,535
WAVERLY	210	3300	$166,667
WEBBERVILLE	211	890	$48,315
WILLIAMSTON	212	1672	$79,551
GERRISH HIGGNS	301	1808	$150,358
HOUGHTON LAKE	302	1990	$137,521
BYRON	401	1168	$60,188
DURAND	402	2406	$47,164
LAINGSBURG	403	1126	$59,210
NEW LOTHROP	404	913	$54,765
PERRY	405	934	$52,487
CORUNNA	406	2142	$42,544
OWOSSO	407	2164	$57,015
MONROE	501	7246	$141,954
AIRPORT	502	2575	$94,962
BEDFORD	503	4778	$69,460
DUNDEE	504	1468	$89,207
IDA	505	1608	$70,791
JEFFERSON	506	2544	$406,261
MASON CON	507	2770	$68,401
SUMMERFIELD	508	895	$69,455
WHITFORD	509	749	$108,566
NICE	601	1701	$46,914
GWINN	602	2979	$28,070
NEGAUNEE	603	1690	$44,778
REPUBLIC MICH	604	213	$135,593
MARQUETTE	605	5018	$76,837
ISHPEMING	606	1411	$35,246
CHARLEVOIX CO	700	1362	$129,190
BOYNE CITY	701	1414	$127,528
BOYNE FALLS	702	343	$94,169
CHARLEVOIX	703	1305	$205,867
EAST JORDAN	704	1668	$92,968
GRAND HAVEN	801	5666	$156,413
HOLLAND	802	5405	$121,844
ALLENDALE	803	1492	$41,536
WEST OTTAWA	804	5116	$121,114
COPPERSVILLE	805	2630	$60,684
JENISON	806	2648	$57,312
HUDSONVILLE	807	4930	$74,475
SPRING LAKE	808	3119	$100,902
ZEELAND	809	3409	$102,728

APPENDIX C

QUESTIONNAIRE

*NAME*_____

*DISTRICT*_____

QUESTIONNAIRE

Data for 1992-93

1. Enrollment _____

2. SEV_____

3. Total General Fund Budget_____

4. Total Maintenance Budget _____

5. Total Capital Outlay Budget for Maintenance and Operation_____

6. Has the district made major renovations without a bond issue? _____

7. Approximate cost of renovations during the past ten years? _____

8. Has the district deferred maintenance/capital outlay/ renovation due to lack of funds?
YES NO

8a. Estimated cost of deferred projects? _____

9. Debt Retirement: (June 30, 1992)

Mills Levied	Last year of the levy	Debt Remaining
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

10. List any buildings that will <u>not</u> be used 5 years from today.

11. List any buildings that will not be used 10 years from today.

Send survey results to:

_____

*NAME*_____

*DISTRICT*_____

*BUILDING NAME*_____

Individual Building Data

1. Original Year Building Constructed? _____

2. Original Cost of Building? _____

3. Approximate cost of renovations and additions since building was constructed?_____

4. Estimated cost of current replacement value for this building? _____

5. Grade levels that use the building? _____

7. Building Enrollment? _____

8. Number of temporary structures (portables) used in conjunction with the building?
_____ .

9. Is the building accessible to physically handicapped? YES NO

10. Has the district deferred maintenance/capital outlay/ renovation for this building due to lack of funds? YES NO

11. (If applicable) Briefly describe the needed renovations or capitol outlay projects?

	Estimated Costs
Roofing	_____
Heating System	_____
Building Structure	_____
Technology Needs	_____
Grounds	_____
Other(describe)	_____

12. Total estimated cost of deferred repairs or renovations? _____

13. Your assessment of the condition of the building: (Circle one)

Excellent Good Fair Poor

APPENDIX D

LETTER TO RESPONDENTS

Dean Atkins
885 Dakin Road
Dansville, MI 48819

Dear

As a practicing Superintendent at Dansville Schools and as part of my Doctoral study at Michigan State University, I ask that you fill out and return the enclosed questionnaire. It is my hope that data from the enclosed questionnaire can be used to convince the legislature to assist local districts in equalizing debt retirement millage. The district (color) portion of the questionnaire will take less than 10 minutes to complete. Each building level questionnaire (color) will take less than 15 minutes to complete. I will be able to provide you with a Replacement Cost Index for each building; if you desire the results please check the box at the bottom of the questionnaire.

The purpose of the survey is to assess the need for renovation of existing schools or the need for construction of new buildings in K-12 school districts across the State. I expect to gather information on building infrastructure and make recommendations to the legislature and educational groups for possible state wide bond issues or some method for state assistance to help pay debt retirement.

The survey, of course, is completely voluntarily. You indicate your voluntary agreement to participate by completing and returning this questionnaire. Only the investigator will see the raw data, individual buildings will not be identified in compiling the data. The person filling out the survey is guaranteed complete anonymity. If you have questions or concerns please contact me at (517) 623-6129(w) or 623-6322.

Enclosed please find one copy of the district survey and copies for each building of the building level survey. Feel free to copy the questionnaire if I have not included enough forms.

In advance, thank you for you assistance and time in completing the questionnaire.

Sincerely,

APPENDIX E

DISTRICT DATA

SCHOOL NAME	ID	ENROLL	DIST SEV 1000000	SEV/ PUPIL	TOTAL BUDGET	MAINT BUDG	C&O MO	RENOVAT WO/BOND	RENOVAT PAST 10 COSTS	DIST DEF MAINT	DEBT LEVY	DEBT RETIRE YEAR
CASEVILE	102	273	$7,800,000	$28,571	$1,400,000	$132,425	$6,000	Y	$80,000	$48,000	0.00071	1994
	102a											
EPB	103	1335	$172,400,000	$129,139	$5,637,995	$178,000	$26,000	y	$900,000	$710,000	0	
	103a											
	103b											
	103c											
	103d											
	103e											
HARBOR BEACH	104	934	$113,445,000	$121,461	$3,956,000	$286,000	$15,000	Y	$500,000	$345,000	1.06	1997
	104A											
	104B											
NORTH HURON	105	743	$107,600,000	$144,818	$3,100,000	$1,416,728	$157,634	n		$25,000	9	1997
	105a											
OWENDALE	106	326	$29,700,000	$91,104	$1,500,000	$1,788,103	$198,955	n		$350,000	4.12	2010
	106a											
PORT HOPE	107	136	$26,367,000	$193,875	$856,000	$57,923	$14,000	N		$49,000	0	
	107a											
UBLY	108	910	$71,000,000	$78,022	$3,500,000	$225,000	$20,000	Y	$100,000	$225,000	4	2006
	108A											
EAST LANSING	201	4003	$566,300,000	$141,469	$26,879,000	$1,123,325	$150,000	Y	$33,200,000	$0	3.89	2014
	201A											
	201B											
	201C											
	201D											
	201E											
	201F											
	201G											
	201H											
	201I											
	201J											
LANSING	202	22349	$1,551,280,000	$69,412	$128,000,000	$4,000,000	$1,360,000	y	$8,000,000	$38,899,751	1.91	2009
	202a											
	202b											
	202c											
	202d											
	202e											
	202f											
	202g											
	202h											
	202i											
	202j											
	202k											

	202l											
	202m											
	202n											
	202o											
	202p											
	202q											
	202r											
	202s											
	202t											
	202u											
	202v											
	202w											
	202x											
	202y											
	202z											
	202aa											
	202ab											
	202ab											
	202ac											
	202ad											
	202ae											
	202af											
	202ag											
	202ah											
	202ai											
	202aj											
	202ak											
	202al											
	202am											
	202an											
	202ao											
	202ap											
DANSVILLE	203	890	$57,000,000	$64,045	$4,300,000	$375,547	$2,500	y	$300,000	$520,000	1.6	1998
	203a											
	203b											
	203c											
HASLETT	204	2656	$202,834,302	$76,368	$12,754,197	$1,253,153	$113,501	Y		$1,880,000	7.63	2019
	204A											
	204B											
	204C											
	204D											
	204E											
HOLT	205	4871	$283,440,200	$58,189	$22,162,330	$2,000,000	$131,174	N	$2,500,000	$4,640,000	7.1	2021
	205A											
	205B											

	205C											
	205D											
	205E											
	205F											
	205G											
	205H											
LESLIE	206	1575	$70,401,957	$44,700	$7,013,000	$616,500	$94,000	y	$2,000,000	$0	4.4	2004
	206a											
	206b											
	206c											
MASON	207	3423	$241,800,000	$70,640	$17,237,000	$1,953,825	$490,000	Y	$500,000	$5,303,000	1.8	2003
	207A											
	207B											
	207C											
	207D											
	207E											
	207F											
OKEMOS	208											
STOCKBRIDGE	209	1810	$120,000,000	$66,298	$8,400,000	$823,000	$91,649	y	$1,388,000	$1,800,000	2.3	2003
	209a											
	209b											
	209c											
	209d											
	209e											
WAVERLY	210	3300	$550,000,000	$166,667	$23,343,078	$7,622,101	$63,734	Y	$2,000,000	$1,233,000	0	
	210A											
	210B											
	210C											
	210D											
	210E											
	210F											
	210G											
WEBBERVILLE	211	890	$43,000,000	$48,315	$3,968,000	$471,500	$40,000	Y	$3,500,000	$240,000	7.45	2014
	211A											
	211B											
WILLIAMSTON	212	1672	$133,009,359	$79,551	$8,009,780	$908,421	$10,000	Y	$1,000,000	$1,050,000	5.3	2008
	212a											
	212b											
	212c											
GERRISH HIGGNS	301	1804	$268,000,000	$148,559	$7,100,000	$423,689	$73,000	N		$0	0	
	301a											
	301b											
	301c											
HOUGHTON LAKE	302	1956	$274,000,000	$140,082	$7,900,000	$783,254	$46,500	N		$0	2.5	
	302a											

	302b											
	302c											
	302d											
	302e											
BYRON	401	1168	$70,300,000	$60,188	$5,040,000	$594,000	$50,000	N		$141,000	2.568	2002
	401A											
	401B											
	401C											
LAINGSBURG	403	1126	$66,670,642	$59,210	$4,915,169	$516,349	$27,500	Y	$300,000	$480,000	7.45	2023
	403A											
	403B											
	403C											
NEW LOTHROP	404	913	$50,000,000	$54,765	$4,000,000	$364,000	$12,000	N	$125,000	$0	7.4	2027
	404A											
	404B											
PERRY	405	1951	$84,000,000	$43,055	$7,500,000	$725,000	$186,000	Y		$0	4.5	2010
	405a											
	405b											
	405c											
	405d											
MONROE	501	7246	$1,028,600,000	$141,954	$38,600,000	$4,421,208	$717,163	y	$2,000,000		0	
	501a											
	501b											
	501c											
	501d											
	501e											
	501f											
	501g											
	501h											
	501i											
	501j											
	501k											
	501l											
	501m											
SUMMERFIELD	508	895	$62,162,389	$69,455	$3,694,826	$499,744	$44,632	N	$30,000	$55,000	3.2	2002
	508A											
	508B											
WHITFORD	509	749	$81,316,084	$108,566	$3,677,404	$509,686	$128,054	Y	$500,000	$1,800,000	1.1	1994
	509A											
	509B											
NICE	601	1701	$79,800,000	$46,914	$8,500,000	$630,000	$27,000	Y	$700,000	$895,000	2.6	2002
	601A											
	601B											
	601C											
	601D											
	601E											

GWINN	602	2979	$83,621,560	$28,070	$13,825,076	$219,090	$150,000	Y	$1,000,000	$1,550,000	0	
	602A											
	602B											
	602C											
	602D											
	602E											
	602F											
BOYNE CITY	701	1414	$180,325,014	$127,528	$7,507,609	$138,488	$45,688	N	$500,000	$4,550,000	1.7	1993
	701A											
	701B											
	701C											
BOYNE FALLS	702	343	$32,300,000	$94,169	$1,275,000	$104,047	$14,000	Y	$700,000	$0	3	1998
	702A											
COPPERSVILLE	805	2630	$159,600,000	$60,684	$10,000,000	$1,103,760	$10,000	Y	$1,750,000	$0	4.72	2005
	805A											
	805B											
	805C											
	805D											
ZEELAND	809	3409	$350,200,000	$102,728	$15,200,000	$540,000	$92,500	N		$573,000	2.65	2001
	809A											
	809B											
	809C											
	809D											
	809E											
	809F											

	YEAR BUILT	ORGINIAL COST	RENOVA COST	REPLACE COST	GRADE LEVELS	NUMBER STUDENTS	PORTABLES	PHY HDIC ASSESS	DEFERRED MAINT??	ROOF	HEAT	STRUCT	TECH
102A	1950	$58,000	$1,000,000	$3,000,000	K–12	287		Y	Y				
103a	1935	$500,000	$500,000	$4,000,000	K–5	280		N	y	$100,000	$50,000		$50,000
103b	1940	$700,000	$300,000	$2,500,000	K–5	185		N	Y	$50,000		$20,000	$25,000
103c	1942	$700,000	$350,000	$2,000,000	K–5	135		Y	Y	$50,000		$20,000	$25,000
103d	1979	$1,700,000	$100,000	$2,300,000	6–8	340		Y	Y	$25,000			$20,000
103e	1959	$1,200,000	$200,000	$6,000,000	9–12	425		Y	Y	$150,000		$25,000	$50,000
104A	1949		$750,000		7–12	499		Y	Y	$15,000	$50,000		
104B	1970		$50,000		K–6	434		Y	Y		$150,000		$30,000
105a	1947	$350,000	$500,000	$4,500,000	k–12	726		n	y	25000			
106a	1926	$175,000	$1,500,000	$3,200,000	k–12	302		n	y		50000	100000	50000
107A	1925		$250,000	$3,000,000	K–12	136		N	N	$25,000		$6,500	
108A	1935		$400,000	$10,000,000	K–12	910		N	Y	$50,000	$75,000		$100,000
201A	1951		$2,500,000	$3,800,000	K–5	312		Y	N				
201B	1952		$700,000	$1,011,000	K–5	203	1	Y	N				
201C	1952		$1,200,000	$1,900,000	K–5	386		Y	N				
201D	1960		$2,800,000	$4,500,000	K–5	417		Y	N				
201E	1948		$1,100,000	$2,500,000	K–5	196		Y	N				
201F	1962		$3,200,000	$2,965,000	K–5	252	1	Y	N				
201G	1963		$2,800,000	$3,850,000	K–5	187		Y	N				
201H	1922		$4,200,000	$7,300,000	6–8	392		N	N				
201I	1968	$3,600,000	$1,300,000	$7,444,000	6–8	511		N					
201J	1952		$3,300,000	$14,600,000	9–12	1142		Y	N				
202a	1913			$3,950,000	k–5	417		n	y				
202b	1965	$405,000	$146,000	$2,300,000	k–5	345		n	y				
202c	1964	$387,000	$880,000	$2,700,000	k–5	298		n	y				
202d	1955	$480,000		$2,000,000	k–5	266		n	y				
202e	1957	$470,000	$50,000	$2,300,000	k–5	357		n	y				
202f	1958		$390,000	$2,300,000	k–5	317		n	y				
202g	1950	$380,000	$512,000	$3,080,000	k–5	432		n	y				
202h	1954	$440,000	$80,000	$1,900,000	k–5	299		n	y				
202i	1957	$240,000	$420,000	$2,600,000	k–5	377		n	y				
202j	1953	$354,000	$245,000	$5,600,000	k–5	380		n	y				
202k	1961	$470,000		$2,200,000	k–5	355		n	y				

202l	1954			$1,640,000	k–5	310		n	y				
202m	1960		$345,000	$1,800,000	k–5	278		n	y				
202n	1923		$300,000	$1,340,000	6–12	70		n	y				
202o	1958	$445,000	$93,000	$2,300,000	k–5	326		n	y				
202p	1956	$471,000	$205,000	$2,600,000	k–5	363		n	y				
202q	1951	$160,000	$310,000	$1,800,000	k–5	287		n	y				
202r	1949			$2,050,000	k–5	283		n	y				
202s	1918		$200,000	$1,900,000	k–5	293		n	y				
202t	1915	$560,000	$20,000	$2,200,000	k–5	196		n	y				
202u	1948	$500,000	$300,000	$2,600,000	k–5	342		n	y				
202v	1976	$2,300,000		$5,000,000	k–5	617		n	y				
202w	1939	$20,000	$110,000	$1,700,000	k–5	234		n	y				
202x	1954	$100,000	$400,000	$2,700,000	k–5	398		n	y				
202y	1965	$300,000	$300,000	$2,800,000	k–5	459		n	y				
202z	1964	$400,000		$2,100,000	k–5	221		n	y				
202aa	1976	$1,340,000		$2,600,000	k–5	270		n	y				
202ab	1948	$130,000	$780,000	$2,500,000	k–5	350		n	y				
202ab	1930		$140,000	$1,900,000	k–5	218		n	y				
202ac	1960	$490,000		$2,900,000	k–5	381		n	y				
202ad	1924			$2,800,000	k–5	289		n	y				
202ae	1968	$530,000	$340,000	$2,900,000	k–5	320		n	y				
202af	1952	$150,000	$370,000	$2,500,000	k–5	423		n	y				
202ag	1968	$600,000	$400,000	$3,000,000	k–5	385		n	y				
202ah	1928			$19,680,000	9–12	1614		n	y				
202ai	1958	$4,300,000	$500,000	$20,000,000	9–12	1628		n	y				
202aj	1971	$6,100,000	$2,200,000	$19,500,000	9–12			n	y				
202ak	1942	$1,950,000	$1,500,000	$9,120,000	9–12	1431		n	y				
202al	1970	$4,500,000	$200,000	$14,200,000	6–8	1292		n	y				
202am	1937		$2,500,000	$10,950,000	6–8	1164		n	y				
202an	1920		$500,000	$10,000,000	6–8	1101		n	y				
202ao	1963	$2,400,000	$300,000	$12,400,000	6–8	1290		n	y				
202ap													
203a	1921		$500,000	$2,000,000	6–8	220		n	y		$100,000	$75,000	$25,000
203b	1959	$350,000	$350,000	$2,100,000	k–5	408		n	y		$150,000	$25,000	$25,000
203c	1976	$1,000,000		$2,700,000	9–12	270	2	y	y				$25,000
204A	1970	$3,222,625	$500,000	$30,000,000	9–12	625		Y	Y	$50,000	$50,000	$100,000	$100,000
204B	1957		$4,000,000	$15,000,000	6–8	550		Y	Y	$50,000	$50,000	$200,000	$100,000
204C	1961	$140,000	$3,000,000	$9,000,000	2–5	400		Y	Y	$50,000			$50,000
204D	1940		$3,000,000	$9,000,000	2–5	400		Y	Y	$50,000			$50,000
204E	1957		$3,500,000	$9,000,000	K–1	450	1	Y	Y	$30,000			$50,000
205A	1958		$4,500,000	$25,000,000	10–12	915		Y	Y				$1,000,000
205B	1976		$2,000,000	$18,000,000	8–9	712		Y	N				

205C	1914		$4,000,000	$10,000,000	6–7	794	2	Y	N				
205D	1952			$4,000,000	K–5	456		Y	N				$300,000
205E	1949			$4,000,000	K–5	514	1	N	Y				$300,000
205F	1968			$308,000,000	K–5	416		N	Y		$40,000		$300,000
205G	1952			$4,000,000	K–5	488		N	Y				$300,000
205H	1952			$3,800,000	K–5	477		N	Y				$400,000
206a	1963	$800,000	$1,620,000	$4,700,000	8–12	560	3	Y	N				
206b	1952	$600,000	$2,500,000	$3,315,000	K–4	605		Y	N				
206c	1871	$30,000	$1,500,000	$2,050,000	5–7	381		Y	N				
207A	1964			$4,000,000	K–5	400		Y	Y		$90,000	$314,000	$150,000
207B	1952			$5,000,000	K–5	410	1	N	Y			$725,000	$175,000
207C	1964			$2,800,000	K–5	425	1	Y	Y		$20,000	$260,000	$450,000
207D	1950			$4,000,000	K–5	385		N	Y		$34,000	$225,000	$150,000
207E	1960			$16,600,000	9–12	1000	8	Y	Y		$425,000	$1,250,000	$150,000
207F	1968			$12,035,000	6–8	780	1	Y	Y			$346,000	$100,000
209a	1955	$650,000	$150,000	$8,000,000	1–4	365		y	y		100000	65000	35000
209b	1929		$350,000	$11,000,000	5–8	560		y	y	100000		300000	50000
209c	1973	$4,400,000	$600,000	$18,000,000	9–12	510		y	y	150000	180000	150000	80000
209d	1954	$450,000		$6,000,000	1–4	220		y	y	75000	50000	210000	25000
209e	1912			$5,000,000	k	175		y	y	50000		150000	30000
210A	1962		$100,000	$2,855,000	K–4	345		Y	Y	$80,000			$25,000
210B	1967		$70,000	$2,090,000	K–4	341	4	Y	Y				$22,000
210C	1966		$100,000	$2,800,000	K–4	332		Y	Y	$125,000			$28,000
210D	1959		$60,000	$1,900,000	K–4	244	4	N	Y				$28,000
210E	1963		$150,000	$7,900,000	5–7	518		Y	Y	$50,000			
210F	1968		$800,000	$10,000,000	7–8	521		Y	Y	$50,000	$200,000		$60,000
210G	1963		$500,000	$15,300,000	9–12	998		N	Y		$400,000		$100,000
211A	1912		$2,000,000	$10,000,000	K–6	500		Y	Y	$4,000	$20,000	$20,000	$15,000
211B	1959		$1,250,000	$6,614,460	7–12	350	3	Y	Y	$50,000	$5,000		$15,000
212a	1950	$3,000,000	$500,000	$7,000,000	K–5	788		Y	Y	$150,000	$200,000		$100,000
212b	1960	$1,000,000	$500,000	$8,000,000	6–8	381		Y	Y	$100,000	$100,000		$100,000
212c	1988	$8,000,000		$11,000,000	9–12	454		Y	N				
301a	1984			$4,200,000	k–5	679							
301b	1926			$3,400,000	6–8	419							
301c	1965			$7,500,000	9–12	509							
302a	1988			$7,700,000	9–12	579							

302b	1975			$4,000,000	6–8	448							
302c	1960			$2,100,000	k–5	437							
302d	1921			$400,000	k–5	80							
302e					k–5	446							
401A	1972	$1,000,000		$6,150,000	6–8	271		Y	Y				
401B	1966	$400,000	$100,000	$2,620,000	K–5	515	1	Y	Y				
401C	1962	$650,000	$300,000	$2,650,000	9–12	374		Y	Y				
403A	1950		$309,000	$7,000,000	6–8	270		N	Y	$200,000			
403B	1959	$350,000	$955,000	$8,000,000	K–5	550		N	Y	$200,000			
403C	1991	$7,194,255		$8,000,000	9–12	350		Y	N				
404A	1932			$3,500,000	K–6	461		Y	N				$40,000
404B	1973	$4,500,000	$125,000		7–12	452		Y	N				$40,000
405a	1961	$8,000,000	$4,400,000		9–12	600		y					
405b	1952		$3,000,000		7–8	430		n					
405c	1961		$2,500,000		k–6	560		n					
405d	1928		$2,500,000		k–6	340		n					
501a	1953		$1,300,000	$6,440,000	7–8	568		y	n				
501b	1918		$600,000	$3,080,000	k–6	342		n	n				
501c	1949		$700,000	$4,900,000	k–6	815		y	n				
501d	1958		$150,000	$1,900,000	k–6	406		y	n				
501e	1960		$200,000	$2,700,000	k–6	275		y	n				
501f	1921		$1,300,000	$6,000,000	k–6	428		y	n				
501g	1958		$300,000	$2,400,000	k–6	434		y	n				
501h	1975		$2,800,000	$24,700,000	9–12	1573		y	n				
501i	1928		$2,700,000	$12,100,000	7–8	1126		n	n				
501j	1961		$400,000	$3,700,000	k–6	456		y	n				
501k	1954		$300,000	$8,000,000	k–6	289		y	n				
501l	1927		$555,000	$2,000,000	k–6	238		y	n				
501m	1925		$750,000	$2,000,000	k–6	378		y	n				
508A	1945			$3,600,000	K–8	616		Y	Y	$10,000	$30,000	$15,000	
508B	1975	$2,500,000	$75,000	$5,100,000	9–12	270		Y	N				
509A	1966	$575,000		$1,387,200	1–5	352		Y	Y				$100,000
509B	1956	$725,000		$4,182,000	7–12	397		Y	Y		$100,000		$50,000
601A	1917		$500,000	$4,000,000	K–8	317	1	N	Y	$65,000	$89,000	$35,000	$50,000
601B	1926		$200,000	$3,500,000	K–5	220		N	Y		$40,000	$20,000	$50,000
601C	1935		$600,000	$4,000,000	K–5	250	2	N	Y		$50,000	$30,000	$50,000
601D	1934		$500,000	$7,000,000	K–8	417	2	N	Y		$85,000	$25,000	$50,000
601E	1974	$4,800,000	$150,000	$7,500,000	9–12	562		N	Y		$40,000	$100,000	$50,000

602A	1958	$713,603	$250,000	$2,000,000	K–6	509	2	Y	Y				
602B	1959	$636,627	$250,000	$2,500,000	K–6	551	4	Y	Y				
602C	1962	$695,000	$250,000	$3,300,000	K–6	613	2	Y	Y				
602D	1965	$320,000	$150,000	$1,100,000	K–6	194		Y	Y				
602E	1948	$900,000	$400,000	$3,300,000	7–8	383		Y	Y				
602F	1963	$3,400,000	$1,000,000	$9,125,000	9–12	729		Y	Y		$250,000		
701A	1930			$7,000,000	5–8	464	1	N	Y				
701B	1960	$995,000	$700,000	$6,000,000	9–12	336		Y	N			$1,500,000	$500,000
701C	1978	$1,298,500		$4,000,000	K–4	614	3	Y	Y	$200,000	$300,000		$300,000
702A	1945				K–12	343		Y	N				
805A	1989	$2,000,000		$2,500,000	4–5	363		Y	N				
805B	1985	$2,750,000	$670,000	$3,700,000	K–3	751		Y	N				
805C	1975	$4,200,000	$850,000	$6,072,000	6–8	502		Y	N				
805D	1958	$2,600,000	$1,500,000	$8,400,000	9–12	639		Y	Y	$100,000		$500,000	$100,000
809A	1965	$1,969,000	$1,400,000	$6,500,000	6–8	800	8	Y	N				$450,000
809B	1951	$340,000	$1,400,000	$2,740,000	1–5	485		Y	Y	$1,500			
809C	1934	$600,000		$1,300,000	K	320		Y	Y				
809D	1956	$600,000	$5,500,000	$13,500,000	9–12	920	2	Y	Y				
809E	1962	$725,000	$530,000	$2,900,000	1–5	485		Y	Y				
809F	1957	$470,000	$2,600,000	$3,500,000	1–5	425		Y	Y				

		ASSESSMEID		
GROUND	OTHER	BLDG. TOTAL		
				102
	$5	$48,000	GOOD	102a
				103
	$20,000	$220,000	fair	103a
$20,000		$115,000	GOOD	103b
$10,000		$105,000	GOOD	103c
		$45,000	EXCELLEN	103d
		$225,000	GOOD	103e
				104
$80,000		$145,000	FAIR	104A
$20,000		$200,000	FAIR	104B
				105
		25000	fair	105a
				106
	150000	350000	good	106a
				107
$18,000		$49,000	GOOD	107a
				108
		$225,000	EXC	108A
				201
			EXC	201A
			FAIR	201B
			GOOD	201C
			GOOD	201D
			FAIR	201E
			GOOD	201F
			EXC	201G
			POOR	201H
			GOOD	201I
			GOOD	201J
				202
		$588,153	fair	202a
		$601,896	good	202b
		$719,450	good	202c
		$170,255	good	202d
		$654,710	good	202e
		$504,600	good	202f
		$947,705	good	202g
		$468,995	good	202h
		$440,810	good	202i
			good	202j
		$738,400	good	202k

		$385,210	good	202l
		$611,650	good	202m
		$630,850	fair	202n
		$356,700	good	202o
		$448,465	good	202p
		$341,350	good	202q
		$406,850	good	202r
		$556,870	fair	202s
		$637,800	good	202t
		$484,750	good	202u
		$192,059	good	202v
		$287,409	good	202w
		$745,271	good	202x
		$750,201	good	202y
		$364,917	good	202z
		$85,682	good	202aa
		$748,702	good	202ab
		$756,284	good	202ab
		$974,263	good	202ac
		$1,117,489	fair	202ad
		$313,760	good	202ae
		$463,210	good	202af
		$122,005	good	202ag
		$4,695,400	fair	202ah
		$2,645,960	good	202ai
		$1,485,280	good	202aj
		$2,627,830	good	202ak
		$926,850	good	202al
		$3,740,410	good	202am
		$1,632,000	fair	202an
		$3,529,300	good	202ao
				202ap
				203
		$200,000	poor	203a
$10,000	$60,000	$270,000	fair	203b
$25,000		$50,000	good	203c
				204
$700,000		$1,000,000	GOOD	204A
	$200,000	$600,000	FAIR	204B
		$100,000	EXC	204C
		$100,000	EXC	204D
		$80,000	EXC	204E
				205
	$400,000	$1,400,000	FAIR	205A
		$400,000	GOOD	205B

		$300,000	GOOD	205C
	$500,000	$800,000		205D
	$400,000	$700,000	GOOD	205E
		$340,000	GOOD	205F
		$300,000	FAIR	205G
		$400,000	GOOD	205H
				206
			EXCELLEN	206a
			EXCELLEN	206b
			FAIR	206c
				207
	$45,000	$799,000	GOOD	207A
	$60,000	$860,000	GOOD	207B
	$84,000	$714,000	GOOD	207C
	$25,000	$434,000	GOOD	207D
$2,250,000		$2,050,000	FAIR	207E
		$446,000	EXC	207F
				208
				209
		200000	good	209a
		450000	poor	209b
		560000	exc	209c
		360000	fair	209d
		230000	fair	209e
				210
$20,000		$125,000	EXCELLEN	210A
		$22,000	EXC	210B
$25,000		$178,000	EXC	210C
$20,000		$48,000	EXC	210D
		$50,000	EXC	210E
		$310,000	GOOD	210F
		$500,000	EXC	210G
				211
$20,000	$55,000	$150,000	GOOD	211A
$20,000		$90,000	GOOD	211B
				212
$50,000	$200,000	$700,000	GOOD	212a
	$50,000	$350,000	FAIR	212b
			GOOD	212c
				301
			good	301a
			good	301b
			good	301c
				302
			good	302a

			good	302b
			exc	302c
			fair	302d
				302e
				401
	$130,000	$130,000	GOOD	401A
	$4,000	$4,000	GOOD	401B
	$7,000	$7,000	GOOD	401C
				403
	$80,000	$280,000	FAIR	403A
		$200,000	GOOD	403B
			EXCELLEN	403C
				404
$5,000			FAIR	404A
			EXC	404B
				405
			good	405a
			good	405b
			good	405c
			good	405d
				501
			good	501a
			good	501b
			good	501c
			good	501d
			good	501e
			good	501f
			good	501g
			good	501h
			good	501i
			good	501j
			good	501k
			good	501l
			good	501m
				508
		$55,000	FAIR	508A
			GOOD	508B
				509
	$1,500,000	$1,600,000	GOOD	509A
$50,000		$200,000	GOOD	509B
				601
$10,000		$250,000	GOOD	601A
$10,000		$120,000	FAIR	601B
$10,000		$140,000	GOOD	601C
$25,000		$185,000	FAIR	601D
$10,000		$200,000	GOOD	601E

				602
	$200,000	$200,000	GOOD	602A
	$50,000	$50,000	GOOD	602B
	$50,000	$50,000	GOOD	602C
	$700,000	$700,000	GOOD	602D
	$50,000	$50,000	GOOD	602E
	$250,000	$500,000	GOOD	602F
				701
		$500,000	POOR	701A
$500,000	$600,000	$3,100,000	FAIR	701B
$150,000		$950,000	GOOD	701C
				702
			GOOD	702A
				805
			EXC	805A
			EXC	805B
			GOOD	805C
$15,000		$715,000	FAIR	805D
				809
	$83,000	$533,000	GOOD	809A
	$6,100	$7,600	GOOD	809B
	$1,700	$1,700	GOOD	809C
	$11,300	$11,300	FAIR	809D
	$14,000	$14,000	GOOD	809E
	$5,500	$5,500	GOOD	809F

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