

Capital Fund Mechanisms and the Condition of Facilities in Rural and Small Schools

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Rural and small schools through-out the country are facing serious problems concerning their ability to finance adequate maintenance, repair, and replacement of school facilities. The deterioration of school facilities is a constant process and recent estimates of the cost of needed repairs for school buildings in the United States surpass \$25 billion. Kansas is one of 14 states with no state supported program designed to assist school districts with the financing of needed capital building projects. This lack of state support has resulted in the gradual deterioration of facilities in many districts. As the results of this study indicated, the condition of school facilities—measured by their replacement cost index including deferred maintenance—was closely related to the amount of debt that the school district population could support. It was also shown that the estimates for needed repair and replacement of facilities exceed an estimated \$56 million in rural and small schools in Kansas. Further it was discussed that if wealth-poor districts could not generate enough support to adequately maintain school buildings, serious equity issues need to be addressed by the state's legislature.

INTRODUCTION

The deterioration of school facilities is a constant process. In every school district in every state, administrators and school board members face decisions concerning the repair and replacement of their facilities. While some districts carefully monitor needed repairs and secure appropriate funds, other districts simply add needed repairs to an ever-expanding list. Nationwide, the cost of this maintenance gap has grown to an estimated \$25 billion, and the trend is not diminishing [7].

School buildings are the primary long-term resource of a school district. Personnel, programs, and political situations will come and go but it is the facilities which remain, and over time, define the very nature of the school district. The successful, long-term operation of a school district requires careful planning for the repair and replacement of worn-out and debilitated facilities. Increasing concern over other financial issues has created a fiscal strain on many school districts. Requests to support improved teacher salaries, fund merit pay and career ladder programs, the current instability of our economic system and high interest rates, and the political realities of passing bond elections, have forced many districts to deferred needed repair and replacement projects. A lack of adequate funding for repair and maintenance projects has severely diminished the ability of many districts to maintain facilities in an appropriate condition until such time that their “. . . useful life requires replacement . . .” [4].

Rural and small schools through-out this country are confronted with serious problems concerning their ability to finance adequate maintenance, repair, and replacement programs for their school buildings. In 1980, there were fourteen states which had no state supported pro-

gram to assist school districts with this problem [6]. Without state assistance, local districts must depend on a variety of local revenue sources to support the repair and replacement of facilities. This primary dependency on local mil levies and bond elections places an unequal burden on school districts in rural, less wealthy areas, and hampers their ability to support capital improvement projects.

The study reported below was supported by the Center for Rural and Small Schools at Kansas State University, and attempted to analyze those factors which influenced the ability of rural and small schools to adequately repair and replace school facilities. Rural schools in Kansas were selected for use in this study because of their dependence on bond elections in support of capital improvement projects and the vast differences in property wealth and local effort which exist in this state. In 1983, Kansas ranked third in the Plains Region in debt load behind North and South Dakota, and 11th in that category in the nation as a whole [1]. In addition, for the 1983 - 1984 school year approximately 12% of Kansas School districts receive no state aid in support of operating expenses due to high property wealth generated from public utility and oil company operations, while others receive as much as 82% of their general fund budget in state aid according to the provisions of the Kansas School District Equalizing Act (KSDEA) [8]. Table 1 indicates the extent of these disparities for the state.

BACKGROUND FOR THE STUDY

The KSDEA of 1973, as amended through 1984, allowed school districts to generate funds in support of capital repair, replacement, and renovation activities by means of any of three basic mechanisms defined in Kan-

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TABLE 1

Summary Information on Size, Wealth, and Tax Rates for Kansas Schools

Information courtesy of the Kansas State Department of Education, Topeka, Kansas

	General Fund Budget Per Pupil ('83-'84)	FTE Enrollment (1983)
State Mean	\$3,197.00	1,271.01
Lowest	\$1,989.40	84.00
Median	\$2,997.90	539.75
Highest	\$6,028.27	41,690.40

PER PUPIL BUDGET BY ENROLLMENT CATEGORIES

Enrollment Category	Number of Districts	Per Pupil Budget		
		Lowest	Median	Highest
Less than 400	104	\$2,602.73	\$3,691.74	\$6,028.27
400-1799.9	161	\$1,989.40	\$2,898.31	\$4,175.11
1800-9999.9	35	\$2,174.77	\$2,279.08	\$2,901.74
Greater than 10,000	4	\$2,440.81	\$2,536.04	\$2,653.21

SUMMARY DATA FOR GENERAL FUND TAX RATES, AND ADJUSTED PROPERTY VALUATION, TAXABLE INCOME AND SCHOOL DISTRICT WEALTH

	Actual Tax Rate	Valuation (per pupil)	Income (per pupil)	Wealth (per pupil)
Lowest	9.08 mils	\$ 15,582	\$ 6,091	\$ 26,309
Median	43.61 mils	\$ 85,830	\$ 17,584	\$104,676
Highest	79.40 mils	\$536,164	\$ 37,220	\$559,939

sas Statute 72-1106 as amended. Briefly, revenue for capital projects could be derived from the following:

1. Bond elections, the value of which cannot exceed 14% of assessed property valuation (which averaged approximately 6% of fair market value for items held in inventory, business, and commercial property) unless permission was granted for an exception by the State Department of Education.
2. General fund transfers to a capital fund including interest from investments in idle funds are allowed during the year. Such transfers can not exceed 2% of the district's general fund budget if that district had previously budgeted for a five-year capital outlay levy of at least 3.5 mills—described in 3. below.
3. The "4 mil - 5 year" levy mechanism for capital projects allowed school districts to levy an additional tax, for predetermined projects, of 1 to 4 mils during each of the following five years with approval of the school board. However, residents of the district could defeat the levy proposal by petition and a simple majority vote in a subsequent referendum.

In 1984, the three hundred and five school districts in Kansas varied in size from less than 100 students to more than 40,000. Two hundred and twenty-three districts with enrollments less than 1000 students were surveyed to provide information on the age, the original construction cost, the date and value of major improvements, and the estimated current replacement cost of each building operated by the district. In addition, data were collected on the nature of repairs and maintenance which had been deferred to date and their estimated value. The descrip-

tive information for the district which responded is summarized as follows:

1. The average age of all buildings in the sample was 36 years;
2. The original costs and replacement costs by enrollment groups (used for KSDEA state aid purposes) were;

District Size	Average Original Cost Per Building	Average Replacement Cost Per Building
Less than 200	\$261,000	\$1,470,000
201-399	\$356,000	\$1,540,000
400-1000	\$594,000	\$2,340,000

3. The respondents indicated that 21% of the buildings were inadequate for handicapped students, and 11.3% were inadequate for current enrollment needs;
4. Roof repairs, heating and air conditioning equipment, energy efficient retrofits, window and door replacements were the major repair concerns of the respondents.
5. The total estimated value of deferred maintenance for the school districts which responded was \$25,268,000 or an estimated \$56,151,000 for all districts surveyed.

In addition to collecting descriptive information, a replacement cost index was calculated for each building described by the respondents. The replacement cost index (RCI), also referred to as the Index of Condition [5], and previously described by Honeyman and Stewart [2] was used to calculate the ratio of the original cost of a building plus the value of all capital improvements and additions in historic dollars to the current replacement cost of each building. Historic dollars were used in an attempt to make comparisons between buildings of disparate costs of those same facilities. The formula was given as:

$$RCI = \frac{OC + (I1 + I2 + I3 + \dots + In)}{CRC} \quad (Eq. 1)$$

where OC was the original cost, I1 to In were the costs of improvements, and CRC was the current replacement cost of the building. A high value for the computed index for a school building or groups of buildings indicated that repair and renovations had kept pace with the age and long term condition of the building as measured by the cost of such improvements at the time they occurred. A low ratio would be indicative of a building or group of buildings for which repair and improvements had been neglected over the years.

A second equation was developed which included the estimated costs of deferred maintenance such that:

$$RCI_2 = \frac{OC + (I1 + I2 + I3 + \dots + In) + DC}{CRC} \quad (Eq. 2)$$

where DC is the total cost of deferred maintenance. The value of RCI₂ when compared with RCI gave an indication of the effect deferring major repairs and needed maintenance had on the condition of that facility; a greater disparity in the two values for the same building indicating more extensive repair and maintenance needs. By monitoring the changes in these indices an approx-

TABLE 4

Pearson Product Correlations for Level of Outstanding Debt with Other Variables in the Study

Correlations for <i>Level of Outstanding Debt</i> with: Variable	Correlation
District Enrollment	.240
* Capital Outlay Budget	.450
* General Fund Budget	.315
* Current Level Debt service	.890
Use of the 4 Mill Levy	-.015
Bond Interest Transfers	.203
Transfers from General Fund	-.131
Interest from Idle Funds	-.127
* Taxable Income of Community	.369
Wealth of the Community	-.005
Per Pupil Wealth	-.111
Per Pupil Taxable Income	.102
Per Pupil Budget	.090

* Significant at $p < 0.05$

had a multiple R of 0.61 and explained approximately 37% of the variance in the dependent variable RCI_2 . As such, the level of outstanding debt of the school district was the best predictor of RCI_2 , the average replacement cost index of the school district including deferred maintenance. Appropriate beta weights and constants were generated.

In order to further describe this relationship, an additional correlation analysis was performed which compared debt outstanding with these same criterion variables. The results of this analysis, reported in Table 4, indicated that debt outstanding was significantly and positively correlated with debt service, capital outlay, general operating fund budget, and the taxable income level of the school district. Such a result was expected since it has been previously shown that the financial support for bonded elections is generated via both the property value, wealth mechanism, and through revenue which can be generated in proportion to the level of taxable income of the community [3]. The strength of the correlation in favor of the taxable income factor (0.3697), and its significance ($p = 0.009$), when compared with the other wealth factors should be noted.

CONCLUSIONS AND IMPLICATIONS OF THE STUDY

In this survey of rural and small schools in Kansas it was found that the condition of facilities was closely related to the level of outstanding debt of the school district (bonded indebtedness), the funding level of the capital outlay budget, and the extent to which interest earned from idle funds were transferred to the capital outlay fund. It was further shown that the best predictor of the condition of a school district's facilities was the level of bonded indebtedness of that district. Although caution is advised due to the small number of complete

cases used in the regression equation it is understandable that such a relationship should exist—renovations and new buildings are financed primarily through the bond mechanism which is significantly correlated with the level of taxable income of the community.

School buildings in many Kansas rural and small schools are very old and in need of replacement, and many "poor" school districts are unable to pass bond elections in support of such projects due to the high effort levels required to support them. Other mechanisms currently available to school districts for generating revenue to maintain adequate facilities had low correlations with replacement cost indices and were missing from the prediction equation. It is apparent from these results that the alternative funding mechanisms available to school districts were not being used to support local efforts to repair and replace school facilities.

It has been argued that the doctrine of fiscal neutrality—that a child's education should not be a function of a school district's wealth—should extend to all resources available to that district including its facilities. When wealth determines a community's ability to adequately repair and replace its educational facilities, serious equity questions must be asked. When state equalization efforts are concentrated on operating expenses, with no consideration of capital outlay, the result can be lower debt levels and decreased concern for repair and replacement of facilities by administrators of local school districts [9]. Local property wealth, and the level of taxable income should become primary considerations when discussing a school district's ability to repair and replace its facilities.

Small school districts, in the rural areas of Kansas, spend the most money, per pupil, to deliver educational programs to their students. According to the Kansas School District Equalization Act there is a legal mandate to equalize the resources available to school districts such that the cost of the delivery of educational programs to every child will be fair and equitable for all taxpayers. When questions concerning the cost of facilities are added to the list of needed resources, equity and a school district's ability to support capital development projects are in conflict. The need to raise additional revenue from an over-burdened, local, tax base places many small, rural school districts in jeopardy. The "wealth of a school district" does affect its ability to maintain adequate facilities.

Legislative changes must be enacted to help poor school districts repair and replace old facilities. New mechanisms, including state programs in support of capital improvement projects, must be developed. Without such change, wealthy districts will continue to develop new and improved facilities, while poor districts will continue to struggle with old, often unsafe, buildings.

REFERENCES

- Alexander, D., and Wood, C. The financing of educational facilities. *Planning and Changing*, 1983, 14(4), 206-213.

2. Honeyman, D.S., and Stewart, G.K. The threat of deferred maintenance. *Kansas School Board Journal*, 1985, 24(1), 11-25.
3. Hopeman, A. Problems and alternatives in capital financing for Minnesota elementary and secondary schools. A report to the Minnesota Legislature, ERIC ED188298, 1979.
4. Kaiser, H. Ed. *New directions for higher education #30, managing facilities more effectively*. San Francisco: Jossey Bass, 1980.
5. Petti, E. A statistical plan for asset management. *Management Focus*. May-June, 1978, 15-19.
6. Salmon, R., and Thomas, S.B. Financing public school facilities in the 80s. *Journal of Education Finance*, 1981, 7(1), 88-109.
7. The American Association of School Administrators (AASA), the Council of Great City Schools, and the National School Boards Association. [monograph] *The maintenance gap: deferred repair and renovation in the nation's elementary and secondary schools*. Washington, D.C., 1983.
8. The Kansas School District Equalization Act. A memorandum produced by the Kansas Legislative Research Department, Topeka, Kansas, 1983.
9. Wilkerson, W.R. *Problems and issues of fiscal neutrality in financing school construction*. The School Finance Task Force, U.S. Office of Education, H.E.W., 1973.