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Fire Insurance on Public School Property in Cook County, Illinois

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FIRE INSURANCE ON PUBLIC SCHOOL PROPERTY

IN COOK COUNTY, ILLINOIS

BY

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A Thesis Submitted in Partial Fulfilment
of the Requirements for the Degree of
Master of Arts
in
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1934

VITA

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CHAPTER I

FIRE INSURANCE

1. Introduction

Seventy per cent of the school districts in Cook County have but one school building each. A single fire might destroy all the educational facilities in one of these districts. The problem of insuring school property against loss by fire is, therefore, a vital phase of school business administration.

School districts in Illinois are not required by law to insure. Whether to insure or not; what type of insurance to carry; how much; - these, and many more important decisions are left to the discretion of the local Board of Education.

Excluding the City of Chicago, which does not insure against fire, the school districts of Cook County have over fifty million dollars¹ invested in buildings and equipment. Many economies are possible through proper insurance practice and methods when so much insurance is carried.

The purpose of this investigation is to report the prevailing practice and procedure followed in insuring public school property in Cook County.

This study makes an analysis of the conditions as found, in order to determine: (1) economies in insuring public school property, (2) ways to

1. Table VII, page 38.

reduce fire hazards, and (3) means of procuring better insurance protection.

In order that the subject of school fire insurance may be better understood, a brief review of the underlying principles of fire insurance, an explanation of some of the technical insurance terms, and the legal provisions in Illinois will be given in the succeeding pages of this chapter.

2. Definition of Terms

Insurance Companies

Mutual and stock companies are the two types of firms offering insurance against loss by fire. Although both companies relieve the insured of the risk of loss by fire upon the payment of a sum of money, there is a distinct difference in principle. Smith² summarizes the difference as follows:

Mutual fire insurance companies differ from stock companies in that, in the case of mutual companies, the insured enters in the business of fire insurance and shares in the profits of the enterprise and must help to make good the losses, if there be any.

In the stock company, the payment of a premium by the insured concludes all his obligations until the expiration of the policy. Gephart³ divides mutual organizations into local, town, and factory mutuals. He considers the principle alike for all three types of mutual companies, the title differences referring mainly to manner of formation.

Policy forms

The specific policy form is used for insuring each building separately. In this type, policies are usually issued covering only one building and its contents. The exact location of the building is given, and the amount of insurance carried on the building and contents is stated.

The blanket form of policy writes no specific amount for each build-

2. Smith, H.A., Economy in Public School Fire Insurance, p.8

3. Gephart, W.F., Principles of Insurance, Vol.2, p.49

ing. The insurance is written for the entire amount on all buildings and contents with no stated amounts for each.

Limiting Clauses

The two common types of limiting clauses are the co-insurance and three-quarter value. The purpose of these and other limiting clauses, such as average rates and three-fourth loss, is to have the insured assume a proportion of the risk and at the same time to reduce the premium.

According to Gephart,⁴ the three-fourth value clause:

...is one which provides that in the event of a loss the company is liable to an amount not to exceed three-fourths of the actual cash value of the property, and if other policies are in existence, then only for its pro rata share of this value. The prime purpose of this clause is to prevent over-insurance, just as the co-insurance clause is intended to encourage a reasonable amount of insurance.

Co-Insurance

Eighty per cent is usually required by state insurance laws⁵ and is the most common percentage of co-insurance. Since formerly owners insured at a small percentage of the property value, the co-insurance clause was introduced to force a higher insurance protection at a lower rate. In no case will the company be liable for a greater amount than that of the actual loss incurred. If the property is insured for the full eighty per cent of its value, the owner will receive, in the case of loss, eighty per cent of the true value of the loss. If the property is under-

4. Gephart, W.F., op.cit., p.184.

5. Not in the State of Illinois, see p.11

insured, he will receive only the fractional amount in indemnity that the amount of insurance bears to the insurable value. Smith⁶ reduces these computations to the following two formulas:

$$1. \text{ Amount of loss paid} = \frac{\text{Amount insured} \times \text{Amount of loss}}{80 \text{ per cent of insurable value}}$$

$$2. \frac{\text{Amount insured} \times \text{Amount of loss}}{80 \text{ per cent of insured value}} = \text{Amount of loss paid}$$

Appraisal

The true present value of property is its fixed appraisal, or, in other words, its reproduction cost at current prices of labor and material. A careful and true appraisal is a scientific process. This requires a great deal of information such as the unit values for many materials as well as the number of these units in a given structure.

From the then-established reproduction values, the depreciation is deducted. Obsolescence caused by changing conditions must be taken into account as well as the depreciation. When these two items have been deducted from the reproduction value, the result is the sound value of the property.

Since companies do not usually insure for either excavations nor foundations below the ground level, these too, must be deducted from the sound value. This final value established is the insurable value of the building.

6. Smith, H.A., op.cit., p.17

3. Principles of Fire Insurance

The law of averages is the basis for all forms of insurance. By insuring, the individual removes the risk from himself and transfers it to a large group. The leading authorities and writers in this field agree upon the following definition of fire insurance⁷

...that social device for making accumulations to meet uncertain losses of capital through fire, which is carried out through the transfer of the risks of many individuals to one person or a group of persons.

The business of fire insurance has long ago passed from the experimental stage and is now a highly complicated science. All buildings are classified according to location, type of construction, the use of the building, the type of fire protection in the district, and the liability of destruction from fires in the neighborhood. The rates of insurance are then computed for these classes of buildings in relation to the fire loss statistics for each class.

The risk of fire insurance companies is greater than that of life insurance⁸ first, because their business is not so uniform and therefore the statistics for computing the rates are not as definite, and secondly, because a conflagration such as the Chicago or San Francisco fire will seriously affect the financial standing of a company or place it in bankruptcy.

There are four features in the application of the law of averages to

7. Willet, A.H., The Economic Theory of Risk and Insurance, p.106

8. Moxey, E.P., Jr., Modern Business, Vol.10, p.58

fire insurance theory:⁹

- a. The existence of a known danger to which all property owners are exposed.
- b. The probability that loss from this danger will not fall upon all exposed to it.
- c. The assumption that when the loss occurs, it will fall so heavily upon those to whom it comes, that money indemnity would become a matter of great importance to them.
- d. A fairly accurate knowledge of property annually destroyed by this danger, so that the insurer may calculate his risk with reasonable certainty.

9. Thomas, R.H., Fire Insurance, p.1

4. Legal Provisions in Illinois

There are no provisions made in the school laws of the State of Illinois regarding the insuring of school property against loss by fire. This is also true of the school laws in twenty-nine other states. Twelve of the fifty-one federal units require school authorities to insure. The remaining nine units give the school directors the power to insure.¹⁰

Melchior,¹¹ in his study of statutory provisions throughout the United States, found that the legal provisions range from those states which only mention insurance as one of the various minor duties of a school board, to those of two states which provide a penalty in case of neglect to insure. His report for New York State is as follows:

In New York State, failure to insure school buildings on the part of a school board is a violation of the law, and the trustees are personally liable in case of fire loss.

This neglect by the states to demand that school authorities insure the school property entrusted to their care is not common to school property alone. Gephart¹² points out that this is the case for all types of public property:

Nor do the national, state and local governments usually insure public property; they rely on the taxation power for the money to replace public property destroyed by fire. In some cases, local governing bodies such as township and school officials, insure the public property under their control in the same manner as does the owner of private property.

10. Melchior, W.T., Insuring Public School Property, p.9

11. Ibid., p.143

The school law of Illinois is very explicit in regard to the loss of school funds through the negligence of school trustees, but is not quite so clear about the loss of general school property. Whether a school board would be held responsible if a building were lost by fire and carried no insurance is rather doubtful. No such case is on record and the statutory provisions suggest only indirectly the responsibilities. The two following excerpts from the provisions are the only references which have some bearing on this problem.

The board of education shall exercise general supervision and management of the public education and the public school system of the city, and shall have power to make suitable provision for the establishment and maintenance throughout the year, or for such portion of the year as it may direct, not less than nine months in time, of schools of all grades and kinds...¹³

County superintendents, trustees of schools, township treasurers and directors, or either of them or any other officer having charge of school funds or property, shall be pecuniarily responsible for all losses sustained by any county or township fund, by reason of any failure on his or their part to perform the duties required of him or them by the provisions of this Act...¹⁴

The second major legal aspect to be considered is that of fire insurance regulation by the state. Although a number of other states do not permit the mutual company to operate and New York State insists upon a standard policy form, Illinois has no such restrictions. The

12. Gephart, W.F., op.cit., p.45, Vol.2

13. The School Law of Illinois, Circular No. 256, p.76, sec.136

14. Ibid., p.125, sec. 364

Spectator Company,¹⁵ in its survey of Fire Insurance Laws in the United States, reveals the following summary for the State of Illinois.

No restrictions on co-insurance.

No provision for valued policy.

Mutual companies are permitted with almost the same privileges as stock companies.

Provision is also made for township and county mutual companies.

Standard policy - no requirement.

15. Fire Insurance Laws, Taxes, and Fees, The Spectator Company, New York, 1929, p.188-200

CHAPTER II

PREVIOUS RESEARCH ON SCHOOL PROPERTY INSURANCE

This is the first study of fire insurance on public school property for all school districts in Cook County. Previous research has included two or three cities in the State of Illinois.

Four surveys have been made in this particular field up to the present time. Two were carried out by Teachers College, Columbia University, of New York; one was made at the University of Minnesota, and one was carried out by R.H. Thomas, then secretary of the Board of Education of Portland, Oregon.

In the following report of these studies, they will be discussed in their chronological order. The nature of each survey, the problems it covered, and the results obtained, will be reviewed.

1. R.H. Thomas; 1913, 1918.¹

A small questionnaire type of survey was the first effort in public school property insurance research in the United States. In 1913, Thomas made a study of certain phases of school insurance for thirty-three cities in the United States.

The study was made chiefly to help determine the policy for the city of Portland, Oregon, where Thomas was secretary of the Board of Education. The City of Portland then carried its own fire insurance through an insurance fund, with the exception of three large non-fireproof buildings on which the risk was too great.

The results of this survey were reported by Thomas in the American School Board Journal of September, 1918, in which the following eight problems are briefly discussed:

1. Legal authority for insuring
2. School vs. business building insurances
3. The problem of co-insurance
4. The placing of insurance
5. Determining amount of insurance
6. Rates and means of protection
7. Some fire prevention hints
8. Self-insurance

Of the thirty-three cities responding to the questionnaire, sixteen carried part or all of their own insurance, and several others expressed a desire to do so. The data also disclosed that for the cities included in the survey, the fire risk on school-houses was a good one. Over a period of ten years, the payment of premiums was \$871,491.34. The amount paid

1. Thomas, R.H., "Fire Insurance," American School Board Journal, September, 1918

out for insurance losses in the same period was \$738,610.93. The difference between these two sums is \$132,880.41, which represents the gross profit to the insurance companies.

2. William T. Melchior; 1925.²

The most intensive study of public school property insurance was made for New York State by William T. Melchior, during 1925, and was published by Teachers College, Columbia University. This study was undertaken as a part of the work of the Educational Finance Inquiry Commission. An Insurance Inquiry Blank was sent to every school district in the state by the New York State Department of Education. This blank was later supplemented by a Loss Inquiry to each district which had reported only a certain percentage of its buildings or had not replied at all.

This survey covered practically every type of school property insurance. In addition to fire insurance; wind, boiler, storm, auto, public liability, and burglar insurance were studied. The questionnaire provided space for four buildings, assuming these a fair sampling for districts having more than four schools. The questions included the construction, occupancy, and classification of buildings, their valuation, and the amount of insurance carried.

Of the 940 districts in New York State, 535, or 56.9 per cent replied. Approximately 20 per cent of the school buildings in the state were reported.

He also investigated the insurance trends and practices for public school property in the United States by sending a briefer inquiry blank to the school superintendents of cities having a population of 30,000 to 100,000. Of these cities, eighty-two reported. A still shorter letter

2. Melchior, W.T., Insuring Public School Property

was sent to cities having a population of over 100,000, and thirty-five replies were received. These data were completed with replies from thirty-five of fifty insurance executives, who responded to a short inquiry letter concerning their attitude on insuring school property.

The problem of fire prevention was also considered, as well as the principles of insurance. The New York School Insurance Law was interpreted, and from the school laws of every federal unit were compiled all references to insurance.

The survey disclosed that fire insurance was carried by practically all districts which replied to the questionnaire. Boiler insurance was carried by some ten per cent of the districts. Other types of insurance are carried by very few of the districts. In New York State, all school districts, except cities, must carry fire insurance.

3. S.G. Skaaland; 1925.³

This study followed closely the work of Melchior. The survey was made by S.G. Skaaland, at the University of Minnesota, shortly after the one by Melchior was published. It was confined to school districts in the State of Minnesota. The aim of this investigation was to analyze the practices and procedures followed in insuring public school property in Minnesota.

The questionnaire used in this survey was the same as the one used by Melchior. In this case, however, all districts which replied, reported all the buildings in their particular district. A total of 144 districts replied, or 26 per cent of the districts in the state. This represents 42 per cent of all the school buildings in Minnesota.

In the State of Minnesota, school authorities are not required to insure school property, but may do so. Of the 144 school districts included in the survey, all but two carry fire insurance in private companies. Insurance may be carried by mutual companies under certain limitations.

As was found in New York State by Melchior, Skaaland found in Minnesota much laxity in the manner in which school property is appraised. In many districts the prevailing practice was to give a mere estimate. The investigation disclosed that insurance records were very poorly kept. Sixty per cent of the districts reporting had no records in addition to the policy itself.

3. Skaaland, S.G., Insuring School Property in Minnesota

4. Harvey A. Smith; 1930.⁴

This study concerned itself with fire insurance only. The particular phases covered deal with economy in insuring, and are given as follows:

1. Methods of reducing premium costs by removing such fire hazards as may exist in school buildings.
2. Methods of economy through proper insurance procedure.
3. Whether self-insurance and state insurance are practical and economical.

Certain cities in the state of New Jersey were selected for a detailed case study of their rating sheets. The rates were analyzed and any reductions found possible through the removal of hazards, etc., were computed on the basis of annual saving in premiums.

In addition to pointing out economies of practice in the case studies, a questionnaire was sent to all cities in the United States having a population of over 30,000. Questions were asked concerning the valuation of school property and the amount of fire loss incurred during the preceding ten years.

He found the average annual fire loss per \$100 valuation to be nine times as much on buildings of ordinary construction as on buildings of fire-resistive construction.

In all of the case studies economies in insuring were found possible.

4. Smith, H.A., op.cit.

CHAPTER III

STATEMENT OF PROBLEM AND PROCEDURE

1. Statement of the Problem

The one hundred ninety-one school districts of Cook County make an annual report to the office of the County school superintendent. They report, among other things, the number of buildings in their district and the value of the buildings and contents. There are no data reported which might reveal whether the many districts insure their school property against loss by fire or assume the risk. Nor are there any data on record which disclose whether these districts follow good business practice when they insure.

One of the duties of the county school superintendent is that of advising and aiding the local district boards of education. Mr. Otto F. Aken, superintendent of Cook County schools, believes that the problem of fire insurance should receive careful consideration by school authorities.¹ It is the purpose of this research, in co-operation with Mr. Aken, to obtain, tabulate, and analyze the data on this problem in order to aid schoolmen in the matter of insurance.

This work limits itself to fire insurance, since previous research has proven that other kinds of insurance such as boiler, public liability,

1. Interview

automobile, etc., are carried by so few school districts as to make such investigation impracticable.

This survey of fire insurance on public school property in Cook County is an intensive report and analysis of the practices and procedures followed by the school districts of Cook County in protecting their school property against loss by fire. The problem is to ascertain:

- (1) The value of school property in the school districts, and the amount of fire insurance carried, in order to determine whether such property is amply insured;
- (2) Whether any school districts do not insure against fire, and if not, how well they can afford to carry the risk;
- (3) The expenditures for insurance carried, in order to determine the differences in rates in the various districts;
- (4) A record of the fire losses in school districts in order to determine the type of construction of the building damaged, the cause of the fire and the place it started, the amount of loss and whether it has paid to insure;
- (5) The present practices by school authorities in Cook County in placing insurance in order to determine whether they conform to the best practice in public school business administration;
- (6) The form of policies; term of years of insurance; and clauses limiting indemnities, in order to determine what economies may be suggested;
- (7) Whether a community or state insurance plan might replace the present method of insuring in private companies, at an advantage to the school districts.

2. Method of Research

This study is of the survey type and employs the documentary and questionnaire methods of research. First, it was necessary to learn what the authorities on fire insurance consider good practice in insuring. In addition, conclusions reached by other research workers in the field had to be studied. The bibliography at the end of this report lists the sources for this information. Interviews were held with the Chicago offices of the National Fire Protection Association, and the National Board of Fire Under-writers.

Second, it was necessary to disclose the fire insurance conditions in the school districts of Cook County. A questionnaire was designed, consisting of three basic parts: (1) amount and type of fire insurance, (2) fire insurance methods, and (3) fire losses. This fire insurance inquiry blank was sent to the clerk or secretary in the boards of education of every school district in the County. Copies of the questionnaire and the letter of transmittal are contained in the appendix.

Third, the records of the County school superintendent supplied the data on the number of buildings and the value of the buildings and contents in each school district. The pupil enrollment of the districts was also obtained from these records.

3. Classification of Data

This research is concerned with insurance on school buildings and their contents. A method of classification of the school districts was desired which would best indicate the size and type of school buildings in the district. Instead of the usual division of school districts according to population, they were grouped according to the pupil enrollment.

Table I shows this classification of the districts into four groups: Class I, pupil enrollment of 1000 or over; Class II, 500-999; Class III, 100-499; Class IV, 1-99. This classification does not include the city of Chicago, which, because of its size as a school district, is a special case and is discussed as a separate problem in Chapter IX.

That the above classification does indicate the number of buildings in each group may be seen from Table IV. Class IV, which includes 94 districts having a pupil enrollment of less than 99 for each district, has a total of 98 school buildings or approximately one building per district.

The actual pupil enrollment for all districts in each class and the average as well as the range is given in Table II. The average pupil enrollment for the districts is 2565 in Class I, 697 in Class II, 233 in Class III, and 34 in Class IV.

The range in each class of districts indicates a complete range of figures for the pupil enrollment extending from the lower limit of the class to the upper. A perfect example is Class III with a low of 100 and a high of 499. This coincides exactly with the limits for that class as given in Table I. However, an examination of the individual districts

TABLE I

Classification of School Districts in Cook County ²

District	Pupil Enrollment	Number of Districts	Per Cent of Districts
Class I	1,000 or over	33	17.3
Class II	500 - 999	15	7.9
Class III	100 - 499	49	25.6
Class IV	1 - 99	94	49.2
Total		<u>191</u>	<u>100.</u>

2. Classification does not include City of Chicago.

TABLE II

Pupil Enrollment in School Districts ³

District	Pupil Enrollment	Average per District	Range		Median	Middle Range
			Low	High		
Class I	84,631	2565	1039	- 6983	1893	1307 - 3124
Class II	10,457	697	507	- 984	606	562 - 795
Class III	11,397	233	100	- 499	200	137 - 304
Class IV	<u>3,214</u>	<u>34</u>	7	- 96	28	17 - 42
Total	109,699	575				

3. As reported to County Superintendent, June, 1933

Tabulations made from data in the records of the County Superintendent are based upon 100 per cent of the school districts in Cook County, with the exception of the district of Chicago. The data for the City of Chicago are given in Table XXXI

4. Middle Range includes the cases from the 25th to 75th percentile.

discloses the fact that most of the figures are concentrated about the mean for each class.

Further evidence that the groups were classified to advantage may be seen from Table V, which reports the value of the school buildings in the districts. The average value of the school buildings per district is \$11,081 in Class IV, and \$96,010 in Class III. The difference of the average value of school buildings in Class III and Class IV indicates a difference in the type and size of buildings in these classes.

The data obtained from the records of the county schools superintendent are based upon 100 per cent of the school districts in Cook County. The seven tables prepared from these data are numbers II, IV, V, VI, VII, ~~XXX~~, and ~~XXXI~~. The other twenty-four tables are based upon the returns on the insurance inquiry blank. These tables were prepared from the data on 120 districts, or 63 per cent of the total number in the County.

4. Return on Insurance Inquiry Blank

Table III shows, by class of district in Cook County, the number of districts in each class, the number of districts reporting in each class, and the percentage of the return. One hundred twenty of the 191 school districts replied to the questionnaire. This is 63 per cent of all the districts in Cook County, or approximately two out of three. The return was highest in Class IV, with 63 replies out of a possible 94, or 67 per cent. Class I followed with a 64 per cent return; Class II was next, with 60 per cent, and Class III was lowest, having a percentage of 55.

This return compares favorably with those obtained in similar undertakings in New York and Minnesota. Skaaland⁵ sent his questionnaire to all the districts in the State of Minnesota and received replies from only 144 districts, or 26 per cent. Melchior⁶ achieved a return of 57 per cent from all the districts in New York State.

The inquiry blanks returned give evidence of reliable answers by reason of the numerous questions and checks involved, and the thoroughness with which they were filled out. This was true for over 90 per cent of the cases. As a rule, the most populated the district, the more completely was the questionnaire filled out. The blanks from districts in Class I were, in nearly all cases, carefully typewritten.

5. Skaaland, S.G., Op.cit., p.12.

6. Melchior, W.T., Op.cit., p.6.

TABLE III

Return on Fire Insurance Inquiry Blank⁷

District	Number of Districts	Number Reporting	Per Cent Reporting
Class I	33	21	64
Class II	15	9	60
Class III	49	27	55
Class IV	94	63	67

7. Sent to all school districts in Cook County.

In a few isolated cases, however, letters were received indicating an unfortunate state of affairs. One district replied, "No insurance, no debts." The directors in another district believed that the research department was selling insurance and wrote: "It is not necessary to have any more insurance as they have some already." Still another school official wrote: "We are not ready for this insurance yet." Repeated letters to these school boards failed to make the situation clear. These cases are in the more rural districts, all being in Class IV.

CHAPTER IV

PUBLIC SCHOOL PROPERTY IN COOK COUNTY

1. The Data on Sound Value

This chapter makes an analysis of sound values of school property according to the following divisions: (1) sound value of school buildings; (2) sound value of the contents of the buildings; and (3) combined value of the buildings and contents. The accompanying tables tabulate the sound values accordingly, each table presenting the total value for all the districts in each class as well as the average, median, entire range, and middle range¹ for each class.

The data on sound values were obtained from the records of the county schools superintendent. They were compiled from the last annual report² and represent all the districts except the City of Chicago.

There are a total of 378 school buildings in the school districts,³ an average of approximately two in each district. In Class IV only four districts have two buildings each, whereas the other districts in this class have a single building each. One school district in Class I has fifteen buildings. The average district in this class has five or six buildings. The data on the number of buildings are given in Table IV. The buildings range from small, poorly constructed frame buildings, valued at less than one thousand dollars, to huge, modern, fireproof buildings, valued at more than one million dollars.

1. Middle 50% of the cases, or the 25th to the 75th percentile.

2. June, 1933

TABLE IV

Number of School Buildings in School Districts⁴

District	Number of Districts	Number of Buildings	Average per District	Median	Range		
					Low	High	
Class I	33	175	5.46	4	1	-	15
Class II	15	34	2.26	2	1	-	5
Class III	49	71	1.45	1	1	-	4
Class IV	94	98	1.04	1	1	-	2

3. Not including the City of Chicago (continued from preceding page)

4. As reported to County Superintendent, June, 1933

To arrive at the sound value of buildings requires a proper appraisal. The problems of appraisal of school property for insurance purposes is discussed in Chapter V.

2. Sound Value of Buildings

The data on sound value of Buildings are given in Table V. For each class of district as well as for the districts in the same class, a comparison of values may be readily made. For districts in Class I the median sound value of buildings is \$1,000,000. The median district in Class IV has buildings valued at \$5,000. The lowest amount reported for the districts was \$850 with many reporting at \$1,000.

The disparity of values for districts in the same class is even greater. Although no district in Class IV has more than 100 pupils enrolled, the range of the value of property is from \$850 in the lowest district to \$110,000 in the highest.

The total value of the 378 school buildings in the 191 school districts is \$53,178,831. Melchior⁵ found that for the 1,112 buildings reported in New York State in his survey, the total value was \$47,030,250. This indicates the large percentage of rural districts included in the New York survey⁶ as compared with the survey in Cook County.

Class I averages \$1,308,020 per district for value of school buildings. The 33 districts in this class account for \$43,168,657 of the total building value in all districts. The total value of the school buildings for the 94 districts of Class IV is only \$1,052,676.

5. Melchior, W.H., op.cit., p.17.

6. Ibid., p.6.

3. Sound Value of Contents

The meager furnishing of the buildings in certain districts in Class IV is evidenced by the many who reported \$100 or less for the value of contents. Fifty per cent of the cases in this class, however, are included between the values of \$350 and \$1,000. Table VI shows the data on the value of contents of the buildings.

The median for Class IV is \$400, and for the upper group it is \$50,000. The range distributions shown for contents vary as greatly as for the buildings. The "Range" column in Table VI gives for Class I a low figure of \$5,000 and a high of \$479,114.

The combined values for buildings and their contents is given in Table VII. For general purposes, this table may prove more valuable, as the value of the building with all it contains is often taken as the unit for insurance, rather than the building and contents separately.

The value of all school property in the 191 school districts is \$57,266,286. This property is entrusted to the care of the school authorities in the various districts of Cook County. The business administrative practices of these districts in protecting this property against loss by fire will be analyzed in the next chapter.

TABLE VI

Value of Contents of Buildings ⁸

District	Total Value	Average per District	Range		Median	Middle Range
			Low	High		
Class I	\$3,254,238	\$98,613	\$5,000	\$479,114	\$50,000	\$30,000 - \$150,000
Class II	404,850	26,990	5,000	75,000	20,000	5,000 - 40,000
Class III	349,221	7,127	500	50,000	4,000	2,000 - 9,500
Class IV	79,146	833	60	5,000	400	350 - 1,000

8. As reported to County Superintendent, June, 1933

TABLE VII

Combined Value of Buildings and Contents

District	Total Value	Average per District	Range		Median	Middle Range
			Low	High		
Class I	\$46,422,895	\$1,406,754	\$225,000-	\$4,693,510	\$1,000,000	\$500,000-\$2,000,000
Class II	4,656,850	310,456	65,500-	692,000	250,000	150,000 - 400,000
Class III	5,054,719	103,137	9,270-	450,000	70,000	40,000- 125,000
Class IV	1,131,822	11,914	1,160-	135,000	5,000	3,000- 15,000

CHAPTER V

FIRE INSURANCE ADMINISTRATION

1. Type of Insurance Companies

The methods used by school districts to meet the loss of school property by fire represents the major problem in fire insurance administration. The school district may be willing to assume the risk, that is, carry no insurance; it may assume a part of the risk and shift the remainder to insurance companies; or, it may shift the risk entirely to insurance companies.

Four districts report that they carry no fire insurance. Two of these districts rent their school quarters and therefore have no property to insure. The remaining two districts assume the entire risk on their school property. The latter cases are analyzed, and their ability to carry the risk is discussed, in Chapter IX.

The second part of the inquiry blank was given over to methods. The first question requested a check for the type of insurance carriers used. These were represented by stock companies, mutual companies, or a combination of both companies. The answers are compiled in Table VIII, which indicates that of 103 districts, reporting the method, 60 insure in stock companies, 32 districts insure in mutual companies, and 5 districts insure in both

types.

That 31 per cent of the districts insure in mutual companies should be of some concern. In Chapter I it was pointed out that the Illinois statutory provisions make no restrictions in permitting mutual insurance companies to operate and give them practically the same privileges as stock companies. This applies also to local, farm, or township mutuals. An insurance commission¹ appointed by the Illinois Legislature reported itself opposed to the mutual plan of fire insurance.

Mutual insurance is not equipped for conflagrations, for it has no way of meeting exceptional demands upon its comparatively empty cash box except through assessments upon its membership, and the public cannot afford to await a slow and tedious process of collection, which, experience shows, often fails to collect. The result is that mutual insurance is practically impotent to deal with the ramifications of exposure. It must confine itself to unexposed risks as found in the country and in the outskirts of our towns and cities.

Table VIII also discloses that in Class III, of 57 districts reporting, 30 insure in mutual companies. It is districts in this class which probably need the best type of insurance. For the benefit of these districts, the advantages and disadvantages of the mutual company as outlined by Reigal and Loman² are given here:

The advantages are:

- a. Where no commissions or very small ones are paid to agents, mutuals claim to be able to do business at a smaller cost than other organizations.

1. Illinois Fire Insurance Commission, 1911, p.19

2. Reigal and Loman, Insurance Principles and Practices, p.32

TABLE VIII

Number and Per Cent of Districts Insuring
in Stock Companies, Mutual Companies,
or Carrying No Insurance

District	No. Districts Reporting Method	Stock	Mutual	Stock and Mutual	Not Insuring	Method not Indicated
Class I	16	13	1	2		5
Class II	8	6	1	1		1
Class III	22	21		1		5
Class IV	<u>57</u>	<u>22</u>	<u>30</u>	<u>1</u>	<u>4³</u>	<u>5</u>
Total	103	62	32	5	4	16
Total in Per Cent		60	31	5	4	

3. Two of these four districts rent their school quarters, and therefore have no fire insurance. The other two districts do not insure their property against fire.

- b. Any profits or savings which are made go to the policy-holders and not to the stockholders.
- c. The mutual is theoretically under the control of the policy holders.
- d. The mutual can exercise a more careful selection of risks.
- e. The mutual is interested in the reduction of losses.
- f. Many mutuals have operated without finding it necessary to call for assessments.
- g. The policy-holders will naturally look after their own interests very carefully.

The disadvantages are:

- a. If small, the mutual runs the danger of being unable to pay losses in case of great disaster.
- b. If working in a large territory, the advantage of selection of risks and of careful oversight is partially lost.
- c. No second party, such as the stockholders, intervenes between the policy-holder and possible loss.
- d. The contract is indefinite, since the policy-holder may be called upon to pay further premiums.
- e. The expenses of agents are justified by the service they render and these services are not fully rendered by mutuals.
- f. The control of mutuals is in reality no more in the hands of the average policy-holder than is the stock company control.
- g. The mutual is no better managed than the stock company because the stockholders of the latter are very careful about the management, since their dividends depend upon it.

The conclusion to be drawn from the two excerpts given above is that the chief advantage of the stock company is the definite contract and the capital and surplus which serve as a guarantee to the policy holders for the payment of losses.

2. Appraisal of School Property

Appraisal of school property for insurance purposes means to determine the true present replacement value. A number of means to figure the depreciation of buildings have been advocated. A short but yet complete outline of the factors to be taken into account when figuring depreciation is given by Shambaugh,⁴ in the American School Board Journal:

I. Physical

1. Wear and tear from operation
2. Influence of a maintenance policy
3. Decrepitude - action of time and the elements
4. Structural defects

II. Functional

1. Inadequacy
2. Obsolescence

The two important questions in the problem of appraisal of property are: by whom is the appraisal made, and, how often is it done? These questions were asked in the inquiry blank separately for buildings and contents.

Method of appraisal of buildings as reported by the districts is given in Table IX. Three methods are tabulated, namely, school authority, insurance company, and appraisal firm. Fifty-nine per cent of the 101 school districts answering this question have the school authorities alone

4. Shambaugh, C.G. "Depreciation of Public School Buildings," American School Board Journal, 5:65

TABLE IX

Method of Appraisal of Buildings⁵

District	No. Districts Reporting Method	School Authority	Insurance Company	Appraisal Firm	Other Means	No Method Reported
Class I	16	9	1	5	1	5
Class II	8	5	1	2		1
Class III	24	13	8	1	2	3
Class IV	<u>53</u>	<u>33</u>	<u>18</u>	<u>1</u>	<u>1</u>	<u>9</u>
Total	101	60	28	9	4	18
Total in Per cent		59	28	9	4	

5. Number and per cent of Districts making appraisal of buildings by the various listed methods.

TABLE X

Frequency of Appraisal of Buildings⁶

District	No. Districts Reporting Method	Expiration of Policy	Every Year	Every 3 Yrs	Every 5 Yrs	Other Time	No Time Reported
Class I	11		2	2	1	6	10
Class II	7	2	1	2	2		2
Class III	18	6	3	1	7	1	9
Class IV	<u>50</u>	<u>7</u>	<u>2</u>	<u>3</u>	<u>35</u>	<u>3</u>	<u>12</u>
Total	86	15	8	8	45	10	33
Total in Per Cent		17.4	9.3	9.3	52.5	11.5	

6. Number and Per Cent of Districts making appraisals of buildings at the various listed periods.

appraise their school buildings. In 28 per cent, insurance companies do so, and in 9 per cent, appraisal firms do so.

Frequency of making appraisals of buildings is shown in Table X. The four listed periods are: expiration of policy, every year, every 3 years, and every 5 years. The column headed "Other Time" indicates odd periods, such as 2 years, "whenever possible," etc. The most common answer was every 5 years, which represents 52.5 per cent of the 86 school districts reporting frequency. Expiration of policy as the time for re-appraisal is given by 17.4 per cent of the districts.

Tables XI and XII give the data on method of appraisal of contents and the frequency of appraisal, respectively. To arrive at the valuation of contents, the taking of inventory is the important factor. While the insurance company or appraisal firm is undoubtedly best suited for appraising buildings, this is not necessarily the case for contents. An examination of Table XI reveals the fact that 87 per cent of the 81 school districts reporting the method, have the school authority do the appraisal of contents, and that 80.5 per cent do this by the means of inventory.

Thirty-nine per cent of the districts appraise the contents every 5 years; 26.5 per cent do so yearly; and 14 per cent, at the expiration of the policy.

It is apparent from the four tables on property appraisal that the best practice takes place in the larger districts where better facilities for carrying out these practices exist. Eleven of the 14 school districts reporting in Class I, have the school authorities appraise the contents by means of inventory. Five of the 16 districts in the same class reporting

TABLE XI

Method of Appraisal of Contents of Buildings⁷

District	No. Districts Reporting Method	By School Authority	Inventory Insurance Company	By School Authority	Other Means Insurance Company	No Method Reported
Class I	14	11	2	1		7
Class II	7	7				2
Class III	17	14		2	1	10
Class IV	<u>43</u>	<u>25</u>	<u>6</u>	<u>11</u>	<u>1</u>	<u>19</u>
Total	81	57	8	14	2	38
Total in Per Cent		70	10.5	17	2.5	

7. Number and Per Cent of Districts making appraisal of contents of school buildings according to the various methods listed.

TABLE XII

Frequency of Appraisal of Contents of Buildings⁸

District	No. Districts						
	Reporting Period	Expiration of Policy	Every Year	Every 3 Yrs	Every 5 Yrs	Other Time	No Time Reported
Class I	11		4	1	2	4	10
Class II	6	3	2	1			3
Class III	15	5	6	1	2	1	12
Class IV	<u>32</u>	<u>1</u>	<u>5</u>	<u>3</u>	<u>21</u>	<u>2</u>	<u>30</u>
Total	64	9	17	6	25	7	55
Total in Per Cent		14	26.5	9.5	39	11	

8. Number and Per Cent of Districts making appraisals of the contents through various listed terms.

on the appraisal of buildings, do so through an appraisal firm. Only one district in Class IV uses this method.

Almost two-thirds of the districts for all classes have their school authorities appraise their buildings. Nearly one-third do so through their insurance company, while less than one in ten have an appraisal firm do this for them. These percentages are an indication of poor business practice. The districts do a better job of arriving at the valuation of contents, since 70 per cent use the combination of inventory and school authority for this. Since most districts insure for five year terms, frequency of appraisal when reported for this period of time may be interpreted as also meaning at the expiration of policy.

Inspection of the frequency of appraisal table⁹ shows that 61.5 per cent of the districts re-appraise their property before writing a new policy. This indicates good business practice.

9. Table XII, p.49

3. Allotment of Insurance

The problem of assigning insurance business to the satisfaction of local insurance agents, and yet write their policies efficiently, is one which faces many boards of education.

Whether insurance is assigned to that agency which represents the best type of company and writes the most efficient policy, or whether it is given to the aggressive solicitor, irrespective of his affiliations, should be the concern of board members.

The questions relative to allotment of insurance asked in the inquiry blank, read:

Does one agency carry all your insurance? Yes ___ No ___.

If not, how is your insurance allotted?

The data on this problem are presented in Table XIII. Of all the questions asked, this received the poorest response. A total of 29 school districts reported the method of placing insurance, of which 13.8 per cent place their policies with one agency, and 86.2 per cent divide theirs among several agencies.

The few replies to this phase of insuring methods are probably due to the fact that many of the school districts have but one building and, consequently, one policy.

For those districts which divide their insurance business among several agents, the following reply was typical: "Bids received and insurance divided among lowest bidding reliable carriers."

TABLE XIII

Method of Placing Fire Insurance¹⁰

District	No. Districts Reporting Method	One Agency	Divided Among Local Agents	No Method Reported
Class I	4		4	17
Class II	4	1	3	5
Class III	12		12	15
Class IV	<u>9</u>	<u>3</u>	<u>6</u>	<u>53</u>
Total	29	4	25	90
Total in Per Cent		13.8	86.2	

10/ Number and Per Cent of Districts placing fire insurance on school buildings through various listed means.

One school official wrote, in response to the allotment question:

"Looks like anyone selling insurance in the village has sold a policy sometime or other."

Another school district assigns its insurance business to eight different companies. This district carries \$80,000 of fire insurance and has the problem of keeping a record of the policies in eight companies.

Still another district divides \$275,000 of insurance among ten companies. This is justifiable, since the district holds a blanket insurance contract. This contract covers all the buildings with a specific amount for each one. The total amount of the policy is pro rated among the several companies.

4. Concurrency of Policies

The school directors should arrange their fire insurance policies so that one-fifth of all the insurance expires each year (if insurance is written for a five-year term). A uniform yearly budget for insurance will result from this practice.

An excellent plan to put this into effect was carried out by a school district of Class II and reported in a letter as follows:

All the buildings were appraised and insured for a period of 5 years, the entire premium being paid at the time, and the following arrangement made with the agent handling.

At the end of the first year, 20 per cent of the total insurance to be cancelled, refund secured for unexpired term, and insurance re-issued for a period of 5 years.

At the end of the second year, another 20 per cent of the original total to be cancelled and re-issued for 5 years, and so on until we would have 20 per cent of the total premium due each year.

The practice of the school districts on this phase of business administration is shown in Table XIV. For all the 79 districts reporting on this question, 58 per cent pay the total premium out of a single year's budget, and 42 per cent follow the concurrency practice described above, thereby creating a uniform yearly insurance budget.

TABLE XIV

Concurrence of Policies¹¹

District	No. Districts Reporting	Total Premium Pd. Single Yr. Budget	Partial Premium Payment Made Yearly	No. Districts Not Reporting
Class I	11	1	10	10
Class II	7	2	5	2
Class III	21	8	13	6
Class IV	<u>40</u>	<u>35</u>	<u>5</u>	<u>22</u>
Total	79	46	33	40
Total in Per Cent		58	42	

11. Number and Per Cent of Districts paying fire insurance out of single year's budget and number of districts staggering payment over life of policy.

For the more rural districts, whose insurance premium is very small, concurrency of policies is hardly necessary. At what point a premium becomes large enough to render advisable staggering of payments would depend upon the specific problem in each district. Premium costs for the school districts are given in Table XXIV. This discloses that for the middle range, districts in Class IV spend from \$25 to \$120 for five years of insurance. For these amounts the concurrency plan is not advisable. The middle range of insurance premium payments, for a period of five years, in districts of Class III is from \$450 to \$850. In Class II and Class I the middle range of insurance payments is correspondingly higher. For these districts, then, the staggering of premium payments is highly desirable.

That the school districts of Cook County in actual practice follow closely the concurrency recommendations made above is highly commendable. In Class IV, of 40 districts that reported on this problem, 35 pay their premium out of a single year's budget. The opposite is true of the other classes. In Class I, ten out of eleven reporting stagger their premium payments. Five out of seven do so in Class II, and thirteen out of twenty-one do so in Class III.

5. Insurance Records

One of the requisites of good business administration is record keeping. The extent to which a record of fire insurance is kept will, in most cases, be determined by the amount of insurance carried. The types of insurance records used by the school districts vary from a simple card notation to a standard, printed insurance form.

A complete insurance record should contain, first, information about the building covered, and second, information concerning the policy. The items required for information are given by Smith¹² as follows:

Building record:

1. Name of building
2. Type of construction (brick or frame)
3. Insurable value of building
4. Insurable value of contents
5. Data of appraisal (building and contents)
6. Amount of insurance on building
7. Amount of insurance on contents
8. Building rate
9. Contents rate
10. Class of insurance (co-insurance or flat rate.)

Policy record:

1. Name of company.

¹² Smith, H.A., op.cit., p.85

2. Policy number
3. Property insured under policy
4. Date of policy
5. Date of expiration
6. Term of insurance
7. Term rate
8. Amount of policy
9. Premium
- 10 Agent's name and address.

The various listed methods for keeping insurance records by the school districts are reported in Table XV. Sixty-six districts answered this question in the inquiry blank, of which 48.5 per cent indicated that they kept no record in addition to the policy itself. Twenty-four per cent use a printed insurance form; 21.3 per cent keep their record in the minute book; and 6.2 per cent use a card system.

Fifty-three districts replying to the Insurance Inquiry omitted answering the question on records. That many of these districts do not keep adequate records, if any at all, is fair to assume. As a rule, those inquiry blanks from districts which showed a lack of records, also indicated poor insurance practice.

That better insurance records are kept by the larger districts is disclosed by the accompanying table. In Class I, of eleven districts reporting the method, seven use a printed insurance form, and only one district keeps no record.

TABLE XV

Method of Keeping Insurance Records¹³

District	No. Districts Reporting Method	No Record	Card System	Minute Book	Printed Insurance Form	Not Reporting
Class I	11	1	1	2	7	10
Class II	7		1	3	3	2
Class III	17	8		5	4	10
Class IV	<u>31</u>	<u>23</u>	<u>2</u>	<u>4</u>	<u>2</u>	<u>31</u>
Total	66	32	4	14	16	53
Total in Per Cent		48.5	6.2	21.3	24	

13. Number and Per Cent of Districts recording insurance data according to the various listed methods.

For the smaller school districts, an insurance record as detailed as the one outlined above is hardly necessary. The few required items can be included on a single page of the minute book. This record page should have the following items: number on the policy, amount, premium, and date of expiration.

CHAPTER VI

AMOUNT OF FIRE INSURANCE CARRIED

1. Specific Insurance

The types and values of public school property in Cook County were discussed in Chapter IV. The data on the amount of fire insurance carried by the districts are now given to determine whether the school property is amply insured. The amount of insurance is presented separately for specific and blanket policies.

The specific insurance carried on buildings is shown in Table XVI, and for contents of buildings, in Table XVII. Forty-five of the 104 districts reporting amount of insurance carried, use the specific form.

A comparison of the median and middle range of sound value of buildings (Table V) and the median and middle range of specific insurance on buildings, reveals that the amount of insurance carried under this form is considerably lower than the value of buildings in each case.

The median of specific insurance on buildings for districts in Class IV, is \$3200. It is \$32,000 in Class III, and \$185,000 in Class II. The corresponding medians for value of buildings in the same classes are: \$5,000 for Class IV; \$80,000 for Class III, and \$250,000 for Class II.

TABLE XVI

Amount of Specific Insurance on Buildings

District	Number of Districts	Total Amount of Insurance	Average Per District	Low	High	Median	Middle Range
Class I	1	\$ 162,500					
Class II	5	889,000	\$177,800	\$44,000-	\$265,000	\$185,000	\$50,000- \$185,000
Class III	16	740,700	46,294	7,700-	130,000	32,000	25,150- 63,000
Class IV	<u>23</u>	<u>231,750</u>	10,076	1,000-	34,000	3,200	2,000- 14,000
Total	45	\$ 2,023,950					

The above data show that the median of specific insurance is much lower than the median of value of buildings in the same class. This indicates that the buildings are considerably under-insured in districts which use the specific form of policy.

The specific insurance carried on contents of buildings is shown in Table XVII. The ratio of specific insurance carried to the reported value for contents is highest in Class IV. The ratio is much lower in Classes III and II.

In Class I, most districts insure under the blanket form of policy, since but one district in this group reported using the specific form of insurance.

TABLE XVII

Amount of Specific Insurance on Contents

District	Number of Cases	Total Amount of Insurances	Average Per District	Range		Median	Middle Range
				Low	High		
Class I	1	\$5,000					
Class II	5	45,500	\$9,100	0 -	\$14,500	\$10,000	\$3,000-\$13,000
Class III	16	57,700	3,606	0 -	20,000	2,000	1,850- 4,000
Class IV	<u>23</u>	<u>17,550</u>	763	0 -	3,000	500	300- 1,750
Total	45	\$125,750					

2. Blanket Insurance

Most of the insurance carried by the school districts is in the blanket-policy form. The total amount of blanket insurance for all classes of districts is \$17,099,200, as compared with a total of \$2,149,700 for the specific form of policy.

The amount of blanket insurance carried on buildings and contents is given in Table XVIII. This form of policy is used by fifteen districts of the sixteen reporting amount in Class I. Thirty-two of the 55 districts reporting use this form in Class IV. In Class II, three out of eight do so, and in Class III, nine out of 25 do so.

The median, as well as the middle range of values for blanket insurance carried by class of district, compare closely with the corresponding figures for the combined sound value of buildings and contents (Table VII).

The median of blanket insurance carried is \$707,500 in Class I. It is \$204,800 in Class II, \$65,000 in Class III, and \$3,000 in Class IV. For the same classes of district, combined values of buildings and contents reported show a median of \$1,000,000 in Class I, \$250,000 in Class II, \$70,000 in Class III, and \$5,000 in Class IV.

This analysis of amounts of insurance carried by the school districts according to specific and blanket form of policies, clearly indicates that those districts which use the blanket form (that is, buildings and contents combined) insure for more nearly the sound value of the property than do those districts which use the specific form of policy.

TABLE XVIII

Amount of Blanket Insurance on Buildings and Contents

District	Total Number of Districts	Total Amount of Insurance	Average Per District	Range Low	High	Median	Middle Range
Class I	15	\$15,185,000	\$1,012,333	\$200,000-	\$2,461,000	\$707,500	\$500,000-\$1,323,000
Class II	3	1,000,000	333,333	145,000-	650,000	204,800	145,000- 650,000
Class III	9	702,000	78,000	30,000-	166,000	65,000	38,000- 107,000
Class IV	<u>32</u>	<u>212,200</u>	6,631	1,000-	49,000	3,000	2,000- 10,000
Total	59	\$17,099,200					

TABLE XIX

Total Amount of Insurance Buildings and Contents Combined; Specific
and Blanket

District	Total Number Districts	Total Amount of Insurance	Average Per District	Range		Median	Middle Range
				Low	High		
Class I	16	\$15,352,500	\$959,531	\$200,000-\$2,461,000		\$781,500	\$500,000- \$1,335,000
Class II	8	1,934,500	241,812	47,000-	650,000	200,000	145,000- 243,000
Class III	25	1,500,400	60,016	7,700-	166,000	50,000	30,500-69,000
Class IV	55	461,450	8,390	1,000-	49,000	4,000	2,800- 9,000
Total	104	\$19, 248,850					

3. Ratio of Amount of Insurance to Sound Value

The ratio of insurance carried to sound value is shown in two ways.

First, a comparison is made between Table XIX, which gives the total amount of insurance carried by the 104 districts reporting amount, whether specific or blanket, and for buildings and contents combined; and Table VII, which gives the combined value of buildings and contents by class of district. This comparison is presented in Table XX.

Second, the ratio of insurance carried to sound value of property is determined for each district, and these percentages compiled in Table XXI.

The ratio of the medians of insurance carried to the medians of sound value of property for corresponding classes of districts (Table XX) shows a high correlation. This indicates fairly good practice for most of the school districts. The percentage of 71.5 in Class III is a little too low for good protection by insurance.

The more detailed analysis of the ratio of insurance carried to sound value is given in Table XXI. Here, the range of ratios in each class of district indicates very poor as well as excellent conditions.

This table shows that in each class some of the districts insure for only one-third of the value of their school property and assume the risk for the remainder. The poorest conditions exist in Class III, where the range indicates that one district insures for only 16 per cent of the sound value of its property. For the 25 cases reported in Class III, the average ratio is 57 per cent, still far below the percentage needed for ample protection.

TABLE XX

Comparison of Medians of Insurance Carried, with
 Medians of Value of
 Property

District	Amount of Insurance Specific & Blanket Median	Combined Value of Buildings & Contents Median	Ratio of Medians Per Cent
Class I	\$781,500	\$1,000,000	78.2
Class II	200,000	250,000	80.
Class III	50,000	70,000	71.5
Class IV	4,000	5,000	80.

Class II has an average ratio of 78 per cent; Class IV is next with a percentage of 70; and Class I next, with 68.2 per cent. For most of the districts, however, the ratio of insurance carried to sound value is well over 70 per cent. This may be seen from the middle range of insurance carried and the middle range of sound values in each class of district.

An analysis¹ of fire losses for school buildings reported to the National Fire Protection Association, including all parts of the United States, reveals that a large proportion of the fires were severe losses. Since the maximum indemnity collectible in case of total or partial loss cannot exceed the face value of the policy, those districts insuring for a small percentage of the value of the property are assuming an unnecessary burden. It is to the interest of the school district for local boards to insure school property for at least 80 per cent of the sound value.²

1. National Fire Protection Association, "School Fires," p.46.

2. Smith, H.A., op.cit., p.107.

TABLE XXI

The Ratio of Fire Insurance Carried to Value, for
Buildings and Contents
Combined

District	Number of Cases	Average Ratio	Range of Ratios	
			Low	High
Class I	16	68.2	32.2	94.5
Class II	8	78	36.4	94.0
Class III	25	57	16.0	100.0
Class IV	55	70	30.	90.3

4. Clauses Limiting Amounts

The inquiry blank asked the following questions, relative to the limitation clauses in fire insurance policies held by the school districts:

Check the limitation clause in your policy.

$\frac{3}{4}$ value _____ Average _____

If co-insurance clause, state percentage _____%.

Sixty-nine per cent of the 78 districts reporting limitation clauses write their insurance with the co-insurance clause. Thirteen per cent use the $\frac{3}{4}$ value clause and 18 per cent use the average clause. That the two latter clauses are rapidly passing out of use is shown by the few policies written under them.

The co-insurance clause limits the liability on the part of the company according to the percentage of the clause. The three listed percentages in Table XXII show that 47 districts of the 54 using co-insurance use the eighty per cent clause; 6 districts use the ninety per cent clause, and one district uses the seventy per cent clause.

Table XXI shows that some districts in each class insure for above ninety per cent of the sound value. In only Class III does the range indicate a full or one hundred per cent value. For frame or poorly constructed buildings, insurance to full value is highly desirable.³

The company pays for losses incurred under the co-insurance plan according to the following formula: Indemnity collected is to the amount of

3. Smith, H.A., op.cit., p.96

TABLE XXII

Limitation Clauses of Fire Insurance Policies⁴

District	Number Reporting Clause	Co-Insurance			3/4 Value	Average Value	Not Reporting Clause
		80%	90%	70%			
Class I	13	8	2	1		2	8
Class II	7	7					2
Class III	21	16			2	3	6
Class IV	<u>37</u>	<u>16</u>	<u>4</u>		<u>8</u>	<u>9</u>	<u>25</u>
Total	78	47	6	1	10	14	41
Total in Per Cent		60	7.7	1.3	13	18	

4. Number and Per Cent of Districts insured under each type of clause for each class of district.

loss incurred as the amount of insurance carried is to the given per cent of value.⁵

The effect of the co-insurance clause, as well as the other two limiting clauses, is a higher insurance ratio and a reduced rate of premium, benefitting both the insured and the company.

The prevailing practice in the school districts of Cook County is to insure for approximately 70 per cent of the sound value, and in those districts which report co-insurance, it is most common to use the 80 per cent rate.

5. See "Definition of Terms," p.4.

CHAPTER VII

COST OF INSURING

1. The Factors in Cost of Insuring

The three factors which determine insurance costs are: (1) amount of insurance carried; (2) the insurance rate; and (3) term of years. Economies in insuring are possible in each of these factors.

The amount of insurance carried depends upon the sound value of the property. To determine the correct sound value involves a proper and careful appraisal. This is especially true of old buildings, which are usually insured for more than their present true value. The discussion on appraisal of school property is given in Chapter V.

The insurance rate is determined by the particular risk involved. Many items go into the making up of a rate, most of them not being under the control of the board of education. For a building already erected, the type of construction, the community surroundings, and the distance from a fire station are among the uncontrollable items.

Economies in the insurance rate which can be made by the local boards of education are: (1) the removal of fire hazards; (2) the periodic inspection of all school buildings; and (3) the installation of automatic

sprinkler systems in wood-working shops.

Smith¹ made case studies of several cities in the State of New Jersey. He analyzed the rating sheets for each school building in some of the school systems, and in nearly every case found economies which could be made by the school board.

The term of years of insurance is the easiest of the three factors to control. The most economical term for which to insure is five years. The cost for the five-year rate is four times the annual premium and for the three-year rate it is two and one-half times the annual rate. The five-year term, therefore, results in a saving of 20 per cent, and the three-year term, a saving of $17 \frac{2}{3}$ per cent of the premium.

1. Smith, H.A., op.cit., p.56

2. Term of Years of Policies

The predominating length of time for which fire insurance policies are written on public school property in Cook County is five years. Table XIII shows that, of ninety-nine districts reporting the term of years, 87 per cent use the five-year term. Nine districts insure for a term of three years and only four districts re-insure annually.

In the same school district buildings are not always insured for the same length of time. Because of fire hazards and other conditions affecting the risk on a building, the company will, in some cases, decide the period of time for which they will insure.

Fifteen districts reported the term in Class I, of which 13 use the five-year term; one, the three-year term, and one, the one-year term. Of the six districts reporting in Class II, all insure for a period of five years. In Class III, 21 of 25 districts use the five-year term; 3, the three-year, and one, the one-year term. Forty-six of 53 districts in Class IV insure for five years, 5, for three years, and 2 districts for one year.

Whether local financial conditions occasionally justify a one-year of fire insurance is doubtful. For in the first place, the fire insurance premium paid out by a school district is usually an insignificant part of its total school costs, and second, the "concurrency method" discussed in Chapter V arranges the payment of premiums so that only one-fifth of the premium on a five-year policy need be paid annually.

TABLE XXIII

Term of Years for Fire Insurance Policies²

District	Number Reporting Term	1 Year	3 Year	5 Year	Number Not Reporting Term
Class I	15	1	1	13	6
Class II	6			6	3
Class III	25	1	3	21	2
Class IV	<u>53</u>	<u>2</u>	<u>5</u>	<u>46</u>	<u>9</u>
Total	99	4	9	86	20
Total in Per Cent		4	9	87	

2. Number and Per Cent of Districts insuring under various listed terms of years.

The best practice is a policy for a term of five years, and the three-year term is considered good practice. In respect to term of years for which fire insurance is written, Cook County school authorities are to be commended. Ninety-six per cent of those replying to the inquiry blank use three and five year terms.

3. Premium Costs

The actual cost of fire insurance to the school districts of Cook County can be determined only by compiling the amount of premiums paid. These data are presented in Table XXIV. Administrative costs are usually prepared on an annual basis. The premium costs are, therefore, given in the same way, and for buildings and contents combined, by class of districts.

The total amount paid out by 96 districts reporting premium amount is \$29,602 annually. A wide range of premium costs is to be expected because of the wide range in value of property owned by the districts. The entire range is a low of \$1.20 for an annual payment in Class IV, to a high of \$8000 per year, in Class I.

An examination of the median and middle range, in each class, will give a clearer picture of the insurance payments by the districts. In Class I, the middle range is from \$420 to \$2000; in Class II, it is from \$230 to \$630; in Class III, it is from \$90 to \$170; and in Class IV, from \$5 to \$24.

The entire range of annual premiums in each class shows much overlapping of the groups, but the medians and averages indicate a distinct difference in each class of district.

The high cost of fire insurance is given by Gephart⁵ as being due to:

- (a) Excessive losses by fire

⁵ Gephart, W.F., op.cit., Vol.2, p.37

TABLE XXIV

Annual Premium Cost

Buildings and Contents Combined

District	Number of Districts Reporting	Total Premium Paid	Average Per District	Low	High	Range	Median	Middle Range
Class I	16	\$21,685	\$1,355	\$350	\$8,000	-	\$770	\$420 - \$2,000
Class II	8	3,170	395	180	900	-	375	230 - 630
Class III	25	3,432	137	20	380	-	120	90 - 170
Class IV	47	1,316	28	1.20-	192	-	10	5 - 24
Total	96	\$29,603						

- (b) The excessive competition in the business
- (c) The expenses of the business

Those elements which make up the premium cost where insurance is carried in stock companies, Gephart⁴ names as:

- (a) The next cost of the indemnity
- (b) Managerial expenses
- (c) Agency commissions
- (d) Shareholders' profit

4. Gephart, W.F., op.cit., p.29.

4. Ratio of Premium Cost to Insurance Carried

The unit of insurance costs - that is, the premium cost per \$100 of property, per year - is the basis for comparing insurance costs.

The average unit rate and the range, for classes of district, is shown in Table XXV. These columns read in "cents per \$100." The average unit cost in Class IV is more than twice that in Class I. This great difference in cost of insurance, between the upper and lower groups, is due to several factors, including: frame and otherwise poorly constructed buildings; unprotected areas, and the many fire hazards in the more rural districts.

In Class I, the average unit cost is \$0.16; in Class II it is \$0.164; in Class III it is \$0.228, and in Class IV it is \$0.332. This gradual decrease in unit insurance costs, as the size of the district increases, indicates that the larger the school district, the better are the type of buildings, fire protection facilities, and insurance administration.

A second comparison of unit insurance costs can be made by comparing the medians of the annual premium payment, the amount of insurance carried, and the value of property, for buildings and contents combined, by class of district. The rate in cents per \$100 is given below for cost of insurance carried, and for cost based on total property in the district.

TABLE XXV

Ratio of Premium Cost to Fire Insurance
Carried⁵

District	Number of Cases	Average Rate	Range of Rates		
			Low		High
Class I	16	\$0.16	\$0.071	-	\$0.325
Class II	8	.164	.097	-	.42
Class III	25	.228	.074	-	.44
Class IV	47	.332	.05	-	.67

5. Ratio of premium cost to fire insurance carried on annual basis for average type of district and range. Rate is given in cents per \$100.

District	Median Unit Cost Insurance Carried	Median Unit Cost Total Property Value
Class I	\$0.099	\$0.077
Class II	.187	.15
Class III	.24	.172
Class IV	.25	.20

The median cost ranges from 9.9 cents in Class I to 25 cents in Class IV per \$100 of insurance carried. This is lower than the range of the average unit cost, which is from 16 cents to 33.2 cents. Based upon the property value, instead of insurance carried, the rate is 7.7 cents in Class I, 15 cents in Class II, 17.2 cents in Class III, and 20 cents in Class IV. These unit costs purchased, respectively, 78.2, 80, 71.5, and 80 per cent protection of the property value.

The significant finding relative to unit cost of insuring is the great difference that exists between the classes of districts.

CHAPTER VIII

FIRE LOSSES AND HAZARDS

1. Number Reported, Cause and Place of Fire

Park III of the inquiry blank was devoted solely to the report on fire losses. Six districts of 120 reporting had a fire loss during the period of August 1, 1928, to July 31, 1932. Of the six fires, three were in districts of Class I, two in districts of Class III, and one in Class IV. Five per cent of the districts report a fire loss.

The data on the cause of the fire, the place the fire started, and whether the building was totally or partially destroyed are presented in Table XXVI. One district reported the entire loss of their building; this represents $16 \frac{2}{3}$ per cent of the fires reported.

The causes attributed to the six fires are: two fires, or $33 \frac{1}{3}$ per cent, to overheated stove and furnace; one fire to spontaneous combustion; one to a chimney struck by lightning; and two reported the cause unknown.

The causes given above are the same as those listed by the Actuarial Bureau¹ of the National Board of Fire Underwriters as the principal causes of school fires:

1. Forster, H.W., Fire Protection for Schools, p.6.

The records of the Actuarial Bureau of the National Board of Fire Underwriters show the principal causes of fires in schools to be lightning, stoves and furnaces, chimneys, matches and smoking, and spontaneous combustion in various materials.

Tabulation of the places where the fires started indicates that all but one started inside the building. The one case of an exterior fire was a burned roof caused by lightning striking the chimney. One fire started in a classroom; one, in the paper-storage room; one, in the basement storeroom; one, in the basement, and one, under the furnace.

The above data on school fires seem to indicate that most of those reported were probably preventable. A great deal of expert information has been published as to the proper protection of school buildings against fire. Information on the removal of fire hazards is also available. School directors who ignore this aid violate the trust placed in them by the school district and endanger the lives of the children in their schools.

TABLE XXVI

Fire Losses Reported, By Type of District,
Giving Cause and Place Fire Started²

School	Class of District	Cause of Fire	Place Fire Started	Totally Destroyed	
				Yes	No
No. 1	I	Spontaneous Combustion	Paper Storage Room		X
No. 2	I	Chimney Struck by Lightning	Roof		X
No. 3	I	Unknown	Basement	X	
No. 4	III	Unknown	Storeroom Basement		X
No. 5	III	Overheated Furnace	Under Furnace		X
No. 6	IV	Overheated Stove	Classroom		X

2. Total number of fire losses reported - 6 buildings.
Four years, August 1, 1928 to July 31, 1932

2. Construction of Damaged Buildings

The following information was asked concerning buildings damaged:

type of exterior construction, type of roof construction, type of heating system, and type of lighting system.

Five of the six buildings were of brick exterior and one was frame. Three of the heating systems were of steam, one was a hot-air system, one had a room furnace, and one was a room stove. All six buildings had an electric lighting system. The above data are shown in Table XXVII.

These data seem to indicate that the buildings were of fairly good construction. The one building reported as a total loss was of brick exterior construction. It had a tile roof, steam heating, and electric lighting systems.

That schools are good fire risks is argued by Reeder³ as follows:

1. They are more isolated; the fire hazard, due to the factor of exposure, is very low.
2. They are frequently constructed either of fire-proof material or of fire resisting material.
3. They are usually required by law to be equipped with fire-fighting apparatus.
4. They do not contain highly combustible, inflammable materials as other buildings often do.
5. They are occupied only a few hours of the day; moreover, they are occupied by a group without smoking habits.

3. Reeder, W.G., The Business Administration of a School System, p.302.

TABLE XXVII

Type of Construction; Heating and Lighting System
of Buildings Having Fire Losses

	School Reported					No. §	Total
	No.1	No.2	No.3	No.4	No.5		
A. <u>Exterior Construction:</u>							
Brick	X	X	X	X		X	5
Frame					X		1
B. <u>Roof Construction:</u>							
Composition	X			X	X		3
Tile		X	X				2
Shingle						X	1
C. <u>Heating System:</u>							
Steam		X	X	X			3
Hot Air	X						1
Stove						X	1
Room Furnace					X		1
D. <u>Lighting System:</u>							
Electric	X	X	X	X	X	X	6

The relatively few fire losses reported for the smaller districts shows that, although these districts have the greatest percentage of frame buildings, the type of construction does not necessarily make them a poorer risk to the companies.

3. Amount of Losses

The amount of loss, indemnity collected, and the net loss for each of the six buildings reported are given in Table XXVIII. The total amount of loss was \$118,870. Two severe losses, one of \$60,000 and the other of \$56,166, represent most of this amount. The next largest loss was \$1,900. The other three were small losses of \$557, \$172, and \$75. Divided according to the class of district, the losses are as follows:

Class I - \$116,723 - 98.2% of the total loss reported

Class II- No loss reported

Class III- 247 - .2% of the total loss reported

Class IV- 1,900 - 1.6% of the total loss reported

The above classification of losses shows that Class I accounts for nearly all of the total loss reported. The ninety districts reporting in Class III and Class IV had fire losses representing 1.8 per cent of the total amount. The nine districts of Class II reporting had no loss for the period studied.

The total indemnity collected was \$109,183, which was less than the total loss incurred by \$9,687. This represents a net loss of eight per cent to the districts. In only two cases did the amount of loss exceed the indemnity collected. Case No.1, with a loss of \$60,000, received \$53,346 from the company, and suffered a net loss of \$6,654. Case No.3 received \$53,133 on a loss of \$56,166, a net loss of \$3,033.

TABLE XXVIII

Amount of Loss by Fire,
Indemnity Collected, and Net Loss⁴

School	Amount of Loss	Indemnity Collected	Net Loss
No.1	\$ 60,000	\$ 53,346	\$ 6,654
No.2	557	557	
No.3	56,166	53,133	3,033
No.4	172	172	
No.5	75	75	
No.6	1,900	1,900	
Total	<u>\$118,870</u>	<u>\$109,183</u>	<u>\$9,687</u>
Total in Per Cent		92	8

4. Total loss is given including building and contents

4. Relation of Premium Cost to Indemnity Collected

The foregoing analysis of fire losses and cost of insuring leads to an important question. Does it pay to insure? A comparison of premiums paid and indemnities collected, for the period studied, is given in Table XLIX. The total premium cost was \$37,702; or approximately one-third of the indemnity collected. In three of the cases, the premium costs exceeded the indemnity collected; in the other three cases, it was less, indicating that for these districts it was highly profitable to insure.

On an annual basis, the total fire loss for all the districts reported was \$29,717. For these districts, the amount paid out yearly in premiums was \$29,603. This high ratio indicates that for the school districts of Cook County, insurance against loss by fire has been a good investment. The amount of fire losses exceeds the total premium cost by \$114 yearly.

That insurance has been profitable to the school districts likewise shows that it has been unprofitable to the insurance companies. The indemnity for losses cannot exceed 50 per cent of the amount of premiums paid in if the company is to make a profit.⁵ The school districts of Cook County as a group were, during the period of years studied, a poor insurance risk.

The data of this report clearly indicate that no school district in Cook County can afford not to insure. The heavy fire losses incurred by the districts of Class I prove that, although their premium payments are

TABLE XXIX

Ratio of Premium Cost to Indemnity Collected⁶

School	Premium Cost	Indemnity Collected	Ratio Per Cent
No.1	\$32,000	\$ 53,346	60.
No.2	1,760	557	316.
No.3	3,368	53,133	6.3
No.4	400	172	232.
No.5	80	75	107.
No.6	94	1,900	5.
Total	<u>\$37,702</u>	<u>\$109,183</u>	<u>34.5</u>

6. Comparison of total premium cost to indemnity collected for losses incurred. Premium cost given for four-year period that losses were studied.

large, their need for fire insurance is as great as for the smaller districts of Class IV.

None of the larger districts can carry its own insurance fund for replacing fire losses and thus secure protection cheaper than is offered by insurance companies. The largest yearly premium paid by any of the school districts reporting is \$8,000. The same district, however, suffered an average yearly fire loss of \$15,000 for the period studied. An insurance fund to meet losses equal to the premiums paid out would have fallen short by \$7,000. The average yearly indemnity collected was \$13,336, or a net loss of \$1,663 for this district. Whether the school districts of Cook County, as a group, would benefit by carrying its own insurance, will be discussed in Chapter X.

CHAPTER IX

DISTRICTS THAT DO NOT INSURE

1. Suburban Districts

One-hundred twenty school districts replied to the insurance inquiry blank. Two districts indicated that they carry no fire insurance on their school property. It is only fair to surmise that some of the 72 school districts who did not co-operate in the research carry no insurance.

The data for these two districts are presented in Table XXX. Both districts are in Class IV, each having a pupil enrollment of less than 99.

Case 1: This district, with a pupil enrollment of 38, has a single building, valued at \$4,000. The contents are valued at \$500, making a total property value of \$4,500. The median property value of districts in Class IV is \$5,000¹ and a median annual premium payment of \$10.² Full insurance on the property in this district would probably not exceed \$10 per year.

Case 2: This district has 10 pupils enrolled in its school. The building is valued at \$850, and the contents at \$310; a total property value of \$1,160. On the basis of medians compiled for Class IV, the annual premium cost for the school property in this district would probably be less than \$5.

1. Table VII, p.38.

2. Table XXIV, p.82.

TABLE XXX

Type of Districts That Do Not Insure³

	Case No.1	Case No.2
Class of District	IV	IV
Pupil Enrollment	38	10
Value of Building	\$4,000	\$ 850
Value of Contents	\$ 500	\$ 310
Total Value of School Property	\$4,500	\$1,160

3. Number of cases reported - 2; Not including City of Chicago. Data as reported to County Superintendent, June, 1933.

A single fire in either of these two school districts might destroy the entire educational facilities of the district. The taxpayers would then be faced with the problem of supplying new school quarters and equipment.

The school directors in both of these cases are practicing poor business administration by not insuring the school property placed in their care. It is to the best interests of the school district in these cases for the directors to insure, although the school laws do not require them to do so. An example of insurable interest on the part of a trustee or custodian of property is given by Huebner:⁴

Custodians of property entrusted to their care (to the extent of their interest or liability), eg. trustees.

One of the most important findings of this survey is that all⁵ the school districts of Cook County should carry fire insurance on their school property.

4. Huebner, S.S., Property Insurance, p.36.

5. Exception: City of Chicago, See Chapter IX, Art.2.

2. City of Chicago

This district, with its huge school population and hundreds of school buildings, has had a remarkably small amount of loss by fire. In a letter⁶ to W.G. Reeder, dated May 26, 1926, the Chicago Board of Education business manager wrote:

At no time during my thirty years' of service with the board has a school building been totally destroyed by fire. During the past two years, two school buildings were badly damaged to the extent of approximately \$25,000 each; but our records show that the loss by fire in all school buildings during the past twenty-five years would average about \$6000 per year.

Since 1926, the loss record has also been very low. For the year 1933, Chicago suffered less by school fires than in the past thirteen years. The Chicago Schools Engineer reports that:

Fires in the Chicago school buildings caused less damage during 1933 than in any similar period in the last twenty years, according to John Hewitt, chief engineer of the system. Only five fires occurred last year in schools, and the total damage was approximately \$1,000.⁷

The data for the school district of Chicago are shown in Table XXXI. This shows the pupil enrollment, value of buildings and contents, and number of buildings.

6. Reeder, W.G., The Fundamentals of Public School Administration, p.271.

7. Chicago Herald and Examiner, January 18, 1934.

TABLE XXXI

Data for City of Chicago ⁸Pupil Enrollment:

Elementary	378,285
High School	156,382
Special	15,792
	<hr/>
Total	542,459

Number of Buildings:

Main Buildings	364
Branches	53
Rented Branches	21
Portables	692
	<hr/>
Total	1,130

Value of Property:

Buildings	\$203,733,107
Contents	10,722,381
	<hr/>
Total	\$214,455,488

8. As reported to County Superintendent, June, 1933

Chicago carries no fire insurance on its quarter of a billion dollars' worth of school property. In view of the small amount of loss by fire and the vast extent of the property, this is sound practice. The conditions for self-insurance are given by Smith⁹ as follows:

Two conditions must be met in order that school fire insurance may be carried by the cities themselves. First, there must be sufficient number of school buildings so that the law of averages will apply; and second, the buildings must be well scattered.

Twenty-two of the large cities of the United States have over a period of years successfully carried their own fire insurance.¹⁰

Although Chicago has been fortunate in the fire losses in its school property, many of the buildings constitute dangerous fire hazards. The following excerpts from the 1932 report on the Chicago School Survey¹¹, indicate the condition of some of these buildings:

Five buildings are more than seventy years old, 10 are more than sixty, and 34 have seen service for a half a century or more.....

Practically all of these buildings are obsolescent from the standpoint of modern education, are unhygienic, and many are unsafe.

There are 11 buildings so inferior and so inadequate in every respect as to score less than 300 points on a scale of 1000.

9. Smith, H.A., Economy in Public School Fire Insurance, p.101.

10. Ibid., p.101.

11. Vol.IV, p.15, 19, 20.

...The survey staff recommends that each of these buildings be carefully examined by fire-safety experts and that in each case where, in their opinion, there is a menace to life, smokeproof fire wells be constructed as an integral part of the pupil circulation system of the building. Exterior fire escapes are of little or no value on school buildings, in fact they constitute a menace in that they afford a false sense of security.

The Chicago School Survey made these recommendations, which necessitate a considerable expenditure of money, notwithstanding the economies the Survey suggested, and should be carried out.

CHAPTER X

COMMUNITY AND STATE INSURANCE

1. County Plan of Insurance

The City of Chicago is the only school district in Cook County large enough to carry its own risk against loss of property by fire. Since all the other school districts in Cook County need fire insurance, a plan whereby they might establish a system of fire insurance less costly than in private companies, is worth formulating. The two plans possible for such an undertaking, already tried and found feasible elsewhere, are known as the community insurance plan and the state insurance plan.

Community insurance as applied locally would take the County for its boundary. The county is an organized political unit in which the administration of community insurance could be easily established. To operate successfully, two conditions must be met; (1) there must be a large number of risks, and (2) the risks must be well scattered.

Reeder,¹ in his argument for community insurance, mentions the following merits:

1. it is cheaper than commercial insurance
2. it saves time of boards of education and school administrators,....
3. it obviates the competition of the insurance companies for the school business.

1. Reeder, W.G., "Community Insurance of School Buildings," Educational

Whether under the community insurance plan the School Districts of Cook County could obtain fire insurance cheaper than they do at present in private companies is the main problem. This investigation seems to indicate that they could not.

For the period studied, August 1, 1928, to July 31, 1932, the districts co-operating in the research spent \$29,603 annually in fire insurance premiums. Fire losses for these districts amounted to \$29,717 per year. The number of risks are obviously far too few, and the amount of fire losses too great, for an insurance system embracing Cook County school districts alone.

I.(continued) Research Bulletin; April 15, 1926.

2. State Plan of Insurance

That a plan of state insurance for the school districts of Illinois would probably be successful may be seen from similar undertakings in South Carolina, North Dakota, Wisconsin, and the one proposed in Pennsylvania.

The law of averages applies far better when applied to an entire state. The loss ratio for school districts in Cook County is more than 100 per cent. A survey³ covering 25 per cent of the 2,587 districts in Pennsylvania revealed that for these districts the loss ratio was only 20 per cent. In all four states mentioned above, the loss ratio has not been over 30 per cent, and the operating costs have not exceeded 4 per cent, indicating a saving of over 50 per cent in costs through a state insurance plan.⁴

In each of the states of South Carolina, North Dakota, and Wisconsin, there has accumulated an amount of at least one million dollars on the earnings of the insurance fund.⁵

The above analysis indicates that a state insurance fund plan would result in material saving over present methods of insuring. This survey recommends a plan similar to the one used in North Dakota, where districts are required by law to insure. This fund should be established in the department of Public Instruction.

3. Study of the Economical Insurance of School Property, Supt. of Public Instruction and Insurance Commission, Penn.

4. Smith, H.A., op.cit., p.105.

5. Ibid., p.109.

CHAPTER XI

SUMMARY AND RECOMMENDATIONS

This survey of fire insurance on public school property in Cook County is an analysis of the practices and procedures followed by the school districts of Cook County in protecting their school property against loss by fire.

The research follows the documentary and questionnaire methods. An insurance inquiry blank sent to all school districts in the County represents the chief source of data. This was supplemented by data from the records of the Cook County Schools superintendent.

The problem is to ascertain:

(1) amount and type of property owned, and insurance carried to determine whether

(A) the property is amply insured,

(B) any districts do not insure, and if not, how well they can afford to carry the risk;

(2) the cost of insuring, to determine whether

(A) it pays to insure,

(B) differences exist in rates for the various districts;

(3) the present methods employed by districts in placing insurance, and how they compare with the best practice in public school business administration;

(4) the form of policies, term of years of insurance, in order to determine what economies may be suggested;

(5) whether a community or state insurance plan might replace the present method of insuring in private companies at an advantage to the districts;

(6) a record of fire losses in the districts for the period studied, to determine the type of buildings damaged, the cause and place of fire, and actual loss suffered.

The summary of the findings which follows is given by chapters. This summary includes only the more important and most significant of the findings. The thirty-one tables found in the ten preceding chapters of this report represent a compilation of all the data. These tables may be consulted for data concerning any or all classes of districts.

The recommendations suggested as a result of the findings follow the summary. These are listed without regard to chapter headings. Conforming to the aim of educational research, it is hoped that the findings and recommendations will serve to better conditions in Cook County public school business administration.

1. Summary of Findings

Chapter I: Fire Insurance

Legal Provisions in Illinois

1. The school laws of Illinois make no provisions regarding the insuring of school property against loss by fire.
2. That a school board would be held responsible if a school building in the district were lost by fire and carried no insurance is doubtful. No such case is on record.
3. The regulation of fire insurance practices in Illinois is not stringent. The laws of the State of Illinois make:
 - ^{as} No restriction on co-insurance
 - ~
No provision for valued policy
 - Mutual companies permitted to operate with almost the same privileges as stock companies
 - Provision for township and county mutual companies
 - No requirements for a standard policy.

Chapter II: Previous Research on School Property

Insurance

1. R.H. Thomas; 1913. This was the first effort in public school property insurance research in the United States. Thomas made a small questionnaire type of survey for thirty-three cities in the United States. This was made to help determine a self-insuring fund policy for Portland, Oregon. Reported in American School Board Journal, September, 1918.
2. William T. Melchior; 1925. This is considered the best piece of research in the field. All phases of insurance on school property, including fire, were studied. The survey covered the State of New York and several cities in the United States. A 56.9 per cent return on the questionnaire to the New York school district formed the basis for the data. Published by Teachers College, Columbia University, 1925.
3. S.G. Skaaland; 1925. This study followed closely the work of Melchior and the same questionnaire was used. The survey covered the school district of Minnesota and a return of 26 per cent was obtained. Reported in the American School Board Journal, October, 1927.
4. H.A. Smith; 1930. This research dealt with economy in public school fire insurance. Case studies were made of fire insurance rating sheets in some of the public school systems of New Jersey. Recommendations are made for economies in fire insurance practice. Published by Teachers College, Columbia University, 1930.

Chapter III: Statement of Problem and Procedure

Classification of Data

1. For the purpose of this investigation, the 191 school districts of Cook County are grouped according to pupil enrollment, as follows:

Class I	-	1000 or more	-	33 districts
Class II	-	500 - 999	-	15 districts
Class III	-	100 - 499	-	49 districts
Class IV	-	1 - 99	-	94 districts

Return on Insurance

Inquiry Blank

1. The returns total 120 school districts, or 63 per cent; approximately two out of three districts.

2. In each group, the return was: Class I - 64 per cent; Class II - 60 per cent; Class III - 55 per cent; Class IV - 67 per cent.

Chapter IV: Public School Property in
Cook County

1. The data on public school property was obtained from the 1933 district reports to the county schools superintendent, and represents one hundred per cent¹ of the school districts.

2. Public school buildings in Cook County range from small frame ones, valued at less than one thousand dollars, to huge, modern, fireproof buildings, valued at more than one million dollars.

3. The total value of the 378 school buildings in the 191 school districts² of Cook County is \$53,178,831.

4. The middle range (25th to 75th percentile) of value of buildings is: Class I, \$500,000 - \$2,000,000; Class II, \$150,000 - \$350,000; Class III, \$35,000 - \$125,000; Class IV, \$2,500 - \$10,000.

5. Meager furnishings exist in the school buildings of certain districts, evidenced by the many who reported \$100 or less for value of contents.

6. The total value of the contents of the buildings in the districts is \$4,087,455.

7. The middle range of value of contents is: Class I, \$30,000 - \$150,000; Class II, \$5,000 - \$40,000; Class III, \$2,000 - \$9,500; Class IV, \$350 - \$1,000.

8. The entire value of school property, buildings, and contents

¹ and ². Not including the city of Chicago; see separate summary, p. 122

is \$57,266,286.

Chapter V: Fire Insurance Administration. Type of
Insurance Companies

1. The school district may assume the risk, that is, carry no insurance; it may assume a part of the risk; or it may shift the entire risk to insurance companies.
2. Four districts report no insurance carried; two of these rent their school quarters, and two assume the entire risk on their own property.
3. All districts insuring do so in stock or mutual companies.
4. Sixty per cent of the districts insure in stock companies, 31 per cent in mutual companies, and 5 per cent in both.
5. The chief advantage of the stock company is the definite contract, and the capital and surplus which serve as a guarantee to the policy holders for the payment of losses.
6. The principal disadvantage of the mutual company lies in the indefinite contract which permits the company to call for necessary assessments in order to make good losses incurred.

Appraisal of School Property

1. Proper appraisal of property for insurance purposes means to determine its true present replacement value.
2. The factors involved in determining depreciation of school buildings are:
 - (a) Physical: wear and tear from operation, influence

of a maintenance policy, action of time and the elements, structural defects.

(b) Functional: inadequacy, obsolescence.

3. The two important questions in the problem of appraisal of property are: by whom is the appraisal made, and how often is it done,

4. School buildings are appraised in 59 per cent of the districts by school authorities; in 28 per cent by insurance companies, and in 9 per cent by appraisal firms.

5. The frequency of appraisal of buildings is every five years in 52.5 per cent of the districts; 17.4 per cent do so at the expiration of the policy; 9.3 per cent do every three years; and 9.3 per cent do so annually.

6. Eighty-seven per cent of the districts have the school authorities appraise the value of the contents, and 80.5 per cent do this by means of inventory.

7. Thirty-nine per cent of the districts appraise the contents every five years; 26.5 per cent do so yearly, and 14 per cent do so at the expiration of the policy.

8. The best practice for appraisal of school property takes place in the larger districts.

9. Sixty-one and a half per cent of the school districts re-appraise their property before writing a new policy. This is sound business practice.

Allotment of Insurance

1. Most of the school districts have but one building and one policy; consequently, no allotment problem arises for these districts.
2. Some districts assign insurance to agents without regard to the reliability of the company or efficiency of the policy.
3. Eighty-six per cent of the districts divide their insurance business among the local agents and 14 per cent place their policies with one agency.

Concurrency of Policies

1. School boards should arrange their fire insurance policies so that one-fifth of all the insurance expires each year (if insurance is written for a five-year term.) This practice will result in a uniform yearly budget for insurance.
2. Forty-two per cent of the school districts follow the commendable plan given above; 58 per cent pay the total premium for insurance out of a single year's budget.
3. For the more rural districts, whose insurance premium is very small, concurrency of policies is hardly necessary.
4. The larger districts of Class I and II, whose premiums range from \$450 every five years and upwards, should stagger the payments.
5. That the school districts of Cook County in actual practice follow closely the above analysis, is highly commendable.

Insurance Records

1. The extent to which a record of fire insurance is kept will, in most cases, be determined by the amount of insurance carried.
2. The types of insurance records used by the school districts vary from a single card notation to a standard, printed insurance form.
3. More than 48.5 per cent of the districts indicated that they kept no record in addition to the policy itself.
4. A minimum record should include: number on the policy, amount of insurance, premium, and date of expiration.
5. Twenty-four per cent of the districts use a printed insurance form, 21.3 per cent keep their record in the minute book, and 6.2 per cent, use a card system.

Chapter VI: Amount of Fire Insurance Carried

Specific Insurance

1. The middle range of specific insurance carried on buildings is: Class II, \$50,000 - \$185,000; Class III, \$25,150 - \$63,000; Class IV, \$2,000 - \$14,000.
2. The middle range of specific insurance carried on contents is: Class II, \$3,000 - \$13,000; Class III, \$1,850 - \$4,000; Class IV, \$300 - \$1,750.
3. In most cases where the districts use the specific form of insurance, the property is under-insured.

Blanket Insurance

1. Most of the insurance carried by the school districts is in the blanket-policy form.
2. For the districts reporting, the total amount of blanket insurance is \$17,099,200, as compared with a total of \$2,149,700 in the specific form.
3. The middle range of blanket insurance carried, buildings and contents combined, is: Class I, \$500,000 - \$1,323,000; Class II, \$145,000 - \$650,000; Class III, \$38,000 - \$107,000; Class IV, \$2,000 - \$10,000.
4. Districts using the blanket form insure for more nearly the sound value of the property than do those districts which use the specific form of policy.

5. For both blanket and specific forms, buildings and contents combined, the middle range of insurance carried is: Class I, \$500,000 - \$1,335,000; Class II, \$145,000 - \$243,000; Class III, \$30,500 - \$69,000; Class IV, \$2,800 - \$9,000.

Ratio of Amount of Insurance to Sound Value

1. The most significant problem in fire insurance practice is to determine whether the property is amply insured.

2. Two methods of studying the ratio of insurance carried to sound value are: first, a comparison of the medians of the amount of insurance carried and the medians of the sound value for each group of districts; and, second, a comparison of the amount of insurance carried and sound value of property for each group, so as to examine the range of ratios.

3. By the first method, the ratio of medians in per cent is:

Class I - 78.2; Class II - 80.; Class III - 71.5; Class IV - 80.

4. By the second method, the average ratio in each group in per cent are: Class I - 68.2; Class II - 78.; Class III - 57.; Class IV - 70.

5. The range of ratios indicates a number of districts in each class who insure for only one-third the value of the property.

Clauses Limiting Amounts

1. Sixty-nine per cent of the districts reporting limitation clauses, use the co-insurance clause; 14 per cent use the $\frac{3}{4}$ value clause; and 18 per cent use the average clause.

2. Co-insurance limits the liability on the part of the company, according to the percentage of the clause.

3. Eighty-seven per cent of the districts having the co-insurance clause in their policy use the eighty per cent rate; 11 per cent use the ninety per cent rate; and 2 per cent use the seventy per cent rate.

4. The effect of the co-insurance clause, as well as of the other two limiting clauses, is a higher insurance ratio and a reduced rate of premium, benefitting both the insured and the company.

5. The prevailing practice in the school districts of Cook County is to insure for approximately 70 per cent of the sound value.

Chapter VII: Cost of Insuring

Term of Years of Policies

1. Eighty-seven per cent of the school districts use the five-year term for insurance; 9 per cent use a three-year term; and 4 per cent the annual term.

2. Insurance for a five-year term costs but four times the annual rate, and the three-year term of insurance costs two and one-half times the annual rate.

3. By the "concurrency method," the premium for a five-year term of insurance may be paid out in uniform yearly amounts.

4. That ninety-six per cent of the school districts of Cook County use the three and five year terms is commendable.

Premium Costs

1. The middle range of premium costs, per annum, is:

Class I, \$420 - \$2,000; Class III, \$230 - \$630; Class III, \$90 - \$170;
Class IV, \$5 - \$24.

2. The entire range is a low of \$1.20 for an annual payment in Class IV to a high of \$8,000 per year in Class I.

Ratio of Premium Cost to Insurance

Carried

1. The unit cost of insurance is the premium cost per \$100

of property per annum.

2. The average unit cost of insurance in Class IV is more than twice that in Class I.

3. The average unit costs are: Class I, 16 cents; Class II, 16.4 cents; Class III, 22.8 cents; Class IV, 33.2 cents.

4. These unit costs purchased, respectively, 78.2, 80, 71.5, and 80 per cent protection of the sound value of the property.

5. The unit cost varies inversely with the size of the district.

Chapter VIII: Fire Losses and Hazards

Number Reported, Cause and Place of

Fire

1. For the period of August 1, 1928, to July 31, 1932, sixty-three per cent of the school districts of Cook County reported six fire losses.
2. Three fires were in districts of Class I, two of Class III, and one in Class IV.
3. One fire of the six reported was a total loss.
4. The causes attributed to the six fires are: two by overheated stove and furnace, one to spontaneous combustion, one to lightning, and two to unknown causes.
5. Places fire started are: one in classroom; one in paper-storage room, one in basement storeroom, one under basement, and one on the roof.
6. Most of these fires were probably preventable.

Construction of Damaged Buildings

1. Five of the buildings were of brick, and one was of frame construction.
2. Three of the heating systems were of steam, one was a hot-air system, one was a room furnace, and one a room stove.
3. The building totally destroyed was of brick exterior, with a tile roof and steam heating and electric lighting systems.
4. The damaged buildings were of fairly good construction.
5. The fire loss report indicates that the frame school buildings of Cook County are not necessarily a poorer risk than those of brick

exterior construction.

Amount of Losses

1. The total amount of losses was \$118,870.
2. The individual losses are: \$60,000, \$56,166, \$1,900, \$557, \$172, and \$75.
3. Divided according to class of district, the losses are:
Class I, \$116,723; Class III, \$247; Class IV, \$1,900.
4. The ninety districts of Class III and Class IV represent only 1.8 per cent of the total loss.
5. The total indemnity collected was \$109,183. This represents 92 per cent of the fire loss.

Relations of Premium Cost to Indemnity Collected

1. The fire losses for the period studied amounted to \$29,717 on an annual basis.
2. The annual premium payment for the school districts was \$29,603.
3. The amount of fire losses exceeds the total premium cost by \$114 yearly.
4. The ratio of indemnity collected to premium cost, based on the districts reporting for the period studied, is 92 per cent.
5. The school districts of Cook County, as a group, are a poor insurance risk.
6. No school district of Cook County can afford not to insure.

Chapter IX: Districts That Do Not Insure

Suburban Districts

1. Two districts do not carry fire insurance on their school property.

Case 1: One district has a pupil enrollment of 38, and property valued at \$4500. Full insurance on the property in this district would probably not exceed \$10 per year.

Case 2: The other district has a pupil enrollment of 10, and property valued at \$1160.

Full insurance on the property in this district would probably not exceed \$5 per year.

2. All suburban school districts of Cook County should carry fire insurance on their school property.

The City of Chicago

1. The value of the school property of the district of Chicago is a quarter of a billion dollars.

2. For the year 1933 the total fire loss was one thousand dollars.

3. For Chicago school buildings, the policy of carrying no insurance has proved to be satisfactory.

4. The Chicago School Survey, 1932, reported many school buildings as dangerous fire hazards.

Chapter X: Community and State Insurance

1. Two possible plans of a self-insurance fund for school districts are: (1) a county organization and (2) a state insurance plan.
2. Two conditions must be met to successfully operate a self-insurance fund by a group: (1) there must be a large number of risks, and (2) the risks must be well scattered.
3. The number of risks are far too few to justify Cook County school district insurance plan.
4. The law of averages would apply far better for the entire State of Illinois.
5. The state insurance plan has proved successful in other states, where the insurance costs for school districts were cut in half.
6. A state insurance fund plan for school districts in Illinois would result in a material saving over the present method of insuring.

Recommendations

1. The school districts of Cook County, with the exception of the City of Chicago, should insure their school property against loss by fire. These districts cannot afford to carry their own risk.
2. School property should be appraised by competent means, preferably an appraisal firm, at least once every five years. This will establish a true value of the property for determining the correct amount of insurance to be carried.

3. The allotment of insurance should be carefully made. A small amount of insurance divided among several agents may result in types of policies which will not be economical. The reliability of the company writing the insurance should be investigated.

4. The "concurrency plan" of paying premiums should be followed by districts of Class I and Class II. This practice will result in a uniform yearly budget for insurance.

5. An insurance record should include the following items: Number on the policy, amount of insurance, premium, and the date of expiration.

6. The amount of insurance carried should not be less than 80 per cent of the true present value of the property to secure ample protection. For frame buildings a 100 per cent ratio is desirable.

7. A five-year term of insurance is the most economical rate, costing but four times the annual rate. By means of the "concurrency plan" the premium payment may be divided over the five year period.

8. The careful inspection of all school property annually will probably result in the removal of fire hazards. This will procure a lower insurance rate in addition to preventing fires.

9. The school laws of Illinois should make provisions regarding the insurance of public school property against loss by fire. Districts which cannot carry their own risk should be required to insure.

10. A state insurance fund plan for school districts in Illinois would bring material saving over the present method of insuring. This

plan has proved successful in several states, where the insurance costs to districts have been reduced by as much as 50 per cent.

APPENDIX

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LOYOLA UNIVERSITY
DEPARTMENT OF EDUCATION
28 North Franklin Street
CHICAGO, ILLINOIS

November 18, 1933.

Dear Sir:

We are undertaking a study of fire insurance on public school property in Cook County. It is being conducted in the Bureau of Educational Research, School of Education, Loyola University.

This study has been approved by Mr. Otto F. Aken, superintendent of Cook County Schools, who is co-operating by supplying much of the necessary data from his office. He believes the results will be worth while and of value to school officials in Cook County.

We believe the findings may suggest economies in insuring public school property, a reduction of fire hazards, and better insurance protection. A summary of the findings will be mailed to each school district included in the survey.

Kindly fill out the inclosed questionnaire and return in the stamped envelope. Most of the information may be obtained directly from the insurance policies. If you do not have the information at hand, please consult your school superintendent or the insurance agents handling the insurance.

Your co-operation will be greatly appreciated, and we shall be glad to hear from you at your earliest convenience.

Very truly yours,

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The thesis "Fire Insurance on Public School Property in Cook County, Illinois," written by William Norman Olefsky, has been accepted by the Graduate School of Loyola University, with reference to form, and by the readers whose names appear below, with reference to content. It is, therefore, accepted as a partial fulfillment of the requirements for the degree of Master of Arts.

Mr. John W. Scanlan

July 3, 1934

Rev. Austin G. Schmidt, S.J.

July 31, 1934