

A PROPOSED PLAN FOR CONSOLIDATING THE  
HIGH SCHOOLS OF DONIPHAN COUNTY

by

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## INTRODUCTION

The lack of organization has been one of the weak points in rural education. This is true of both the elementary and secondary organizations. In our own state very little effort has been made on the part of state government to assume leadership in developing an improved school system. As a consequence our schools have grown up in a more or less haphazard manner, resulting in inequalities of educational opportunities for children, and a wide variation in cost to the school constituency.

Every individual interested in public education is desirous that it be of the type which will result in giving the best possible training at a minimum of cost. There is a vast difference between money spent foolishly and an intelligent expenditure of public funds. Where school systems develop and continue to operate without taking into consideration community needs and the ability of districts to support them properly, there is every likelihood that some important functions of education will receive no recognition. A possible solution of these conditions is that of consolidation.

Consolidation is no new and untried experiment, as

many unacquainted with its history think. Massachusetts took the first step toward consolidation in 1869, and has steadily continued this policy to the present time. The movement toward consolidation soon extended to other New England states, and so on to the Middle West, and more recently to the South and far West. Consolidated schools now form an integral part of the school system of three-fourths of the states. This type of school has proved successful in all sections and is therefore not limited to any particular geographical or economic condition. The movement toward consolidation has at no stage been a fad, Farmers are naturally a highly conservative class, and because of their isolation, are immune from hasty action. Consolidation has been adopted as a result of observation and experiment, and it flourishes best where civic ambition and high educational ideals control. It is dependent upon intelligent direction and not promotion. It is not in itself a panacea for the ills of rural education, but a means to an end.

The purpose of this study is to outline a more satisfactory high school organization for Doniphan County. The county is located in a wealthy agricultural section of the state, yet we will find, to a very marked degree, some discrepancies existing which can and should be eliminated.

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This study, while limited to the high schools of one county, may call attention to problems facing other counties in Kansas, and present a possible solution of those problems.

## PART I

### A SURVEY OF THE PRESENT HIGH SCHOOL SYSTEM FROM 1928-1933

#### Present Plan of High School Districts

A study of the map in Figure 1 reveals the inequalities existing in size and lack of uniformity of the high school districts in Doniphan County. This condition came as a result of the failure in having a definite plan for the development of the high school system.

The first high schools were city schools, located at Troy, Wathena and Highland, and were supported by those cities in which they were located. Country children attending them paid tuition for that privilege.

With the passage of the rural high school act in 1917, conditions changed rapidly. The people living within those cities which had been supporting high schools were almost unanimously in favor of the larger high school district which promised some relief from high taxes. Those living in rural districts and smaller towns who had been paying



Figure 1. A map showing the high school districts of Doniphan County

tuition and sending their children long distances to school, felt it would be advantageous for them to have a high school of their own. Each district was anxious to include all territory possible within its boundaries in order to have a high valuation. As a result no consideration was given to condition of roads leading to school, or any other divisions previously made. One school included a part of Brown County in its district. Since this report is concerned with Doniphan County only, the part of Brown County included in the Leona district is not shown on the map. Those districts organizing first took their choice, and the others took what was left. Ultimately all land within the county became a part of some rural high school district.

Table I shows the valuation, enrollment, number of teachers, and area in square miles of the districts over the period 1926-1933. Elwood is not organized as a rural high school, which accounts for its limited area. Other rural high school districts range in size from 19 to 70 square miles. Corresponding variations in valuations and enrollment are shown. Each of eight small high schools were able to hire only three teachers. In several instances teachers were employed on a half-time basis, teaching music and one or two other subjects.

The study of present high school districts thus re-



veals a lack in uniformity in size and valuation, resulting in differences of enrollment and number of teaching units maintained.

Table I. Average Valuation, Enrollment, and Number of Teachers in Each High School, 1928-1933

School	Enrollment	Valuation	No. of Tchrs.	Area in Sq. Miles
Doniphan	30	\$1,069,791	3	36
Leona	26	1,798,961	3	22
Sparks	38	851,390	3	19
Bendena	38	2,752,175	3½	42
Severance	43	1,745,575	3	26
Denton	35	3,105,408	3	39
Highland	84	3,102,000	6	40
Troy	154	4,669,262	8	70
Wathena	123	3,273,728	7	68
White Cloud	55	1,209,408	3½	32
Elwood	48	1,200,662	3	5



## Cost for Instruction and Operation of High Schools

The average cost for instruction in the high schools per year was \$72,117 and average cost for operation \$105,696.68. The excessive cost for instruction is in part due to the fact that in the eight small high schools the principal did approximately one-third of the teaching. While the average teacher's salary amounted to \$1595 per year, the average principal's salary was \$2146 per year.

Table II shows the average cost per pupil for instruction and operation per year, and deviations from the means in both cases. The mean cost for instruction per pupil per year for the entire county was \$118, while mean cost for operation was \$156. It is to be noticed that average costs per pupil in small schools were excessively high.

Table II. Average Cost per Pupil per Year for Instruction and Operation, and Deviations from the Means

School	Average cost per pupil for instruction	Average cost per pupil for operation	Deviation from the mean in instruction	Deviation from the mean for operation
Doniphan	\$140	\$167	\$22	\$10
Leona	175	216	56	59
Sparks	100	152	-18	-4
Bendena	146	184	27	27
Severance	104	162	-14	5
Denton	149	192	30	35
Highland	110	153	- 7	-3
Troy	87	124	-26	-32
Wathena	97	112	-20	-43
White Cloud	89	125	-28	-31
Elwood	109	133	-9	-22

Deviations from the mean varied from \$28 below to \$56 above for instruction, and from \$43 below to \$59 for operation.

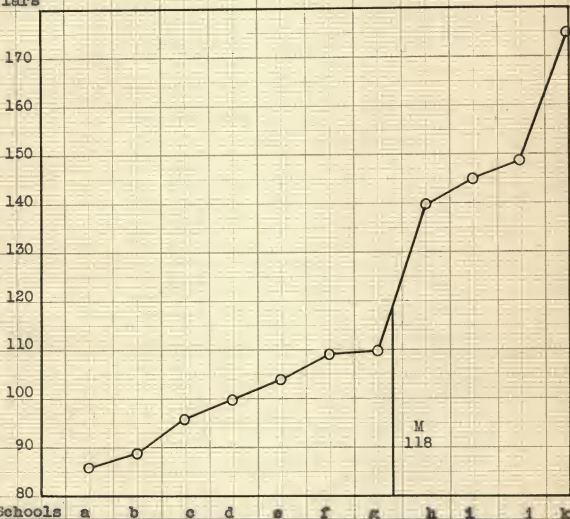
Figure 2 is a graphical representation of these same facts with regard to cost per pupil for instruction with the mean of the county at \$118 and the median at \$109. The

curve represents in true fashion the wide range among the schools.

The cost per pupil for operating the various schools of the county per year is shown graphically in Figure 3. The curve, although not as precipitous as that for instruction, shows a marked increase in cost of operating the smaller schools.

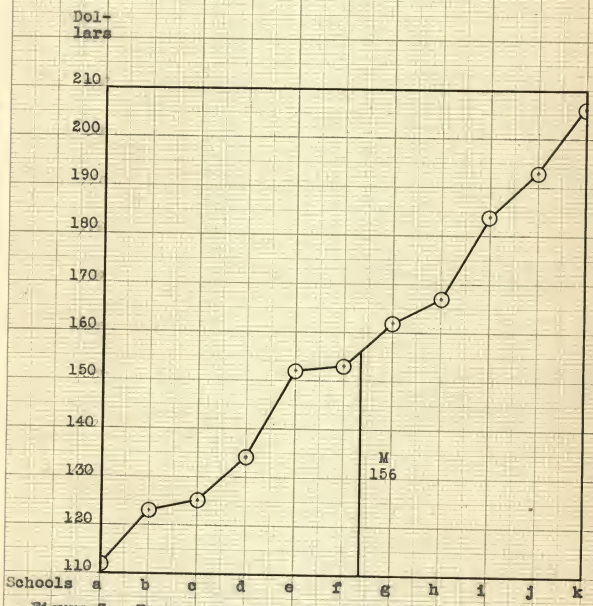
Deviations from the mean cost for instruction varied from \$28 below to \$56 above. This would seem to indicate that pupils in some high schools were receiving better instruction than in others. The variation is due, however, to small enrollments in some schools and expensive instruction due to the principal's salary. Figure 4 represents the curve for mean deviation.

Deviations from the mean in cost of operating the schools ran from \$43 below to \$59 above. We find about the same variation here as in cost of instruction. The fluctuations are shown graphically in Figure 5.

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Schools a b c d e f g h i j k

Figure 2. Frequency graph showing cost per pupil per year for instruction in high schools of Doniphan County a, Troy; b, White Cloud; c, Wathena; d, Sparks; e, Severance; f, Elwood; g, Highland; h, Doniphan; i, Bendena; j, Denton; k, Leona.



**Figure 3.** Frequency curve showing cost per pupil for operation in Doniphan County a, Wathena; b, Troy; c, White Cloud; d, Elwood; e, Sparks; f, Highland; g, Severance; h, Doniphan; i, Bendena; j, Denton; k, Leona.

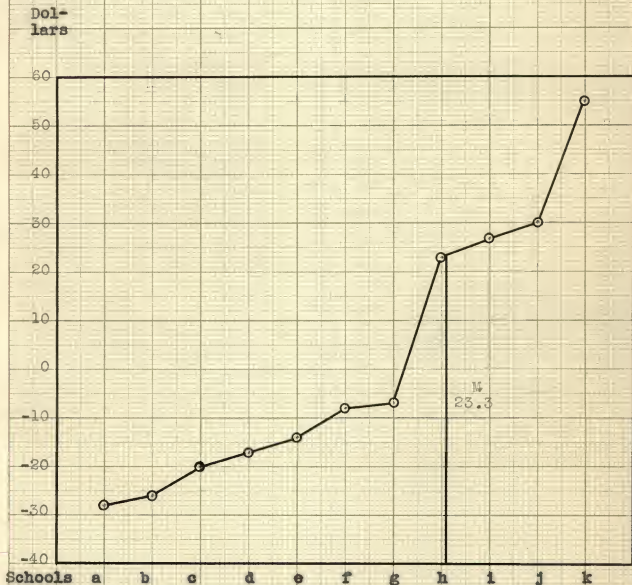


Figure 4. Frequency graph showing deviation from the mean for the cost of instruction per pupil in the schools of Doniphan County a, White Cloud; b, Troy; c, Wathena; d, Sparks; e, Severance; f, Elwood; g, Highland; h, Doniphan; i, Bendena; j, Denton; k, Leona.



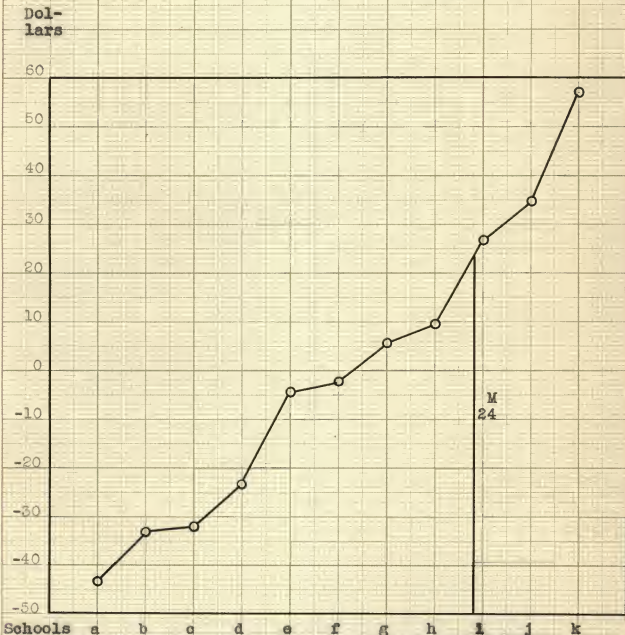


Figure 5. Frequency graph showing deviation from the mean in cost of operating the high schools of Doniphan County per pupil a, Wathena; b, Troy; c, White Cloud; d, Elwood; e, Sparks; f, Highland; g, Severance; h, Doniphan; i, Bendena; j, Denton; k, Leona.



### The Type of High School Needed

It can be readily seen that the high schools in Doniphan County, particularly the eight small schools, can offer only a very limited curriculum. The small schools make no attempt to teach vocational agriculture or home-making. Some of them have one or two years of manual training and one year of domestic art, but these feeble attempts fall far short of preparing the pupil to take up work effectively in these fields. No high school in the county can at the present time qualify for Smith-Hughes aid. In the main, curricula are arranged with the idea of preparing the pupil for college entrance. If the rural high school is to maintain an adequate standard of efficiency, if it is to serve its patronage aright, it must take into its program of study training in the concrete affairs awaiting its graduates. For boys and girls living in an agricultural community those are agriculture and home-making.

Any attempt on the part of the small high schools to make vocational agriculture and homemaking a part of their curriculum would very materially raise the cost of conducting those schools, and the people would be unwilling to

spend more extravagantly now than they have in the past. The formation of larger school units, with the opportunity at least of developing a more diversified curriculum, would seem to be the logical way out.

## PART II

A DESCRIPTION OF THE PROPOSED PLAN OF  
CONSOLIDATING HIGH SCHOOLS OF DONIPHAN COUNTY

## Plan for Redistricting the County

From the description given of the present system it should be quite evident that a reorganization of the schools would be feasible. In order for consolidation to take place a majority vote in each of the two or more districts is necessary. The county superintendent may then call for the election of a new board representing the consolidated district.

The effectiveness of consolidation will depend upon several factors; the homogeneity of the people; their willingness to work together for a better school; the ease with which they may establish contacts; and the practicability of getting pupils to the central schools. These factors should receive paramount consideration. To these also should be added the buildings and equipment of the central school, and an equality as far as possible in size and valuation of the various districts. The redistricting herein proposed has taken into account these factors, considering them to be the most equitable in all cases.

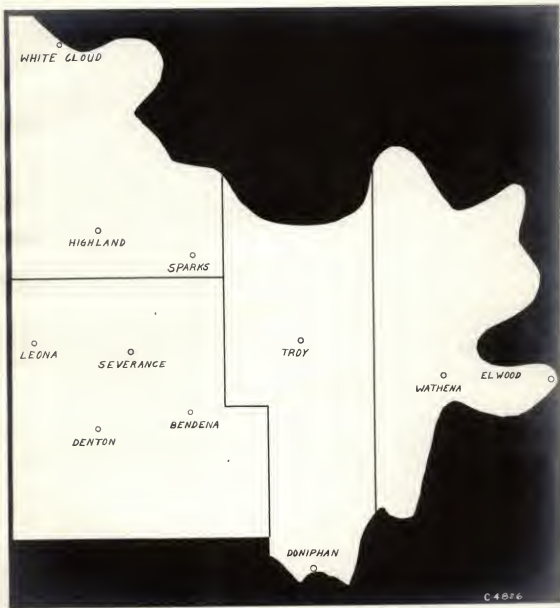


Figure 6. A map of Doniphan County showing proposed consolidated high school districts

The schools of Leona, Denton, Bendena, and Severance would be placed together with Severance as the central school. Gravel highways already connect Denton and Bendena with Severance, and plans are under way for constructing a gravel road connecting Leona and Severance. This school has a fine building adequate to accommodate the possible enrollment of 142 and would make a fine starting point for an improved school.

Highland and White Cloud would be combined, with the central school at Highland. The building at White Cloud is inadequate and old and would have to be replaced in a short time, whereas the Highland building is large enough to care for the possible enrollment of 177.

The schools of Troy and Doniphan can be combined with Troy as the central school. The enrollment at Troy at one time exceeded the average enrollment to be expected. The building is new and well equipped to carry on the work required.

Wathena and Elwood could comprise a fourth district with Wathena the central school. Wathena has the newest and best equipped school in the county. It is amply large to care for the 171 pupils expected.

Table III. Valuation, Probable Enrollment, and Number of Teachers for the Consolidated Schools.

School	Valuation	Area Sq.Mi.	Enrollment	No. of Tchrs.
Highland	\$5,162,798	91	177	10
Severance	8,603,158	122	142	8
Troy	5,779,053	106	184	10
Wathena	4,474,390	73	171	10

The facts given in Table III were determined by using the averages from the years 1928-1933, with the exception of determining the number of teachers required in each central school. The recommendations of the School Code Commission were used as a basis in determining the number of teachers in each school. This provides seven teaching units for the first 96 pupils and an additional teaching unit for each group of 22 pupils above that limit. No one school will exceed 250 in enrollment, so other provisions need not be taken into consideration.

### Plan and Cost of Transportation

In determining the arrangement for a transportation system, three factors must be considered. Namely, number of pupils, distance to be traveled, and condition of roads. It would seem impractical, in the beginning at least, to propose a transportation system, which would attempt to gather all pupils at their homes and return them. In fact, road conditions would prohibit such a practice. It is proposed rather that school busses travel from present school sites to the central schools only. Road conditions are favorable in all cases except those leading from Leona to Severance, Doniphan to Troy, and White Cloud to Highland, and plans for making these "all-weather" roads are now under way.

Table IV. Cost of Instruction, Transportation and Maintenance of Plant in each Proposed High School District

School	Cost of Instruct.	Cost of Transport.	Cost of Maintaining Plant	Per Pupil Cost of Total
Highland	\$14,899	\$2,377.80	\$4,255	\$121.65
Severance	12,065	1,575.00	3,426	120.00
Troy	14,899	945.40	5,248	114.67
Wathens	14,899	972.86	4,528	119.50



The cost for transportation for each school as shown in Table IV, was determined by using the figure of 10.64 cents per mile per day for each school bus and adding one dollar a day for the driver.\* Taking the cost of running the bus from Doniphan to Troy as an example, the 40 miles traveled multiplied by 10.64 cents equals \$4.25 plus one dollar for driver equals \$5.25, and \$5.25 multiplied by 180 days equals \$945, the cost per school year. The figure, 10.64 cents, includes gasoline, oil, repair and general upkeep of the vehicle.

One school bus will be necessary to take pupils from Leona to Severance, one from Denton to Severance, one from Bendena to Severance, one from Sparks to Highland, one from Doniphan to Troy, two from Elwood to Wathena, and two from White Cloud to Highland. The total cost for transportation per year for the entire county would be \$5,871.

#### Cost of Instruction and Maintenance of School Plants

The cost of instruction in each central school is found by multiplying the number of teachers by \$1,595,

\*Study made by Superintendent W. E. Sheffer of the city schools of Manhattan, Kansas, of the costs of transportation in Kansas from 1923-1933.

which was the average salary per teacher per year from 1928-1933, and adding \$2,146, the average principal's salary per year.

The cost of maintaining the school plants as shown in Table IV, was determined by finding the cost per pupil per year for maintaining the Troy school. This figure was then multiplied by the enrollment in each central school. The Troy school was used because its enrollment more nearly approaches the probable number of pupils to be expected in the central schools.

The total cost of instruction would be \$62,154 and that of maintenance \$33,542.68. The sum necessary to cover instruction and maintenance of school plants for the county would be \$105,696.68 per year, making an average cost of \$118.82 per pupil per year for operating expenses.

#### Advantages of the Proposed Plan

An examination of data given reveals a saving of \$9,853 in cost for instruction, and a saving of \$25,606 on all school operating expenses per year for the entire county through the use of a consolidated system. The average cost per pupil per year for operating expenses under a consolidated plan would be \$118 as compared to \$156

under the present plan. The average cost per pupil per year for instruction under the proposed plan would be \$92, as compared to \$118 under the present plan. Figures 7 and 8 give the graphical representation of these facts.

Aside from the economic saving resulting, there would be the opportunity for development of a curriculum in terms of pupil needs. Instruction could be improved, in that it would become specialized. It would no longer be necessary for a teacher to conduct classes in several different subjects, as often happens, particularly in the small high school. The central schools with their probable valuation, could afford to put in courses in vocational agriculture and homemaking. If this would result, enrollment would increase, for many pupils who now drop out, do so feeling that the high school has nothing to offer which will aid them in later life, probably would continue in school.

One question which probably would be raised, is that of the disposal of abandoned high school buildings. Those at Leona, Denton, and Doniphan are relatively new and well equipped. To allow them to stand idle and empty would seem an injustice to those who have helped pay for and maintain them thus far. It is not the purpose of this study to develop a plan for consolidating the elementary schools of the county. It is conceivable that this might follow, in



Figure 7. A bar graph showing cost per pupil of operating high schools of Doniphan County under the present and proposed plans

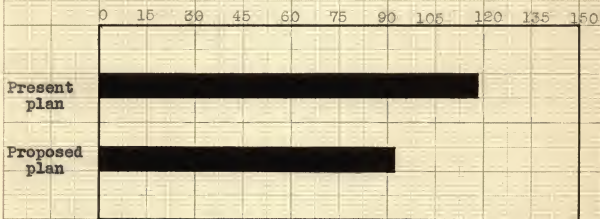


Figure 8. A bar graph showing cost per pupil for instruction under the present and proposed plans

which case these abandoned high schools could be used very profitably as central schools.

#### ACKNOWLEDGMENT

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#### REFERENCES

- Abel, James Frederick.  
Consolidation of schools and transportation of pupils. Bul. 41. Department of Interior, United States Bureau of Education. Chapter III. p. 102-104. 1923.
- Betts, George Herbert.  
Better rural schools; Indianapolis. Bobbs-Merrill, p. 215-325. 1914.
- Cook, Katherine Margaret.  
Constructive tendencies in rural education. Bul. 25. Department of Interior, United States Bureau of Education. p. 21-27. 1925.
- Neale, Katherine Edith.  
Consolidation of schools, the basis of educational improvement in the rural district. Unpublished thesis, Kansas State College of Agriculture and Applied Science. 1914.

Sheffer, William E.  
Cooperative School area in Kansas. Unpublished thesis,  
Columbia University. p. 88-93. 1935.

Report of School Code Commission of Kansas. Recommendations  
to the State Legislature. Vol. 2. p. 67-69.  
September, 1928.

