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A Study of School District Reorganization in Polk County, Minnesota

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A STUDY OF SCHOOL DISTRICT REORGANIZATION IN POLK COUNTY, MINNESOTA

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This thesis, offered by Knut P. B. Reishus in partial fulfillment of the requirements for the Degree of Master of Science in Education in the University of North Dakota, is hereby approved by the Committee under whom the work has been done.

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CHAPTER 1

INTRODUCTION

Inequality of educational opportunity is one of the problems which have been the subject of much discussion among educators. It is so well known as scarcely to need repetition that various sections of the country vary widely in the kind of schools they afford. It is equally well known that certain classes of the population labor under great handicaps as regards educational facilities when compared with other classes.

One of the most obvious and most striking of these inequalities is that which exists between farm children and those living in towns. In the rural schools, terms are shorter, teachers are less well trained, curricula presents less variety of offerings, and the school plants are less efficient than in the town schools.

> "The average term in rural schools (all types) in the United States was twenty-seven days shorter in 1925-1926 than in urban schools. The cost per pupil in average daily attendance in urban schools was $130; in rural schools, $75, a difference of $45 per pupil. The average value of school property was $299 in urban communities, and $99 in rural, a difference of $200 in per pupil investment."[1]

Similar conditions prevail in Minnesota. The Committee on Education of the Minnesota State Planning Board, appointed by Governor Olson at the suggestion of President Roosevelt, issued its report in December, 1934. It calls attention to the necessity for a plan to give equal opportunities to the rural school pupil. It reaches the conclusion that

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[1] The Status of Rural Education, Thirtieth Yearbook of the National Society for the Study of Education, Part I (Bloomington, Illinois, Public Publishing Co., 1931), pp. 82-83.

if educational opportunities are to be equalized, a thoroughgoing reorganization of school administration is in order. The report discusses specifically the county unit of organization in the following terms:

> "The most forward-looking step that would lead to the correction of many of these inequalities is in the direction of the larger district organization created for school support and administrative purposes. Legislation of a kind should be enacted that would allow the people in each county to determine whether they are desirous of creating a county school district organization under such a plan as will produce economically equal school opportunity for all children and schools supported on a basis that calls for a fair distribution of the tax burden. In addition to the permissive legislation that will give the people the opportunity to choose the kind of school district that will best serve their needs, it is preferred that some experimentation in this field be undertaken under state auspices."

The problems that present themselves in any plan for county-units of school administration are varied and complex. They call for a careful survey and analysis of existing conditions preliminary to any attempt at a solution of them. The inequalities that now exist as between rural and urban pupils must be studied to determine their kind and degree. The historical and social background of the disparity in the two types of schools must also be taken into account in order to treat the subject intelligently and sympathetically.

It is the purpose of this study to survey the school situation as it now exists in Polk County and to attempt to predict some of the major effects of a county-wide consolidation of schools.

While, as has been said, it is well known that inequalities exist as between the opportunities for education afforded the rural pupils and those which the urban child enjoys, it is a matter of moment to discover, in the case of any given geographical unit, just what these inequalities

are, and how serious. Otherwise no intelligent appraisal of the probable effect of reorganization can be made.

Accordingly, in this study, these questions will be taken up for consideration:

1. How do the programs of study in town and country schools compare? What is the relative amount of time given to recitation in the major subjects in the two types of schools? What subjects, if any, are offered in the town schools which are not offered in the rural schools?

The answers to these questions suggest a number of other questions which are answered more informally in the course of the discussion, such as professional training of teachers, and the extent to which school offerings are utilized.

2. To what extent do the two types of schools participate in state aid? Are the rural schools at a disadvantage in seeking to become eligible for aid? If so, why, and in what degree?

This leads to a discussion of the various types of state aid and the purposes which they serve. It may be mentioned, in passing, that most of the state aid as now administered is so designed as decidedly to favor schools with comparatively large enrollments and enriched curricula. This will be so obvious in the preliminary discussion that there will probably be little necessity for elaborating upon the question in the subsequent chapter which deals with the effects of consolidation.

3. What inequalities exist as regards enrollments in town schools and rural schools? What is the comparative enrollment per teacher? Are there more teachers employed than the enrollment justifies?

4. How successful are rural schools as compared with town schools in preparing pupils for graduation from the eighth grade?

This question has a direct bearing upon the question of the comparative efficiency of the two types of schools.

5. How do per-pupil costs of operation in the two types of schools compare?

No direct comparison is possible here for the reason that the rural schools do not offer high school work, while the towns all maintain high as well as graded schools and do not keep separate cost accountings for the two levels. Obviously, however, if it can be shown that the town schools can afford four additional years of training at a smaller outlay per pupil than some rural schools now devote to operating the elementary grades, only, the comparison is of value.

6. To what extent do rural pupils attend high school as compared with town pupils? What proportion of the high school population of the county do they respectively constitute?

7. What is the situation as regards accessibility of schools in town and country?

The situation having been canvassed in the manner outlined above, an attempt is made to estimate the effect which reorganization on a county-wide basis would have in the direction of eliminating the inequalities which have been discussed.

The probable increase in enrollment, on the secondary school level, is discussed. The number of teachers required under the proposed plan is given consideration and compared with the present number.

An attempt is made to answer the question how far the present town school centers might be made use of and to what extent new buildings and equipment would be needed.

Costs under the present system and under the proposed plan are discussed and compared. This includes the cost of instruction, new buildings, and transportation. In this connection tax-rates and expenditures for schools come up for discussion. An attempt is made to estimate operating and capital costs under the plan of reorganization.

Finally, the problem of transportation is elaborated. This, in the judgment of the writer, is one of the most important, as it is one of the most difficult, of the problems that arise in any attempt to consolidate schools. He is acutely conscious of the inadequacy of the discussion here presented. It is hoped, however, that enough has been done to lay the groundwork for future more specialized studies of this problem in the county. The present study is concerned with pointing out possible transportation units, discussing the length of routes, the location of roads, and estimating costs of operation.

Limitation

This study is limited to a consideration of inequalities in educational opportunity in Polk County and the extent to which these inequalities might be eliminated by the organization of the county as a school unit. It makes no claim that its conclusions are applicable to the state as a whole or to other sections of the state.

Sources of Data

The data for this study were secured mainly from material on file in the office of the County Superintendent of Schools and of the County Auditor of Polk County. Considerable use was made of two master's theses, one that of F. A. Neutzman, entitled A Comparative Study of School Expenditures and School Support in Polk County, Minnesota (University of North Dakota Library, 1932), and the other A Study of Public School Transportation Costs in Minnesota by L. C. Engum (University of Minnesota Library, 1932). Copious mimeographed material from the Minnesota State Department of Education also proved of great value.

CHAPTER 2

INEQUALITIES IN SCHOOL OPPORTUNITIES IN POLK COUNTY

Polk County is one of the larger of the counties of Minnesota. It lies in the northwestern portion of the state. Two tiers of counties intervene between it and the Canadian boundary, which it approaches within seventh miles at its northernmost reach. It is bounded on the North by Marshall, Red Lake, and Pennington Counties, on the East by Beltrami and Clearwater Counties, on the South by Mahnomen and Norman Counties, and on the West by the Red River of the North, which separates it from the state of North Dakota. The land slopes generally to the North and West and is drained by the Red River of the North and its tributary, Red Lake River. It is roughly L-shaped about 2500 square miles in area. Its extreme length is about sixty miles and its extreme breadth about forth-eight miles.

Generally speaking, the soil of the county is rich. The heavy alluvial black earth of the red River valley is unexcelled for fertility, and produces abundant crops of garden truck, cereals, potatoes, and sugar beets. On the shelf of the valley, where the beaches of the ancient Lake Agassiz run, the soil is gravelly and thin and best adapted to pasture and meadow; but the extent of these areas is not great. Beyond them again, to the East, fergile soil reappears, not so heavy as that in the valley, but sufficiently productive to support a prosperous farming community.

The total population of the County, according to the census of 1930, is 36,019, and is rather evenly distributed. It is predominantly a county of farmers, the rural farm population numbering 20,359. The

two cities and eleven villages are agricultural in their outlook, depending as they very largely do, upon the farming community contiguous to them.

As in most of the NorthwesternStates, the school district organization still adheres to the idea of the numerous small districts which became fixed in the period before motor transportation was known. Rural school houses dot the county at intervals rarely if ever exceeding three miles. Besides eleven districts which, in the year 1934, maintained high or graded elementary schools and are centered in cities or villages, there are 203 rural or ungraded elementary schools employing in all 206 teachers. Only one county in the state, Otter Tail, surpasses Polk County in the number of such schools. Four of these rural schools are classed as consolidated schools and have considerably larger enrollments than the average rural school in the county; but they are still too small to rise out of the class of the ungraded school.

It is pertinent to a discussion of inequalities of educational opportunity in Polk County to examine the variety of subjects taught in the two types of schools and to determine the approximate relative time allotted to certain subjects generally considered basic in the elementary curriculum. As a preface to this discussion, five recitation and study programs chosen at random from the rural schools are reproduced below. By way of comparison, similar programs for various grades in the two largest high and graded schools, Crookston and East Grand Forks, are presented; and to furnish illustrations of offerings in the smaller graded schools, Climax was chosen.

Table 1

Program of Recitation and Study in District Number 286, Polk County Minnesota, 1934-1935[a]

Time	First Year	Second Year
9:00 - 9:15	Opening Exercises	Opening Exercises
9:15 - 9:25	Word Drill	Numbers
9:25 - 9:40	Reading	Numbers
9:40 - 10:05	Reading	Reading
10:05 - 10:07	Relief Drills	Relief Drills
10:07 - 10:30	Reading	Reading
10:30 - 10:45	Physical Education	Physical Education
10:45 - 11:05	Language	Language
11:05 - 11:30	Language	Language
11:30 - 11:32	Dismiss	Relief Drill
11:32 - 12:00		Spelling Phonics
12:-- - 1:00	Noon	Noon
1:00 - 1:15	Opening Exercises	Opening Exercises
1:15 - 1:40	Reading	Reading
1:40 - 2:05	Reading	Reading
2:05 - 2:07	Relief Drill	Relief Drill
2:07 - 2:30	Penmanship	Penmanship
2:30 - 2:45	Physical Education	Physical Education
2:45 - 3:10	General Period	Health Nature Study
3:30 -	Dismiss	Social Studies
3:30 - 3:45		Social Studies
3:45 - 4:00		Socail Studies
4:00 -		Dismiss

[a]Recitation periods are underlined.

Table 2

Program of Recitation and Study in District Number 278, Polk County, Minnesota, 1934-1935*

Time	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year
9:00-9:10	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises
9:10-9:20	Ed. S.W.	Read. S.W.	Reading		History	History	History	History
9:20-9:30	Ed. S.W.	Read. S.W.	Reading		History	History	History	Arithmetic
9:30-9:40	Ed. S.W.	Read. S.W.	Reading		History	History	Arithmetic	Arithmetic
9:40-9:50	Reading	Vocabulary Study	Reading		History	Arithmetic	Arithmetic	Arithmetic
9:50-10:00	Reading	Reading	Vocabulary Study		History	Arithmetic	Arithmetic	Arithmetic
10:00-10:10	Reading	Read. S.W.	Reading		History	Arithmetic	Arithmetic	Arithmetic
10:10-10:20	Reading	Phonics	Phonics		History	Arithmetic	Arithmetic	Arithmetic
10:20-10:30	Seatwork	Seatwork	Seatwork		History	Arithmetic	Arithmetic	Arithmetic
10:30-10:45	Recess	Recess	Recess		Recess	Arithmetic	Arithmetic	Arithmetic
10:45-10:55	Ed. S.W.		Arithmetic		Arithmetic	Arithmetic	Arithmetic	Arithmetic
10:55-11:05	Ed. S.W.		Arithmetic		Arithmetic	Arithmetic	Arithmetic	General Science
11:05-11:15	Ed. S.W.		Arithmetic		Arithmetic	Arithmetic	Geography	General Science
11:15-11:20	General Period		Arithmetic		Arithmetic	Geography	Geography	General Science
11:20-11:30	Writing at Board	Arithmetic	Arithmetic		Arithmetic	Geography	Geography	General Science
11:30-11:40	Dismiss at 11:30		Arithmetic		Geography	Geography	Geography	General Science
11:40-11:50			Seatwork		Arithmetic	Geography	Geography	General Science
11:50-12:00			Penmanship		Penmanship	Penmanship	Penmanship	Penmanship
12:00- 1:00			Noon		Noon	Noon	Noon	Noon
					Geography	Geography	Geography	

Table 2 (Continued)

Time	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year
1:00-1:10	Hand Work	Read. S.W.	Reading		Geography	Geography	Geography	General Science
1:10-1:20	Hand Work	Read. S.W.	Reading		Geography	Geography	General Science	General Science
1:20-1:30	Hand Work	Read. S.W.	Reading		Geography	Reading	General Science	General Science
1:30-1:40	Ed. S.W.	Read. S.W.	Seatwork		Reading	Reading	General Science	General Science
1:40-1:50	Ed. S.W.	Read. S.W.	Seatwork		Reading	Reading	General Science	English
1:50-2:00	Reading	Read. S.W.	Seatwork		Reading	Reading	English	English
2:00-2:10	Read. S.W.	Reading	Seatwork		Reading	Reading	English	English
2:10-2:20	Read. S.W.		Reading		Reading	Reading	English	English
2:20-2:30	Read. S.W.		Seatwork		Reading	Reading	English	English
2:30-2:45	Recess	Recess	Recess		Language	Language	English	English
2:45-3:00	Hand Work	Hand Work	Seatwork		Language	Language	English	English
3:00-3:15	Hand Work	Spelling	Seatwork		Language	Language	English	History
3:15-3:25	Hand Work	Spelling	Free Reading Period		Language	Language	History	History
3:25-3:32	Language	Language	Free Reading		Language	Health	History	History
3:32-3:40	Seatwork	Seatwork	Language		Language	Health	History	History
3:40-3:50	Dismissal	Dismissal	Seatwork		Language	Health	History	History
3:50-4:00			Seatwork		History	Health	History	History

Note: Spelling once a week during Language Period

*Recitation periods are underlined.

Table 3

Program of Recitation and Study in District Number 253, Polk County, Minnesota, 1934-1935*

Time	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year
9:00-9:10	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises
9:10-9:20	Seatwork		Seatwork	Study Hist.	History		History	History
9:20-9:35	Seatwork		Seatwork	Study	History		History	History
9:35-9:45	Seatwork		Reading	History	History		History	History
9:45-10:00	Reading		Reading	Reading	Reading		History	Arithmetic
10:00-10:10	Seatwork		Reading	Reading	Reading		Arithmetic	Arithmetic
10:10-10:20	Seatwork		Seatwork	Reading	Reading		Arithmetic	Arithmetic
10:20-10:30	Seatwork		Seatwork	Seatwork	Reading		Arithmetic	Arithmetic
10:30-10:45	Recess	Recess	Recess	Recess	Recess	Recess	Recess	Recess
10:45-11:00	Seatwork		Arithmetic	Arithmetic	Arithmetic		Arithmetic	Arithmetic
11:00-11:10	Seatwork		Arithmetic	Arithmetic	Arithmetic		Arithmetic	Arithmetic
11:10-11:20	Numbers		Arithmetic	Arithmetic	Arithmetic		Arithmetic	Arithmetic
11:20-11:30	Seatwork		Arithmetic	Arithmetic	Arithmetic		Arithmetic	General Science
11:30-11:40	Seatwork		Seatwork	Arithmetic	Arithmetic		General Science	General Science
11:40-11:50	Seatwork		Seatwork	Seatwork	Arithmetic		General Science	General Science
11:50-12:00	Penmanship		Penmanship	Penmanship	Penmanship		Penmanship	Penmanship
12:00- 1:00	Noon		Noon	Noon	Noon		Noon	Noon

Table 3 (Continued)

Time	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year
1:00-1:10	Opening Exercises		Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises
1:10-1:25	Seatwork		Seatwork	Geography	Geography		General Science	General Science
1:25-1:40	Seatwork		Seatwork	Geography	Geography		General Science	General Science
1:40-1:50	Seatwork		Reading	Geography	Geography		General Science	English
1:50-2:00	Reading		Reading	Reading	Reading		Geography	English
2:00-2:10	Seatwork		Reading	Reading	Reading		Geography	English
2:10-2:20	Seatwork		Reading	Reading	Reading		English	English
2:20-2:30	Seatwork		Reading				Geography	English
2:30-2:45	Recess		Recess	Recess	Recess		Recess	Recess
2:45-3:00	Seatwork		Language	Spelling	Spelling		English	English
3:00-3:10	Seatwork		Language	Spelling	Spelling		English	Reading
3:10-3:20	Language		Language	Language	Language		Reading	Reading
3:20-3:30	Seatwork		Language	Language	Language		Reading	Spelling
3:30-3:40	Seatwork		Language	Language	Language		Spelling	Spelling
3:40-3:50	Seatwork		Language	Spelling	Spelling		Reading	Reading
3:50-4:00	Spelling		Spelling	Spelling	Spelling		Spelling	Spelling
4:00	Dismissal		Dismissal	Dismissal	Dismissal		Dismissal	Dismissal

*Recitation periods are underlined.

Table 4

Program of Recitation and Study in District Number 200, Polk County, Minnesota, 1934-1935*

Time	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year
9:00-9:10	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises			Opening Exercises	Opening Exercises
9:10-9:15	Word	Study	and	Phonics			History	History
9:15-9:30	Seatwork	Seatwork	Seatwork	History			History	History
9:30-9:45	Seatwork	Seatwork	Seatwork	History			History	Mathematics
9:45-9:50	Reading	Reading	Reading	History			Reading	or
9:50-10:00	Read.S.W.	Reading	Reading	History			Reading	Science
10:00-10:02	Relief	Relief	Relief	Relief			Relief	Relief
10:02-10:10	Read.S.W.	Read.S.W.	Reading	Reading				Science
10:10-10:20	Read.S.W.	Read.S.W.	Seatwork	Reading			Reading	Science
10:20-10:30	Seatwork	Read.S.W.	Seatwork	History			Mathematics	Spelling
10:30-10:45	Recess	Recess	Recess	Recess			Recess	Recess
10:45-11:00	Seatwork	Number S.W.	Numbers	Arithmetic				Mathematics
11:00-11:15	General (Stories, Num-		Numbers	Arithmetic			Mathematics	Mathematics
11:15-11:20	bers, Health)		Numbers	Arithmetic			Mathematics	Mathematics
11:20-11:22	Relief	Relief	Relief	Relief			Relief	Relief
11:22-11:30	Numbers,	Numbers		Arithmetic			Mathematics	Science
11:30-11:40	Health or	Number S.W.	Numbers	Geography			Geography	Science
11:40-11:50	Ed. S.W.	Number S.W.	Reading	Arithmetic			Geography	Science
11:50-12:00	Dismissed	Dismissed	Penmanship	Penmanship			Penmanship	Penmanship
12:00- 1:00	Noon	Noon	Noon	Noon			Noon	Noon

Table 4 (Continued)

Time	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year
1:00-1:10	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises			Opening Exercises	Opening Exercises
1:10-1:25	Seatwork	Seatwork	Reading or	Reading			Geography	English
1:25-1:45	Seatwork	Seatwork	Geography	Geography			Geography	English
1:45-1:50	Reading	Seatwork	Geography	Geography			General Science	English
1:50-1:52	Relief	Relief	Relief	Relief			Relief	Relief
1:52-2:00	Seatwork	Reading					General Science	General Science
2:00-2:10	Seatwork	Seatwork	Reading or Geography	Geography			English	General Science
2:10-2:20	Seatwork	Seatwork	Seatwork	Geography			Spelling	General Science
2:20-2:30	Seatwork	Seatwork	Language	Language			History	General Science
2:30-2:45	Recess	Recess	Recess	Recess			Recess	Recess
2:45-2:55	Language	Seatwork	Language	Language			General Science	History
2:55-3:05	Language	Seatwork	Language	Language			History	History
3:05-3:15	Language, M.T.W. Hygiene, T. Th.		Hygiene	Hygiene			History	History
3:15-3:25	Language	Seatwork	Hygiene, T. Th.				English	Spelling
3:25-3:35		Spelling					English	English
3:35-3:50		Spelling	Spelling	Spelling			Spelling	English
3:50-4:00			Spelling	Spelling			Spelling	Spelling

Note: Grades 1 & 2 dismissed at 11:45 and 3:45, others at 12:00 and 4:00

*Recitation periods are underlined.

Table 5

Program of Recitation and Study in District Number 159, Polk County, Minnesota, 1934-1935*

Time	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year
9:00-9:10	Opening Exercises for all--Music, Stories, Current Events, etc.							
9:10-9:15	Seatwork	Seatwork	Seatwork	Seatwork	Seatwork	Seatwork	Seatwork	History
9:15-9:25	Seatwork	Seatwork	Seatwork	History	History	History	History	History
9:25-9:35	Reading	Seatwork	Seatwork	History	History	History	History	History
9:35-9:45	Reading	Reading	Seatwork	History	History	History	History	History
9:45-9:55	Reading	Reading	Reading	History	History	History	Mathematics	Mathematics
9:55-10:05	Reading	Reading	Reading	History	History	History	Mathematics	Mathematics
10:05-10:15	Reading	Reading	Reading	History	History	History	Mathematics	Mathematics
10:15-10:30	Recess	Recess	Recess	Recess	Recess	Recess	Recess	Recess
10:30-10:45				Mathematics	History	History	Mathematics	Mathematics
10:45-10:55			Arithmetic	Mathematics	Mathematics	Math.	Mathematics	Mathematics
10:55-11:10	Numbers of Phonics		Arithmetic	Mathematics	Mathematics	Math.	Mathematics	Mathematics
11:10-11:20	Phonics	Phonics	Arithmetic	Mathematics	Mathematics	Math.	Mathematics	Mathematics
11:20-11:30	Phonics	Phonics	Arithmetic	Arithmetic	Mathematics	Math.	Mathematics	Mathematics
11:30-11:40	Dismissed	Dismissed	Arithmetic	Arithmetic	Arithmetic	Math.	Mathematics	Mathematics
11:40-11:50			Arithmetic	Arithmetic	Arithmetic	Arith.	Geography	General Science
11:50-12:00			General Period for all					
12:00-12:30	Noon	Noon	Noon	Noon	Noon	Noon	Noon	Noon

Table 5 (Continued)

Time	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	Eighth Year
12:30-12:40	Seatwork	Seatwork	Seatwork	Reading	Reading		Geography	General Science
12:40-12:55	Seatwork	Seatwork	Seatwork	Reading	Reading		Geography	General Science
12:55- 1:10	Seatwork	Seatwork	Seatwork	Geography	Geography	Geography	Geography	General Science
1:10- 1:20	Reading	Seatwork	Seatwork	Geography	Geography	Geography	Geography	General Science
1:20- 1:30	Reading	Reading	Seatwork	Geography	Geography	Geography	Geography	General Science
1:30- 1:40	Reading	Reading	Reading	Geography	Geography	Geography	General Science	General Science
1:40- 1:50	Reading	Reading	Reading	Geography	Geography	General Science	General Science	General Science
1:50- 2:00	Reading	Reading	Reading	Geography	Geography	General Science	General Science	General Science
2:00- 2:10	Reading	Reading	Reading	Geography	Geography	General Science T. Th.		General Science M. W. F.
2:10- 2:25	Recess	Recess	Recess	Recess	Recess	Recess	Recess	Recess
2:25- 2:32	Penmanship, Tues. and Thurs., Spelling, Monday, Wednesday, Friday						General Science	English
2:32- 2:40				Language	Language	Language	General Science	English
2:40- 2:50	Language	Language	Language	Language	Language	Language	General Science	English
2:50- 3:00	Industrial	Period		Language	Language	Language	English	English
3:00 -3:10	Industrial	Period		Spelling	Language	Language	English	English
3:10- 3:20	Industrial	Period		Spelling	Language	Language	English	English
3:20- 3:30	Industrial	Period		Spelling	Language	Language	English	English
3:30	Dismissal	Dismissal	Dismissal	Dismissal	Dismissal	Dismissal	Dismissal	Dismissal

*Recitation periods are underlined.

Table 6

Teacher's Daily Program, East Grand Forks, Minnesota, Grade One,

September, 1934

Period Begins	Number of Minutes	Recitation	Grade or Division	Study or Seatwork	Grade or Division
			Forenoon		
8:45	5	Opening Exercises	1		
8:50	25	Reading	B	Seatwork	A
9:15	25	Reading	A	Seatwork	B
9:40	3	Relief Drill	1		
9:43	10	Word Drill	B	Seatwork	A
9:53	7	Word Drill	A	Seatwork	B
10:00	15	Physical Education	1		
10:15	15	Music	1		
10:30	10	Language	1		
10:40	20	Penmanship	1		
11:00	15	Reading	B	Seatwork	A
11:15	15	Reading	A	Seatwork	B
11:30		Dismissal			
			Afternoon		
1:00	20	Reading	B	Seatwork	A
1:20	20	Reading	A	Seatwork	B
1:40	3	Relief Drill	1		
1:43	10	Phonics	B	Seatwork	A
1:53	10	Phonics	A	Seatwork	B
2:03	12	Health, M.W.F., Environment,		T. Th.	1
2:15	15	Physical Education	1		
2:30	15	Language	1		
2:45	5	Word Drill	A	Seatwork	B
2:50	5	Word Drill	B	Seatwork	A
2:55	3	Relief Drill	1		
2:58	17	Drawing	1		
3:15		Dismissal			

Table 7

Teacher's Daily Program, East Grand Forks, Minnesota, Grade Two, September, 1934

Period Begins	Number of Minutes	Recitation	Grade or Division	Study or Seatwork	Grade or Division
		Forenoon			
8:45	10	Hygiene	2		
8:55	5	Word Drill	B	Reading	A
9:00	25	Reading	B	Reading	A
9:25	5	Relief Drill	2		
9:30	5	Word Drill	A	Reading	B
9:35	25	Reading	A	Reading	B
10:00	15	Physical Education	2		
10:15	20	Language	2		
10:35	25	Arithmetic	2		
11:00	15	Music	2		
11:15	15	Penmanship	2		
11:30	15	Environment	2		
11:45		Dismissal			
		Afternoon			
1:00	15	Spelling	B	Spelling	A
1:15	15	Spelling	A	Spelling	B
1:30	15	Language	2		
1:45	5	Word Drill	A	Reading	B
1:50	25	Reading	A	Reading	B
2:15	15	Physical Education	2		
2:30	5	Word Drill	B	Reading	A
2:35	25	Reading	B	Reading	A
3:00	30	Art	2		
3:30		Dismissal	2		

Table 8

Teacher's Daily Program, East Grand Forks, Minnesota, Grade Three,

September, 1934

Period Begins	Number of Minutes	Recitation	Grade or Division	Study or Seatwork	Grade or Division
		Forenoon			
8:45	20	Reading	A	Reading	B
9:05	23	Reading	B	Reading	A
9:28	2	Relief Drill	3		
9:30	30	History, Citizenship, Environment			3
10:00	15	Hygiene	3		
10:15	15	Physical Education	3		
10:30	40	Arithmetic	3		
11:10	2	Relief Drill	3		
11:12	18	Penmanship	3		
11:30	15	Music	3		
11:45		Dismissal			
		Afternoon			
1:00	25	Reading	A	Reading	B
1:25	25	Reading	B	Reading	A
1:50	2	Relief Drill	3		
1:52	25	Language	3		
2:17	13	Spelling (Study)	3		
2:30	15	Physical Education	3		
2:45	2	Spelling	3		
2:47	16	General	3		
3:03	2	Relief Drill	3		
3:05	25	Language	3		
3:30	30	Art	3		
4:00		Dismissal	3		

Table 9

Teacher's Daily Program, East Grand Forks, Minnesota, Grade Four,

September, 1934

Period Begins	Number of Minutes	Recitation	Grade or Division	Study or Seatwork	Grade or Division
		Forenoon			
8:45	15	Music	4		
9:00	30	Geography	4		
9:30	20	Reading	A	Geography	B
9:50	2	Relief Drill	4		
9:52	18	Reading	B	Geography	A
10:15	15	Physical Education	4		
10:30	38	Arithmetic	4		
11:08	2	Relief Drill	4		
11:10	20	Penmanship	4		
11:30	15	Arithmetic Drill	4		
11:45		Dismissal	4		
		Afternoon			
1:00	15	Spelling	4		
1:15	45	Language	4		
2:00	2	Relief Drill	4		
2:02	28	History	4		
2:30	15	Physical Education	4		
2:45	20	Reading	B	Reading	A
3:05	20	Reading	A	Reading	B
3:25	35	Art, M.W.F., Hygiene, T. Th.			4
4:00		Dismissal	4		

Table 10

Teacher's Daily Program, East Grand Forks, Minnesota, Grade Five,

September, 1934

Period Begins	Number of Minutes	Recitation	Grade or Division	Study or Seatwork	Grade or Division
		Forenoon			
8:45	5	Roll Call	5		
8:50	15	Hygiene	5		
9:05	15	Penmanship	5		
9:20	2	Relief Drill	5		
9:22	20	Reading	A	Reading	B
9:42	20	Reading	B	Reading	A
10:02	13	Unassigned	5		
10:15	15	Physical Education	5		
10:30	20	Arithmetic	A	Arithmetic	B
10:50	20	Arithmetic	B	Arithmetic	A
11:10	2	Relief Drill	5		
11:12	18	Music	5		
11:30	15	Spelling	5		
11:45		Dismissal	5		
		Afternoon			
1:00	48	Geography	5		
1:48	2	Relief Drill	5		
1:50	40	Language	5		
2:30	15	Physical Education	5		
2:45	43	History	5		
3:28	2	Relief Drill	5		
3:30	30	Art, M.W.F., Literature, T. Th.			5
4:00		Dismissal	5		

Table 11

Teacher's Daily Program, East Grand Forks, Minnesota, Grade Six,

September, 1934

Period Begins	Number of Minutes	Recitation	Grade or Division	Study or Seatwork	Grade or Division
		Forenoon			
8:45	5	Opening Exercises	6		
8:50	45	Geography	6		
9:35	40	History	6		
10:15	15	Physical Education	6		
10:30	50	Arithmetic	6		
11:20	5	Relief Drill	6		
11:25	20	Music	6		
11:45		Dismissal	6		
		Afternoon			
1:00	40	Language	6		
1:40	20	Spelling	6		
2:00	2	Relief Drill	6		
2:02	28	Reading	A	Reading	B
2:30	15	Physical Education	6		
2:45	30	Reading	B	Reading	A
3:15	15	Penmanship	6		
3:30	30	Art, M.W., Health, T. Th.,		General, Friday	6
4:00		Dismissal	6		

Table 12

Program for Seventh and Eighth Grades at East Grand Forks, Minnesota, 1934-1935

8:45 to 9:45		Home Ec. 8	Industrial Arts 8			Music 7 Boys-T.Th. Girls-M.W.	Assembly Sup.Study 8A-M.W.F. 8B-T. Th. 7--Fri.	Sup.Study 7--Fri. 8A-M.W.F. 8B-T. Th.	Sup. Study 8B-T. Th. 7--Fri. 8A-M.W.F.
9:45 to 10:45					Supervised Study 8B Girls		General Science 8A	History 7B	Geography 7A
10:45 to 11:45							English 7A	History 8B	Mathematics 7B
					NOON				
1:00 to 2:00		Home Ec. 7B	Industrial Arts 7B				English 8A	History 7A	Mathematics 8B
2:00 to 3:00	General Science 8B						English 7B	History 8A	Mathematics 7A
3:00 to 4:00		Home Ec. 7A	Industrial Arts 7A				English 8B	Geography 7B	Mathematics 8A

Table 13

Teacher's Daily Program, Climax, Minnesota, Grades One and Two, September, 1934

Period Begins	Number of Minutes	Recitation	Grade or Division	Study or Seatwork	Grade or Division
		Forenoon			
9:00	15	Music	1-2		
9:15	10	Health	1-2		
9:25	10	Word Study	2	Seatwork	1
9:35	2	Relief Drill	1-2		
9:37	23	Reading	1	Reading Study	2
10:00	15	Physical Education	1-2		
10:15	15	Numbers	2	Reading Seatwork	1
10:30	10	Phonics	1	Spelling	2
10:40	20	Reading	2	Reading Seatwork	1
11:00	3	Relief Drill	1-2		
11:03	22	Language	1	Number Seatwork	2
11:25	5	Dismissal	1		
11:30	25	Language	2		
12:00		Dismissal	2		
		Afternoon			
1:00	15	General	1-2		
1:15	20	Reading	1	Reading Study	2
1:35	25	Penmanship	1 or 2	Reading	1 or 2
2:00	15	Physical Education	1-2		
2:15	30	Art	1-2		
2:45	5	Relief Drill	1-2		
2:50	20	Reading	2	Seatwork	1
3:10	20	Reading	1	Seatwork	2
3:30		Dismissal	1		
3:30	25	Phonics-Spelling	2		
4:00		Dismissal	2		

Table 14

Teacher's Daily Program, Climax, Minnesota, Grades Three, Four, and Five, September, 1934

Period Begins	Number of Minutes	Recitation	Grade or Division	Study or Seatwork	Grade or Division
		Forenoon			
9:00	15	Music	3-4-5		
9:15	16	Reading	3	Reading	4
				Geography	5
9:31	2	Relief Drill	3-4-5		
9:33	17	Reading	4	Reading	3
				Geography	5
9:50	17	Geography	5	Reading	3-4
10:07	10	Health	3	Unassigned	4
				History	5
10:17	15	Physical Education	3-4-5		
10:32	13	Arithmetic	3	Arithmetic	4-5
10:45	13	Arithmetic	4	Arithmetic	3-5
10:58	14	Arithmetic	5	Arithmetic	3-4
11:12	2	Relief Drill	3-4-5		
11:14	15	Penmanship	3-4-5		
11:29	15	Spelling	3-4-5		
11:44	14	Health	5	Unassigned	3-4
11:58	2	Unassigned	3-4-5		
12:00		Dismissal	3-4-5		
		Afternoon			
1:00	10	History	3	History	4-5
1:10	10	History	4	History	3-5
1:20	10	History	5	History	3-4
1:30	2	Relief Drill	3-4-5		
1:32	13	Reading	3	Geography	4
				Reading	5
1:58	14	Geography	4	Reading	3-5
1:58	14	Reading	5	Reading	3
				Geography	4
2:12	15	Physical Education	3-4-5		
2:27	16	Language	3	Language	4-5
2:43	17	Language	4	Language	3-5
3:00	17	Language	4	Language	3-4
3:17	2	Relief Drill	3-4-5		
3:19	12	Health	4	Unassigned	3-5
3:31	28	Art	3-4-5		
3:59	1	Unassigned	3-4-5		
4:00		Dismissal	3-4-5		

Table 15

Teacher's Daily Program, Climax, Minnesota, Grades Six, Seven, and Eight, September, 1934

Period Begins	Number of Minutes	Recitation	Grade Division	Study or Seatwork	Grade or Division
		Forenoon			
9:00	20	Mathematics	6	Mathematics	7-8
9:20	20	Mathematics	7	Mathematics	8
9:40	25	Mathematics	8	English	6-7
10:05	20	English	6	English	7-8
10:25	20	English	7	History, Civics	6
	(Classes leave room one at a time, on their honor.)				
10:45	25	English	8	History, Civics or Science	7
11:10	15	History, Civics	6)	Science	8
11:25	35	History, M.T.W.	7)		
		Reading, Th. F.	7	History	6
12:00		Dismissal	6-7-8		
		Afternoon			
1:00	45	Science, T.Th.	7	Geography, M.T.W.	6
		Science, M.W.F.	8	Health, Th.	6
	(45 minute laboratory period once a week for each class.)			Science, Friday	6
				Geography, M.W.F.	7
				History, Citizenship	8
1:45	25	Geography, M.T.W.	6)	History, Citizenship	8
		Health, Thurs.	6)	Geography	7
		Science, Fri.	6)		
2:10	25	Citizenship	8	Mathematics	6
2:35	30	Geography	7	Reading Prep.	8
3:05	15	Reading	8	Reading Prep.	6
3:20	15	Reading	6	Mathematics	7
				History	8
3:35	25	History	8	Mathematics	6
4:00		Dismissal	6-7-8		

Table 16

Teacher's Program, Crookston, Minnesota, 1934-1935

Grade One

	Recitation	Study
8:45-8:55	Opening Exercises	
8:55-9:10	Reading I	Reading II
9:10-9:15	Word Drill I	Reading II
9:15-9:35	Reading II	Reading I
9:35-9:40	Word Drill II	Reading I
9:40-9:43	Relief Drill	
9:43-9:53	Health Education	
9:53-9:59	Phonics I	Reading II
9:59-10:05	Phonics II	Reading I
10:05-10:20	Physical Education (Recess)	
10:20-10:35	Language I & II	
10:35-10:50	Reading I	Language II
10:50-11:05	Reading II	Language I
11:05-11:08	Relief Drill	
11:08-11:18	Penmanship I & II	
11:18-11:30	Special Help	
11:30	Dismissal	
	Noon	
1:00-1:15	Music	
1:15-1:30	General Period (Geog., Hist., Cit., Env.)	
1:30-1:50	Reading I	Reading II
1:50-1:53	Relief Drill	
1:53-2:15	Reading II	Reading I
2:15-2:30	Physical Education	
2:30-2:45	Recess	
2:45-3:00	Special Help	
3:00-3:30	Art	
3:30	Dismissal	

Table 17

Teacher's Program, Crookston, Minnesota, 1934-1935

Grades Three and Four

	Recitation	Study
8:45-8:55	Opening Exercises	
8:55-9:15	Arithmetic IV	Language III
9:15-9:35	Arithmetic III	Arithmetic IV
9:35-9:38	Relief Drill	
9:38-10:00	Geography, English IV	Arithmetic III
10:00-10:15	General Period III(Geog.,Env., Cit.)	
10:15-10:30	Recess	
10:30-10:50	History and Citizenship IV	
10:50-11:10	Reading III	History IV
11:10-11:30	Reading IV	Reading III
11:30-11:45	Spelling III	Reading IV
11:45	Dismissal	
	Noon	
1:00-1:15	Spelling IV	
1:15-1:30	Penmanship III & IV	
1:30-1:45	Music	
1:45-1:48	Relief Drill	
1:48-2:15	Language IV	
2:15-2:30	Physical Education	
2:30-2:45	Recess	
2:45-3:05	Language III	Language IV
3:05-3:18	Reading (H. Ed.)	Language III
3:18-3:30	Reading III (H. Ed.)	
3:30-4:00	Art	
4:00	Dismissal	

To arrive at a comparison of the relative time devoted to the recitation in various subjects in the curriculum, ten rural schools were chosen at random, and from the high and graded school group, Crookston, East Grand Forks, Climax, and Fosston were selected. These schools roughly represent the extremes in size in their group and are dispersed in different sections of the county.

A comparison of this kind is attended with some difficulties to which attention ought to be called, so that the reader may be prepared to make appropriate allowances in using the data presented.

Teachers programs, because of their necessary compression, are in some respects extremely difficult to interpret unless the person studying them is acquainted with the school system under consideration. This is especially true of a rural school, where, more often than not, all the eight grades are taught and where the program must in consequence be extremely condensed. For instance, there is little opportunity, and usually no attempt is made, to elucidate such items as "opening exercises," "general period," "seat work." How much music, how much story-telling, how much industrial arts may be included in these periods there is usually no means of finding out. It may be concluded, from the extreme shortness of such periods, that there is not time for much of anything valuable. But such conclusions, as well as being speculative, are merely negative; and they may be wide of the mark in the case of many teachers.

It is necessary for rural teachers often to combine two, three, or more grades in one recitation period. Again, such combinations as "language-spelling-word study" may appear. In such cases it is not

possible to determine accurately how much time is given to one grade or to one subject. The best that can be done is to approximate the time element.

Nevertheless, in spite of these complexities, a fairly clear picture can be drawn of some of the major contrasts between the typical rural school program on the one hand and the typical graded school program on the other. This statement applies, more particularly, to those subjects which are usually thought of as the major subjects in the elementary school. Accordingly, for the comparison which follows, reading, language, arithmetic, geography, and history and citizenship were chosen.

Table 18

Time Alloted to Recitations in Certain Elementary School Subjects in the Teachers' Daily Programs in Schools of Polk County, Minnesota

1935

Grade and Class of Schools	Average Number of Minutes per Day Alloted to the Following Subjects in Each Grade, in Schools of the Designated Classes:											
	Reading		Language		Arithmetic		Geography		History and Citizenship			
	R[a]	G	R	G	R	G	R	G	R	G		
1	22	135	6	25				5				
2	26	100	6	30	7	22		15				
3	16	70	3	50	6	31		20			22	
4	8	55	7	36	8	43	9	37	5	23		
5	8	32	9	40	9	31	10	40	8	32		
6	7	43	15	20	14	40	14	35	13	32		
7		17	10	20	10	30	11	40	9	50		
8		18	13	22	14	40			13	50		

[a] R means rural schools; G means graded elementary schools.

A study of the table will reveal the fact that the pupils in the graded elementary schools have a very decided advantage over those in the rural schools as regards the time spent in recitation.

The average time in minutes per day allotted to recitation in reading in the first grade in rural schools, for instance, is only sixteen per cent of the corresponding figure for the graded elementary schools. In the remaining grades the differences are not quite so striking, although they are in all cases very considerable. It may be said that the discrepancy imposes a more serious handicap on pupils in the primary grades because the adequate training of immature children requires constant personal supervision by the teachers.

The subject of reading in the seventh and eighth grades did not appear on any of the rural school programs examined. It may reasonably be assumed, however, that some reading practice was given in classes designated as "language" or "English." It should be observed, in this connection, that the programs for Crookston and East Grand Forks assign sixty minutes per day to "English" in each of these grades without particularizing the various phases of English studied in these periods. Through inquiry it was ascertained that the time was divided into approximately one-third for "literature" and two-thirds for "language." Both of these schools have adopted the junior high school type of curriculum. Assuming that the present nation-wide trend toward the revision of the traditional seventh and eighth grade organization does not change direction, it seems fair to assume that if the schools of Polk County were consolidated and centralized in a comparatively few larger systems, they would conform more or less closely to the typical junior high school course of study.

As regards language, arithmetic, geography, and history, reference to the table reveals the fact that the rural schools can devote, roughly speaking, only from twenty-five to fifty per cent as much time to recitation as the graded elementary schools give (Table 18).

It is relevant in this connection to note that in the two largest school systems studied, a number of items appear on the daily program which are not named in the programs either of the rural schools or the smaller of the graded elementary schools. The most important of these are noted in Table 19.

Table 19

Subjects Offered in the Seventh and Eighth Grades at Crookston and East Grand Forks Which Are Not Offered in the Other Schools Examined

School	Subject
Crookston	Fine Arts Industrial Arts Music Home Room and Clubs
East Grand Forks	Industrial Arts Music Home Room and Clubs

It does not necessarily follow that none of these subjects are given attention in the other schools of the county merely because they are not named in the written program. Indeed, it is no doubt true that some phases of two of these subjects or activities, music and home room and clubs, are touched upon more or less informally in most schools of the county. Fine arts and industrial arts they are not equipped to teach even if the time were available, which in most cases it is not. It is plain, however, that giving these subjects a formal place in the curriculum is conducive to much more thorough and worhtwhile work than can be done where the teacher must handle them as incidental and extra-curriculum subjects.

A substantial majority of the elementary school children of the county now attend rural schools, as has been pointed out previously, and labor under the handicaps imposed by the comparatively meagre school program just described. Of the total of 5695 pupils enrolled in grades one to eight, 3899 are in the rural schools, as compared with 2696 in the graded elementary schools.

Table 20

Enrollment and Number of Graduates in Two Types of Schools in Polk County, Minnesota, 1935

Type of School	Number Enrolled in Eighth Grade	Number Graduates from Eighth Grade	Percentage of Enrollment Graduated
High and Graded Schools (11)	293	259	88%
Rural Schools (203)	446	274	61

Graduation from the Eighth Grade

Table 20 indicates the comparative success of the independent districts and the common districts of Polk County in preparing their pupils for graduation from the eighth grade. The achievement of the independent districts is decidedly more impressive in this regard, as will be seen by comparing the ratio of graduates to the enrollment--eighty-eight per cent for the independent as against sixty-one per cent for the common districts.

The advantage which the eighth grade pupils in the independent districts enjoy may not be entirely a matter of superior instruction. It is to be observed that the pupils in rural schools, because these are not accredited institutions, are required to pass the State Board

examinations as a condition of graduation. This condition is not imposed upon the pupils in the accredited schools in the independent districts save in exceptional cases where the State Department of Education deems it advisable. Consequently the rural pupils labor under the disadvantage of passing a comparatively inflexible and standardized type of test, whereas the examination to which the town pupil is subjected naturally conforms to courses of study and types of instruction prevalent in his own local school.

It is also worthy of mention that the extremely small enrollment in most of the grades in the rural school precludes the development of much stimulating competition among pupils. The dange of stagnation and inidfference is always present under such conditions and no doubt plays its part in the production of the comparatively unfavorable result noted.

Doubtless the quality of the instruction is a telling factor also. Figures are not available as to the training of teachers employed in the county. The fact is well-known, however, that a great number of the rural teachers have received only one year of professional training; and the number of those who have more than two years is certainly so small as to be negligible. None of the upper grade teachers in the city and village schools, on the other hand, have had less than two years of professional training; and a considerable proportion of them hold bachelor's degrees in education. This discrepancy in the training of the two groups of teacherr is reflected in the salaries paid. The average monthly salary for the rural group is fifty-eight dollars, for the town group, one hundred twenty-three dollars.

Finally, rural teachers lack effective supervision. The county superintendent may be never so efficient a supervisor, yet it is impossible for him with the number of schools under his charge to make his supervision function to a degree at all comparable to that which the city superintendent can attain.

Conclusions

The conclusion is inescapable that the disadvantages to which the rural pupil is subject are inherent in the situation itself. The small and poor country districts lack the financial resources and the school population to furnish the type of school plant and to create the kind of school atmosphere which the town schools now enjoy. It seems reasonable to infer from the facts pointed out in the foregoing discussion that the answer to the problem of the rural pupil lies in larger school units with centralized control.

State Aid in Two Types of School

The various items of state aid to schools in Minnesota may be classified under two main heads, according to the purpose which they serve: (a) to stimulate progress, and (b) to equalize educational opportunities. Under the first head belong classification aid, library aid, aid for special departments, teacher training aid, aid for the instruction of defective children, and transportation aid. To these may be added federal aid for vocational classes in trades and industries, home economics, and agriculture. The second group includes apportionment and supplemental aid.

Table 21

A List of State Aids in Minnesota

Classification Aid - to a four year high school, $810; high school department $180 for one high school teacher; $360 for two and $540 for three or more; junior high, $360; senior high, $540; graded elementary with 8 school years; $450; with 6 school years, $360; ungraded elementary with 8 months' term, $125 for each first grade teacher, and $90 for each second grade teacher; to school with 7 months' term, three-fourths of this sum. In no case shall the aid exceed $270 for an ungraded elementary school except for a SUPERIOR school which may receive an additional sum of $112.50 annually.

Supplemental Aid - to districts where a 20 mill levy for maintenance does not yielf $40 per pupil, the State pays the difference between the amount raised and $40 per pupil, less 10%. Additional per teacher aid is also granted under certain conditions to such districts maintaining only ungraded elementary schools.

Aid to Special Departments - agriculture, $720; general industrial, home economics, commercial training, $450 each.

Aid to Classes for Defectives - deaf, $225 for resident and $360 for non-resident; blind, $270 per pupil; subnormal, $90 per pupil; defective speech, not to exceed $1,350 for each teacher; classes for crippled children $225 per pupil.

Transportation Aid - to consolidated school districts for transporting pupils, not to exceed $4,000 annually for each school, less 10%; for transporting isolated pupils, not to exceed $50 annually for each pupil, less 10%; also for transporting crippled children, not to exceed $150 annually for each child and not to exceed $20,000 for any one year.

Building Aid - to consolidated school districts not to exceed $2,700 for each new building erected.

Association Aid - to a central school, $180 for each associated rural school and $45 to the rural school district.

Tuition Aid - tuition payments for non-resident high school pupils coming from districts where no high school facilities are provided, $7 per month for each such pupil not to exceed ten months in any school year.

Aid to Teacher Training Departments in High Schools - reimbursements for salaries and other expenses in connection with such departments, the total not to exceed $125,000 annually, and not more than $1,500 to a school--beginning 1933-1934.

Federal Aid under the Smith-Hughes and George-Reed Acts - for vocational education and for the preparation of teachers of agricultural, trade, industrial, and home economics subjects.

Evening School Aid - reimbursement aid to school districts of one-half the salary paid to teachers of evening schools for adults.

Gross Earnings Tax Aid - to school districts wherein at least 20% of the property is railroad property and therefore exempt from local taxation under the Gross Earnings Tax Law.

Library Aid - reimbursement for library book purchase, not to exceed $20 for each teacher, with a maximum of $40 for each building.

Tuition aid for non-resident high school pupils is not included in the above enumeration because, for various reasons, it seems desirable to classify it separately. It does not equalize educational opportunity for the rural child except perhaps indirectly by inducing the state high schools more readily to accept them; nor is it designed to raise standards and stimulate progress since it is not contingent upon instructional facilities.

Table 22

Distribution of All State and Federal Aid in Polk County for the School Year 1933-1934

Type of Aid	11 High and Graded Schools	Percentage[a]	203 Common Schools	Percentage
Apportionment and Supplemental Aid	$67,378.23	69	$29,803.35	31
Tuition	31,717.00	100		
All Other Aid	26,419.94	50	26,290.57	50
Total	125,515.17	69	56,093.92	31

[a]Fractional amounts are disregarded in the calculation of these percentages.

It is apparent from the foregoing table that the eleven high and graded schools get the lion's share of state aid. It has been pointed

out in previous studies why this is so.[1] Aisde from apportionment and supplemental aid, state aid in Minnesota is contingent upon the maintenance of certain standards of equipment, instruction, and school plant, and the organization of special departments. These conditions the larger schools are better able to meet than the small rural schools; and as a consequence, the former participate in state aid to the virtual or complete exclusion of the latter in such subsidies as tuition aid, aid for special departments, and library aid.[2] As a matter of fact, an examination of the Report of State Aid to Polk County Schools for the school year ending July 31, 1934 is revelatory of precisely this condition.

Table 23[a]

Aid to High, Graded, Semi-Graded, Consolidated, Industrial, and Rural Schools, Including Special Classes in Polk County, Minnesota for the School Year Ending July 31, 1934[b]

Class of School, Names and Number	Classification Aid	Supplemental Aid	Special Departments	Classes for Defectives	Transportation	Total	Total Prorated at 75.2%
Crookston 1	$1980.00	$6800.00	$1314.00	$1230.00		$11324.00	$8515.65
East Grand Forks 3	1260.00	9374.00	1558.00			12190.00	9166.88
Mentor 7	1260.00	3954.00			2187.00	7401.00	5565.55
Fisher 13	1260.00	1491.00			2023.00	4774.00	3590.05
Beltrami 53	1192.50	1060.00			1458.00	3710.50	2790.30
Fertile 44	1260.00	5999.00	673.00			7932.00	5964.86
Fosston 142	1260.00	8168.00	1226.00			10654.00	8011.81
McIntosh192	1260.00	7649.00	345.00			9254.00	6959.01
Erskine 230	1260.00	4929.00				6189.00	4654.13
Climax 245	1192.50	1923.00			1146.00	4261.50	3204.65
Carman 251	450.00	264.00				714.00	536.00

[1] A. F. Nuetzman, Comparative Study of School Expenditures and School Support in Polk County, Minnesota (Unpublished Master's Thesis, University of North Dakota Library, 1932), pp. 71-82.

[2] Ibid.

Table 23[a] (Continued)

Class of School, Name and Number	Classification Aid	Supplemental Aid	Special Departments	Classes for Defectives	Transportation	Total	Total Prorated at 75.2%
District 5	$ 382.50				$1580.00	$1962.50	$1475.80
District 48	135.00	127.00				262.00	197.02
District 51	45.25	(Tuition deductions $56.00)				45.25	34.03
District 74	135.00				101.00	236.00	177.47
District 89	247.50				713.00	960.50	722.30
District 121	135.00				176.00	311.00	233.87
District 155	270.00	1470.00				1740.00	1308.48
District 200	9.00	(Tuition deductions $126.00)				9.00	6.77
District 248	135.00	157.00				292.00	219.58
District 257	270.00	1665.00				1935.00	1455.12
District 271			(Tuition deductions $101.25)				
District 272	135.00	264.00				399.00	300.05
District 281	382.50				1642.00	2034.50	1529.94
District 286	382.50	1193.00			1192.00	2767.50	2081.16
189 rural Districts		19305.72					19305.72

[a]Data from Annual Report of Commissioner of Education, September, 1934.

[b]Aid not included in this list: Apportionment, library, tuition, federal aid, teacher training, and transportation of crippled children.

Table 23 shows that of the 203 common districts in the county, 188 received classification aid only, except for one tiem of $37.10 library aid. The remaining fourteen participated in two other types of aid, supplemental aid and transportation and building aid, to the extent of $10,090.00.

Library Aid Discussed

As a concession to accuracy it should perhaps be noted that one school in the last mentioned group received six dollars in library aid. The discussion of library aid recalls a study of Polk County previously cited, wherein a separate section is devoted to this type of aid for the purpose of pointing out that the schools of the county make lamentably

little use of it.[3] Conditions have not improved since this study was made. The total library aid distributed in the county, $325.51, is less by $169.34 than that granted in 1931, the year covered by the study in question. Only five out of eleven independent districts participated in this aid in 1934 as compared with eight out of twelve in 1931. Aid to individual schools ranged from $1.50 to $48.00 in 1934, and from $1.52 to $48.80 in 1931.

That adequate library facilities are essential to the highest type of school work is hardly open to question; and in view of this, such apathy as is revealed by the above figures is puzzling, at least as regards the independent districts. Probably a partial explanation is to be sought in the fact that the maximum possible aid--$40.00 per building--is so small that the larger schools do not take the trouble to choose a sufficient number of books from the state-approved list to qualify for the aid. This tendency may have been accentuated by the fact that aid in full has not been available for a number of years and was prorated in 1934 at sixty per cent. The argument is certainly tenable, however, that even this reduced aid is well worth seeking; and the explanation for the failure of Polk County schools to receive more of it no doubt lies chiefly in their disinclination to buy library books.

The Distribution of State Aid

The question of how equitably state aid is distributed in the county can be partly resolved by comparing enrollments in the schools of the county with the aid received. This comparison appears in Table 24.

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[3] Ibid., pp. 79-82.

Table 24

Distribution of State Aid in Polk County Compared with Enrollment in Grades One to Eight

Type of District	Number of Districts Receiving Apportionment or Supplemental Aid or Both	Number of Districts Receiving Tuition Aid for High School Pupils	Number of Districts Receiving Other Aid	Enrollment, Grades One to Eight	Total Aid per Child
High and Graded Schools	11	10	10	2476	$50.69
Common Schools	203		14	3899	14.38

It should be noticed that the enrollment used in this comparison is that for grades one to eight. If high school pupils were taken into account, the per-pupil aid for the independent districts would obviously be considerably reduced. Nevertheless, it is plain that although much of the aid received by schools maintaining high schools is for high school work, the higher standards which this aid encourages are reflected throughout the school system, so that the elementary grades benefit as well as the secondary school.

The Purposes Served by State Aid

It has been pointed out previously in this chapter that state aid in Minnesota is designed either to stimulate progress or to equalize educational opportunities. While the various types of aid belong primarily in one or the other of these categories, it is demonstrable that all types of aid may serve both purposes in some degree. For example, a teacher training department, while stimulating progress by affording an enrichment of the program of studies, no doubt also equalizes opportunities

as between well-to-do and needy high school graduates. When classes in the industrial arts are offered in the elementary grades, equalization of opportunity as between grade and high school pupils is realized; although it is hardly susceptible of proof with the facts at our disposal, it is probably true that supplemental aid, while primarily an equalization device, has stimulated progress in the high schools of the state.

The study previously cited[4] shows that "eighty-six per cent of the common districts levy from zero to nineteen mills, while the lowest levy in the independent districts is thirty-five mills. The effort to maintain schools is low in the common districts and high in the independent districts, and the ability is relatively greater in the common than in the independent districts."

The situation pictured in the above quotation is familiar to all who have studied the problem: rural schools as a class are conservative and backward; village and city schools are comparatively progressive. The question is raised whether larger units of administration with a trained administrative personnel would not result in better school work than is now done in the present small and poor rural districts. In the next chapter this question is examined in some detail.

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[4] A. F. Nuetzman, op. cit., pp. 66-67.

Table 25

Comparison of Enrollment and Number of Teachers in Independent and Common Districts in Polk County, Minnesota

1935

Type of School	Number of Schools in Group	Number of Pupils Enrolled	Average Number Pupils Per School	Number of Teachers	Number of Pupils Per Teachers
Independent Districts	11	4103	373	141	29
Common Districts	203	3899	19	206	19

Table 25 shows the extent to which education in the rural territory of the county is decentralized. The eleven high and graded schools have an average enrollment of 373 pupils, while the 203 rural schools average but nineteen pupils. It is noteworthy also that 141 teachers in the town schools instruct a slightly greater number of pupils than the 206 rural teachers. The number of pupils per teacher is in both cases well below that which is considered normal and allowable in Minnesota. Thirty pupils per class in the high school and forty in the elementary school are the maxima usually fixed in the recommendations of accrediting agencies.

It is apparent that in the case of the rural schools the extreme decentralization here pictured results in an unnecessarily excessive outlay for instruction. This applies to buildings, labor, equipment, and supplies as well as to teachers' salaries.

In Table 26, below, some statistics are presented relating to teachers and teachers' salaries in the two types of schools in the county.

Table 26[a]

Numbers and Salaries of Teachers in Independent and Common Districts Compared

Type of School	Total Number of Teachers	Number of Men Teachers	Percentage of Total	Average Monthly Salary	Number of Women Teachers	Percentage of Total	Average Monthly Salary
Independent Districts	141	37	26%	$150.00	104	74%	$113.60
Common Districts	206	15	7.2	59.00	191	92.8	58.00

[a]Data from Annual Report of Superintendent of Schools, Polk County, Minnesota, School Year Ending July 31, 1934.

Probably the first fact to strike the eye in the above table is the disparity between the two groups of schools as regards the proportion of men teachers employed. The thirty-seven men teachers in the town schools constitute twenty-six per cent of all the teachers in that group, while the fifteen men teachers in the common schools make up only slightly more than seven per cent of the rural group.

There is an equally striking contrast in the salaries paid. The rural men teachers receive slightly more than one-third of the salary paid their colleagues in the town schools. The women teachers in the common schools fare somewhat better by comparison with the women teachers in the town schools, getting slightly more than half the salary paid the village teacher.

Per Pupil Expenditures in Town Schools and Rural Schools

Table 27[a]

Comparison of Average per Pupil Expenditures by Independent and Common Districts in Polk County, School Year Ending July 31, 1934

	Independent Districts 4103 Pupils High and Graded Elementary Schools	Common Districts 3899 Pupils Ungraded Elementary Schools
General Control	$5.02	$2.30
Teachers' Salaries	35.78	26.34
Textbooks	1.54	2.01
Supplies	1.80	.43
Library	.47	.22
Janitors' Wages	4.23	.96
Janitors' Supplies, Fuel, etc.	5.90	4.77
Repair Buildings	.98	2.39
Repair Equipment	.68	.42
Transportation	2.29	3.05
Other Expenses	2.56	.83
Land, New Buildings, and Equipment	1.37	.64
Redemption of Bonds	5.27	.71
Interest on Bonds	3.74	.89
Total	70.26	45.96

[a]Data from The Annual Report of the Superintendent of Schools, Polk County, Minnesota, School Year Ending July 31, 1934.

Table 27 lists the various items of school expenditure and shows the average expenditures per pupil by each group for the school year ending July 31, 1934.

The total average expenditure per pupil by the high and graded school group is $70.20, while that for the rural group is $45.96, about $25.00 less per pupil. It must be borne in mind, however, that the group of schools with the higher per pupil expenditure afford four years more of training than the other group. The largest single item of

...rs' salaries, constituting almost exactly fifty per ... expenditure in the high school group, and slightly ... the other.

...e of all but three of the items the independent dis- ... per pupil than the common districts. The three ex- ...ooks, repair of buildings, and transportation.

... expenditures of the town group can in large part be ...he fact that they maintain high schools, which are ...perate than the elementary and rural schools.

...ms of expenditure are dealt with more extensively ...study.

Table 28

Population of Polk County by Age Groups[a]

1930

Age Group	Total	Male	Female
0 - 5	4,094	2,168	1,926
10 - 14	3,928	1,959	1,952
15 - 19	3,646	1,905	1,741

[a]Data from 1930 Federal Census.

Predicting School Enrollment on the Basis of Population

It will be observed that the totals for each of the five-year groups in Table 28 are approximately equal. Taking the total for all three groups and dividing by fifteen, we obtain 766, the average population for any given age from one year to fifteen years. If ages fourteen to seventeen are taken as representing the high school age

group, we arrive at a total high school population of 3,064 for the county.

Table 29 sets forth the situation with regard to high school enrollments in the county. The following observations will serve to clarify the data presented.

Table 29

Comparison of High Enrollment with High School Population in Polk County, Minnesota, 1935

Total Number Enrolled in High School	Number Enrolled from Independent Districts	Number Tuition Pupils Enrolled (Rural)	Percentage of the High School Population Enrolled	Percentage Tuition Pupils are of High School Population	Percentage of County High School Population Enrolled from Independent Districts
1,407[a]	902	505	46%	16%	30

[a] Data from the Annual Report of the Superintendent of Schools of Polk County.

It is assumed, for the purposes of this study, that all of the 505 tuition pupils are residents of Polk County. As a matter of fact, the records of the county superintendent show that fifteen Polk County pupils attend high schools in other counties; and no doubt some pupils from without the county are enrolled in Polk County high schools. It seems safe to assume that movement of pupils into, and movement out of, the county substantially equalize each other.

The total population of Polk County according to the census of 1930 is 36,019. Taking the estimated high school population of 3064, it is found that this comprises 8.5 per cent of the total. To test the validity of this figure, it was applied to East Grand Forks and found to be substantially correct. The familiar fact that town pupils attend

high school in greater numbers than rural pupils is borne out by the comparison. The expense and inconvenience to which rural high school pupils must submit place them at a great disadvantage as compared with the town pupils. Reorganization into fewer and larger districts, with facilities for transportation which this reorganization would permit would go far toward equalizing opportunities for the rural pupil and would no doubt greatly increase the total high school enrollment. A democratic society can ill afford to perpetuate the inequality that now exists in the educational opportunities afforded these two groups.

Summary

Rural school teachers can devote much less time to individual classes than teachers in the graded schools. A study of the relative time allotted to recitation in the major subjects of the elementary curriculum reveals that the rural child receives only from sixteen to fifty per cent as much of the teacher's time as the pupil in the town school. The disparity is most marked in the primary grades, where close supervision is a desideratum.

A number of subjects form a part of the daily programs in the larger schools which receive no formal recognition in the smaller schools Examples are industrial arts and music.

The rural school pupils who are exposed to this meager curriculum outnumber the pupils in the graded schools.

Town pupils have a better chance of completing the eighth grade than pupils in the rural schools. In the town schools of Polk County, eighty-eight per cent of those enrolled in the eighth grade in 1933-1934 were graduated, while only sixty-one per cent of those who entered

that grade in the rural schools completed it. The more flexible requirements for graduation in the high school districts give their pupils an advantage over the pupils in the non-accredited rural schools. Lack of the stimulating competition which is a concomitant of large enrollments, and poorly trained teachers are other factors which operate against the rural pupil. The conclusion is drawn that larger units of organization permitting larger schools, with all the advantages that go with centralization, are called for.

State aid goes chiefly to the larger schools, so that the rural schools become progressively poorer by comparison. In Polk County the latest statistics show that rural schools receive aid amounting to fourteen dollars per pupil, while the town schools receive fifty (calculated on enrollments in grades one to eight). The most effective remedy for this situation is to promote a reorganization which will permit the establishment of a few large schools to take the place of the many small ones now existing.

There are fewer pupils per teacher in the rural schools than in the town schools. The averages for the county are, respectively, nineteen and twenty-nine. This fact renders rural schools relatively inefficient and costly.

Rural schools in Polk County employ very few men teachers, only seven per cent of the total, as compared with twenty-six per cent in the town schools. Average salaries for teachers in the rural schools are considerably less than half as large as those which the town teachers receive.

The average expenditure by rural schools in Polk County is about forty-five dollars per pupil, by the town schools seventy dollars.

Five hundred five rural children attend high school in Polk County. These constitute about forty-six per cent of the high school population.

CHAPTER 3

AN EXAMINATION OF THE POSSIBILITIES FOR ADMINISTERING LARGER UNITS OF SCHOOL ORGANIZATION

Table 30

An Estimate of the Expenditure for Teachers' Salaries Under the Suggested Re-Districting Plan, Compared with Present Expenditures

	Number of Pupils	Number of Teachers	Salary
Total Number of Pupils Enrolled in County	8,002		
Total Number of Teachers Now Employed in County: Men		52	
Women		295	
Total Number of Men Teachers Required on a Basis of Thirty-Five Pupils per Teacher[a]		60	
Total Monthly Salary of Men Teachers at $150.00			$ 9,000.00
Total Number of Women Teachers Required on a Basis of Thirty-Five Pupils per Teacher[a]		169	
Total Monthly Salary of Women Teachers at $113.60			19,198.00
Total Annual Salary of All Teachers at Present			249,499.00
Total Annual Salary of All Teachers Under Suggested Plan			253,786.00
Difference in Expenditure for Teachers' Salaries Under Suggested Plan			+4,286.00

[a]Based on the present proportion of men and women teachers in the independent districts of the county (men, twenty-six per cent, women, seventy-four per cent).

Teachers' Salaries Under Consolidation

Table 30 represents an attempt to arrive at an estimate of the expenditure that would be required for teachers' salaries in Polk County in case the teaching-load were evenly distributed. Thirty-five pupils

per teacher is here assumed to be a normal load.[1] It will be observed that on this basis the number of teachers required to care for the present enrollment is very materially reduced: from 347 to 229, a difference of 118. The total expenditure for salaries, however, remains about the same; in fact, contrary to what might be expected, it is slightly more under the suggested reorganization. To explain this it is necessary to call attention to the fact that the salary scale adopted as a basis for this estimate is that which obtains at present in the independent districts in the county. Obviously, it is this scale rather than the lower rural one which would prevail under the plan of reorganization proposed. Every school would then be comparable with the present town schools in variety of school offerings, training of teachers, and adequacy of school plant. It is to be observed, for instance, that every school would offer high school work; or, failing this, every pupil of high school age in the county would at least have an equal opportunity with every other pupil to obtain high school training. It is further assumed that the professional training of teachers in the proposed reorganized system would be substantially on a level with that now obtaining in the town schools. In other words, for about the same county-wide expenditure, the people of the rural districts would get better teaching, four additional years of schooling for their children, and an enormously enriched program of studies. They would also get a longer school term by an average of sixteen days.

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[1] See Table 25.

Probable Increase in High School Enrollment

It should be observed that the statistics in Table 30 are based on the present total enrollment of 8,002 for the county. It is reasonable to suppose, however, that pupils from the rural districts will enter high school in increased numbers when the present handicaps under which they labor are removed. To arrive at an estimate of the amount of this probable increase it is necessary to examine the situation in representative town schools of the county as regards present intra-district high school enrollments. This situation is pictured in Table 32 below. Table 31 is inserted in order to give information concerning non-resident pupils in the county during the past few years.

Table 31

Number of High School Tuition Pupils in Polk County (Non-Resident)

1931-1935

Town	1934-1935	1933-1934	1932-1933	1931-1932	1930-1931
Beltrami	15	13	19	17	12
Climax	46	44	39	29	29
Crookston	57	69	61	67	63
Fertile	67	75	84	81	75
Fisher	10	15	17	18	16
Fosston	92	99	83	85	75
East Grand Forks	63	66	48	55	54
Erskine	34	33	36	33	38
McIntosh	104	105	88	87	91
Mentor	17	10	18	18	21
Total	505	529	493	490	474

Table 32

High School Population and High School Enrollment in Six Town Schools of Polk County Compared 1935

School	High School Population[a]	Number of High School Pupils in Public School Excluding Tuition Pupils	Percentage of Local High School Population in Public School	Number of Pupils on School Census Age 8-16 Enrolled in Parochial School[a]	Number Enrolled in High School (Corrected)	Corrected Percentage of High School Population in High School
Crookston	537	332	62	255[b]	400	74
East Grand Forks	248	175	71	183	230	92
Erskine	43	40	93		40	93
Fertile	68	62	91		62	91
Fosston	83	69	83		69	83
McIntosh	58	43	75		43	75
Total	1037	721		438	880	
Average			79			84

[a]Data from Federal Census of 1930. See Table 20 and following analysis.

[b]Data from Annual Report of the Superintendent of Schools of Polk County, Minnesota, Year Ending July 31, 1934, and mimeographed material from State Department of Education.

The remianing four town schools in the county, Mentor, Fisher, Beltrami, and Climax, were left out of this reckoning for the reason that these are consolidated districts, so that the transportation factor would complicate the calculation. The schools included may be considered representative and probably are typical of enrollment data for high schools.

To arrive at the high school population, eight and five-tenths of the total population was taken. The manner in which this figure was calculated is explained in Table 29 and in the analysis which follows it.

It was necessary to make an adjustment of the percentage figures in the third column in the case of Crookston and of East Grand Forks to allow for the presence of parochial high schools in these two cities. This was done by figuring the ratio between the number of pupils aged eight to sixteen in the annual school census and the number enrolled in the public high school, and applying this ratio to the parochial high schools.

It will be observed that by the method outlined, eighty-four per cent of the high school population of the towns studied is shown to be enrolled in high school. This compares with forty-six per cent for the county as a whole, as set forth in Table 29.

Referring to Table 28 and the analysis of this table which is appended to it, it is found that the total high school population of the county has been estimated at 3,064. It seems reasonable to assume that under the proposed plan an approximately equal proportion of rural

and town pupils would be enrolled in high school. Accordingly, if it is assumed, in view of the foregoing discussion that the figure eighty-four per cent is valid, the application of it to the total population of the county will yield a figure representing the probable total high school enrollment for the county. The data are presented in Table 33.

Table 33

Present High School Enrollment in Polk County Compared with Probable High School Enrollment Under the Proposed Plan of Reorganization

1935

	Population or Enrollment	Percentage of Population
Total High School Population of Polk County	3,064	
Percentage of Total Polk County High School Population Now Enrolled in High School		46%
Number Now Enrolled in High School in Polk County (Including Estimated Parochial School Enrollment)	1,530	
Percentage of High School Population in Incorporated Cities and Villages of Polk County Now Enrolled in High School		84%
Probable High School Enrollment in Polk County Under the Proposed Reorganization	2,573	
Probable Increase in High School Enrollment	1,043	

With the estimate of probable increase in high school enrollment completed, it is possible to supplement the data regarding prospective expenditure for teachers' salaries, as presented in Table 34.

Table 34[a]

Effect of Increased Enrollment on Expenditures for Teachers' Salaries Under a Plan of County-Unit Organization

Number of Pupils Now Enrolled in County	8,002
Estimated Increase	1,043
Total	9,045
Number of Men Teachers Required at Thirty-Five Pupils per Teacher	67
Number of Women Teachers Required at Thirty-Five Pupils per Teacher	192
Total Number of Teachers Required	259
Total Annual Expenditure for Teachers' Salaries at $113.60 per Month for the Women and $150.00 per Month for the Men	$ 286,840.00
Present Expenditure for Teachers' Salaries	249,499.00
Increase Under the County-Unit Plan	37,341.00

[a]See Table 30

The estimated increase of 1,043 added to the present enrollment yields a total prospective enrollment of 9.045. This enrollment would require the employment of 259 teachers based on an enrollment of thirty-five pupils per teacher. Sixty-seven of these would be men and 192 would be women, if the present ratio between the men and women teachers in the high school districts of the county were maintained. Assuming that the present salary level for the same districts is a valid basis for calculation, the total annual expenditure for salaries would be $286,840.00. This amount exceeds present expenditures by $37,341.00, an insignificant increase when the vastly greater service it would pay for is considered.

The Probable Amount of New Buildings Needed Under A County-Unit Plan of Organization and the Probable Cost of Such Building

It has been pointed out previously in this study that if rural pupils were given equal opportunities with the pupils living in cities and villages, a considerable increase in enrollment might be expected because of the facilities that would be afforded rural children to attend high school. Even under the present unfavorable conditions rural pupils have been enrolling in high school in numbers which have steadily increased from year to year. The statistics covering this movement appear in Table 35.

Table 35

Table 35[a]

Summary Table of High School Enrollment, Grades Nine to Twelve, Inclusive, High School Graduates, and Non-resident High School Pupils, 1895 Forward

School Year	Number of High School Pupils Enrolled Grades 9-12, Inclusive	Number of High School Graduates	Number of Non-Resident High School Pupils
1894-1895	9,402	953	
1899-1900	12,802	1,564	
1901-1902	15,715	1,893	
1903-1904	18,622	2,390	
1904-1905	20,215	2,668	
1905-1906	22,106	2,783	2,933 (a)
1906-1907	23,687	3,109	3,454
1907-1908	24,530	3,314	3,497
1908-1909	26,583	3,533	3,879
1909-1910	28,562	3,907	4,315
1910-1911	29,971	4,051	4,793
1911-1912	33,295	4,497	5.494
1912-1913	34,854	4,854	5,674
1913-1914	36,703	5,277	6,675
1914-1915	39,520	5,974	6,855 (b)
1915-1916	42,273	6,251	7,005 (b)
1916-1917	45,928	7,153	7,098
1917-1918	44,491	6,958	7,514
1918-1919	45,457	6,946	7,637
1919-1920	49,060	7,543	8,296
1920-1921	52,788	8,314	9,261
1921-1922	67,334 (c)	10,109	13,008 (c)
1922-1923	71,801	11,391	14,980
1923-1924	78,359	12,503	17,003
1924-1925	80,195	13,554	17,594
1925-1926	80,778 (d)	14,554	18,627 (d)
1926-1927	81,988	14,690	18,874
1927-1928	85,547	14,650	19,679
1928-1929	90,533	15,674	20,780
1929-1930	98,631	16,401	21,223

Table 35[a] (Continued)

School Year	Number of High School Pupils Enrolled Grades 9-12, Inclusive	Number of High School Graduates	Number of Non-Resident High School Pupils
1930-1931	104,357	17,322	22,792
1913-1932	113,041	19,733	25,304
1932-1933	118,051	21,163	26,070
1933-1934	120,678	21,558	27,445

[a]From Statistical Division, Minnesota State Department of Education, 1935.

(a) First data available
(b) Estimated
(c) Beginning of High School Department
(d) Beginning of Junior High School

Obviously, any figures purporting to represent the cost of new buildings needed under a plan of county-wide consolidation of schools must be highly conjectural. Nevertheless, it may be of some value to seek to arrive at a rough estimate. In Table 36 is presented the cost of a large number of buildings erected throughout the United States in the period 1913-1923.

Table 36

Cost of School Building Construction During 1913-1923 per Cubic Foot, per Room, and per Pupil.[n]

Costs Expressed in Prices of 1913

Cost Per Cubic Foot	Number of Buildings	Cost Per Room	Number of Buildings	Cost Per Pupil	Number of Buildings
$ .35 or more	7	$ 14,000 or more	6	$ 500 or more	4
.34	3	13,500 or more	3	480 or more	
.33	1	13,000 or more	5	460 or more	3
.32	1	12,500 or more	3	440 or more	1
.31	6	12,000 or more	6	420 or more	2
.30	1	11,500 or more	9	400 or more	2
.29	1	11,000 or more	17	380 or more	4
.28	3	10,500 or more	15	360 or more	11
.27	5	10,000 or more	23	340 or more	8
.26	12	9,500 or more	22	320 or more	13
.25	14	9,000 or more	26	300 or more	19
.24	20	8,500 or more	23	280 or more	24
.23	18	8,000 or more	30	260 or more	41
.22	38	7,500 or more	33	240 or more	27
.21	27	7,000 or more	25	220 or more	57
.20	46	6,500 or more	33	200 or more	47
.19	42	6,000 or more	47	180 or more	38
.18	42	5,500 or more	47	160 or more	47
.17	47	5,000 or more	39	140 or more	58
.16	46	4,500 or more	37	120 or more	36
.15	69	4,000 or more	39	100 or more	47
.14	48	3,500 or more	44	80 or less	26
.13	30	3,000 or more	25		
.12	24	2,500 or more	13		
.11	11	2,000 or more	5		
.10 or less	11				
.18[a]	573[b]	6,690[a]	575[b]	198[a]	515[b]

[n]As adapted in Engelhardt and Engelhardt, Planning School Building Programs, Bureau of Publications, Teachers College, Columbia University (1930). From O. R. Hull, The Administration of School Building Programs, in The American School Board Journal, Vol. 74 (April, 1927).

[a]Mean cost.

[b]Total number of buildings.

The cost per cubic foot for 573 buildings ranges from ten cents or less to thirty-five cents or more. The average is eighteen cents. The cost per room for 575 buildings ranges from $2,000 to $14,000 or more, with the mean $6,690. The extremes of cost per pupil for 515 buildings are eighty dollars or less and $500 or more, with the mean $198. The cost per pupil is the most convenient of these measures to use and probably the most reliable, and will be used for this calculation.

It has been assumed throughout this study that the elementary graded school enrollment would remain at approximately its present figure under any plan of consolidation. Practically all of the increase would occur in the high school. By referring to Table 33 it will be seen that this prospective increase was estimated at 1043.

In the absence of any reliable data relative to the capacity and present utilization of the school buildings in the larger school centers of the county, it must further be assumed that these buildings are already filled to capacity and that nwe facilities would have to be provided for all of the increase which might occur.

It is also apparent that the present rural school buildings and grounds could not be used under the proposed plan; and while these properties might have some sales value, this must be left out of the account because there is no way of estimating such value. To the estimated increased high school enrollment, therefore, we must add the present rural school enrollment to arrive at the number of pupils for which new buildings would be required.

Accordingly, with the mean-cost-per-pupil figure of $198 as the basis, the cost of new building needed will be as presented in the table below:

Table 37

Estimated Cost of New Buildings to House the Additional Enrollment Expected Under the Proposed Plan of Consolidation

Polk County, Minnesota

		Cost Per Pupil for New Buildings	Total Cost of New Buildings
Estimated increased high school enrollment	1043	$198	$206,514
Present rural school enrollment	3899	198	772,002
Total	4942		978,516

New Buildings and Bonded Indebtedness

In this connection the bonded debt of the school districts of the county compared with the assessed valuation is a matter of concern. Some statistics relative to this question are presented in the table which follows.

Table 38

Total Bonded Indebtedness of the Two Classes of Schools and its Ratio to the Valuation Compared in Polk County, Minnesota, 1935

	Total Bonded Debt	Total Assessed Valuation	Ratio of Valuation to Bonded Debt (Per Cent)
Rural Districts	$ 62,784	$9,407,523	0.7
High School Districts	553,900	4,169,992	13.0
Total	616,684	13,577,515	

The 203 rural districts, together with one graded elementary school district, have a total indebtedness which is seven-tenths of one per cent of the valuation, while for the ten high school districts the bonded debt is thirteen per cent of the assessed valuation.

Table 39

Estimated Total Bonded Indebtedness of Polk County and the Ratio of Indebtedness to Valuation Under the Proposed Plan of Consolidation

Present bonded indebtedness plus proposed debt to be added for new buildings	$ 1,959,200.00
Total assessed valuation	13,577,515.00
Ratio of prospective indebtedness to valuation (per cent)	11%

Table 37 shows that the estimated cost of the new construction is $978,516. This amount added to the present bonded indebtedness of the county makes a total of $1,595,200. The total assessed valuation of all rural and high school districts is $13,577,515. If the usual procedure were followed and bonds were sold for all of the new construction required, a total bond issue, present and prospective, of eleven per cent of the assessed valuation would be called for.

How does this estimated ratio of eleven per cent compare with the corresponding actual ratios for the high school districts of the county? This question is answered in Table 40.

Table 40

The Bonded Debt Compared with the Assessed Valuation in the School Districts[a] of Polk County Maintaining High Schools[a]

Name of Schools	Bonded Indebtedness	Assessed Valuation	Ratio of Valuation to Debt (Per Cent)
Crookston	$ 140,000	$ 1,857,659	8%
East Grand Forks	186,000	780,643	23
Mentor	135,651	52,000	38
Fisher	245,760	26,000	10
Fertile	212,072	20,000	9
Beltrami	152,958	22,000	14
McIntosh	167,571	39,900	23
Erskine	94,831	14,200	14
Climax	206,864	23,800	11[c]

[a]Data for Fossten not Available
[b]Data for 1934 from Office of County Auditor of Polk County
[c]Mean ratio equals 16.6 per cent.

In this group of nine high school districts, the ratio of valuation to indebtedness ranges from eight to thirty-eight per cent. The mean is sixteen and six-tenths, five and six-tenths in excess of the eleven per cent calculated as the prospective ratio for the county as a whole under consolidation. Four of these districts now have a ratio below this estimated one and five have a ratio above it.

Table 41

An Illustration of the Wide Range of Conditions Existing in Fifteen Rural School Districts Within a Seven-Mile Radius Around a High School District

Number of District	Enrollment	Assessed Valuation	Expenditures 1934	Tax Rate in Mills	Per-Pupil Cost
28	14	$ 46,092	$ 612,86	12.0	$ 43.77
29	10	49,936	947.29	10.5	32.66
35	19	44,128	679.47	7.0	35.80
58	13	89,201	650.74	5.6	50.06
68	7	41,061	768.44	14.5	109.60
82	18	59,804	731.00		40.61

Table 41 (Continued)

Number of District	Enrollment	Assessed Valuation	Expenditures 1934	Tax Rate in Mills	Per-Pupil Cost
96	5	$ 32,683	$ 466.29	18.4	$ 93.26
140	19	43,965	1139.57	13.6	59.98
181	33	59,145	1045.48	14.3	31.68
183	6	36,123	564.54	7.0	94.09
213	18	49,849	998.00	14.0	55.44
246	6	58,241	987.08	8.6	164.50
255	21	39,440	783.84	10.0	37.33
268	20	27,485	824.64	29.0	41.23
288	21	47,574	954.94	16.7[a]	45.47[b]
Total	230[c]	724,727	12,154.18		

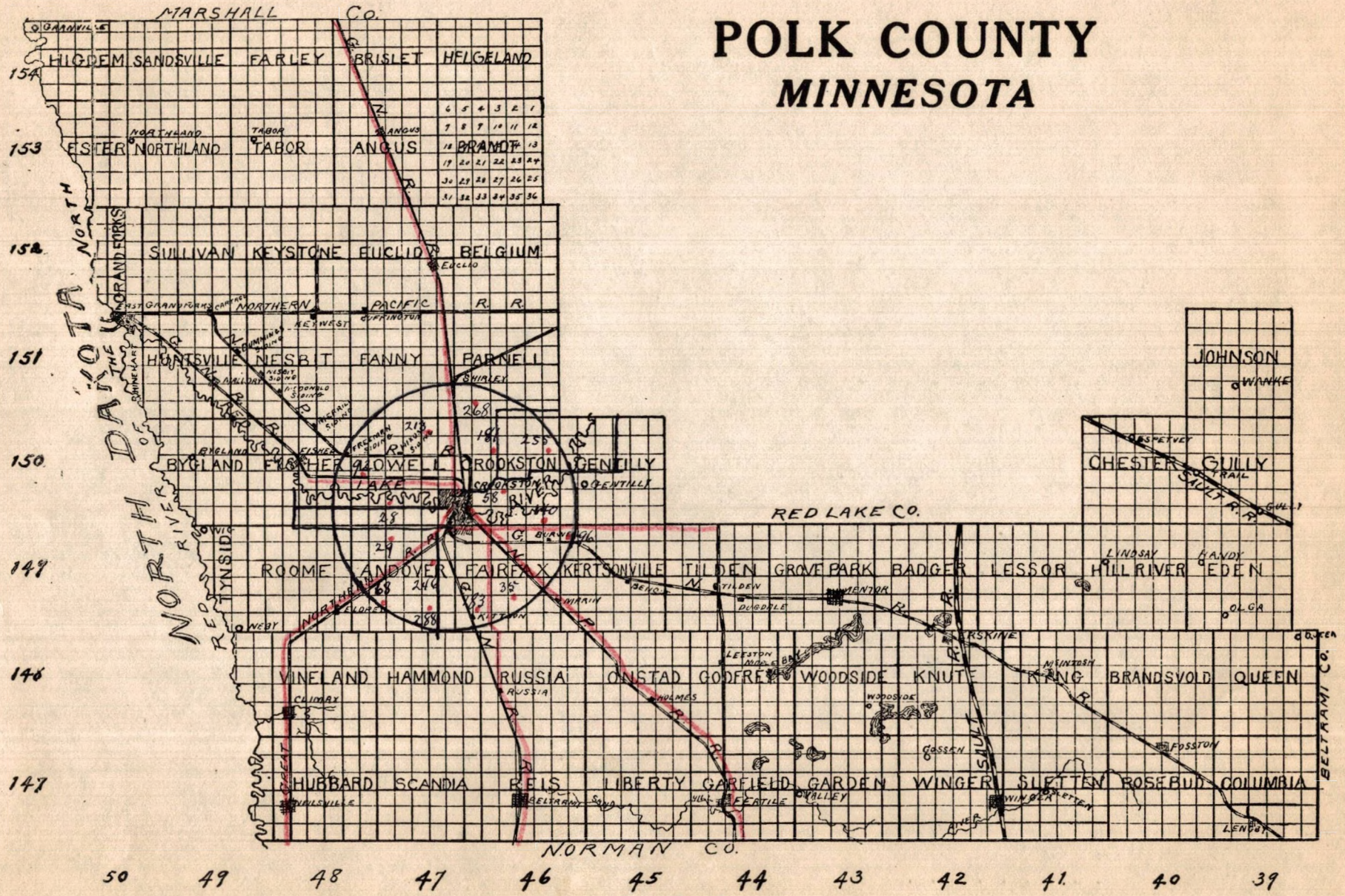
[a]Median tax rate equals 12.0.
[b]Mean cost per pupil equals $62.36.
[c]Mean Number of Pupils Enrolled equals fifteen.

A Comparison of Fifteen Rural Schools

The fifteen districts have a total enrollment of 230. There have been less than ten. The average is fifteen. The range is from five to thirty-three. Their assessed valuation totals $724,727. The total expenditures for the year ending July 31, 1934, was $12,154.18. The tax rates range from zero to twenty-nine mills, with the median twelve. The per-pupil cost shows an equally wide dispersion, from $31.68 to $164.50. The average cost per pupil is $62.36. Four districts are above this average, eleven below.

The table reinforces the statement often heard that the rural school districts display many glaring examples of inefficient and costly administration. For instance, four of the schools listed have fewer than ten pupils each. One of them spends $164.50 for each pupil enrolled, the other three, $109.60, $94.09, and $93.26, respectively. They could care for four or five times the number of pupils they now enroll with very little additional cost.

POLK COUNTY
MINNESOTA



Map 1

—Trunk Highways

—State-Aided and County-Aided Roads. School districts within the circle designated by number

Map 1 illustrates in a striking way how easily the pupils in these districts could be transported to the large graded and high school system at Crookston. None of the districts lies beyond the seven-mile limit from that center, and there are paved trunk highways and good surfaced state-aided and county-aided roads radiating in all directions. It is not to be understood that seven miles is suggested as the optimum length of transportation routes. That distance is a chance choice in this instance and is used merely to illustrate the possibilities. The question of transportation is treated in a more general way elsewhere.

The Transportation of School Children in Polk County

The transportation of school pupils is a well-established feature of education in Minnesota. To illustrate, in the period from 1912 to 1930 the cost of transportation in the state increased from $18,494 to $1,288,401; state aid for transportation from zero to $807,453; number of vehicles from sixty to 1,729; and number of children transported from 932 to 26,226.[1] There is, therefore, a considerable body of evidence available bearing on the various phases of this activity in the state. It is the purpose of this section to survey the possibilities as to transportation in Polk County.

There are ten districts in the county maintaining high schools.

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[1] T. C. Engum, A Study of Transportation Costs in Minnesota, 1929-1930, Unpublished Master's Thesis (University of Minnesota Library, 1932), p. 19.

Table 42

Comparison of Ten Districts Maintaining High Schools in Polk County and Capital Value[a]

Name of School	Enrollment	Number of School Houses	Value of Library	Value of Sites and Buildings	Value of Seats and Desks	Value of Apparatus, Maps, Globes
Crookston	1377	6	$ 2500	$ 388,000	$ 7715	$ 6700
East Grand Forks	746	2	5233	270,000	7000	18,000
Mentor	193	1	710	60,000	1000	1,200
Fisher	198	1	2300	60,000	3579	3,742
Fertile	309	1	2400	60,000	1400	6,500
Beltrami	128	1	250	45,000	1264	3,845
Fosston	369	1	2042	56,000	4000	3,607
McIntosh	329	1	1200	70,000	2866	4,634
Erskine	200	1	1253	56,969	1146	12,850
Climax	188	1	1265	50,000	1000	2,100
Total	4037	17	18,603	1,168,969	31,270	63,678

[a]Data from Annual Report of County Superintendent, Polk County, 1934.

These ten schools range in enrollment from 128 to 1377. The median is 254. Crookston and East Grand Forks have six and two school houses respectively. The remainder have one each, a total of seventeen buildings. The total value of all buildings and sites is $1,168,969, of libraries $18,603, of seats and desks $31,270, and of appartus, maps, and globes $63,678. The aggregate of these items is $1,282,520, the total capital equipment value.

It would obviously be impracticable to disregard the presence of these schools in any plan of centralized control and administration of the schools of the county. It is true that their geographical relations to one another are in many cases far from ideal when regarded with a view to dividing the county into equal transportation units;

but the capital outlay which they have made is too great, and the resultant school equipment and buildings which they now possess are too valuable, to be sacrificed to an arrangement more suitable in theory. It is to be understood, however, that this statement applies to consolidation in a single county only. In case of a state-wide policy of consolidation and a consequent increased degree of state financing and control, the answer might well be otherwise.

Roads

Polk County is well served by good roads. By referring to Map 2 it will be seen that there are seven trunk highways within its borders. One of these traverses the county in its greatest length and another its greatest breadth. Besides these there are numerous graveled and bituminous-surfaced roads, state--and county-aided. In general it may be said that there are few places in the county where there is an interval of more than six miles between good surfaced roads. So far as roads are concerned, the county is well adapted to motorized transportation of pupils.

Table 43

Population by Townships. United States Cities and Villages, Polk County, Census, 1930

Andover	299	Brislet	178	Crookston Township	426
Angus	307	Bygland	560	East Grand Forks	2922
Badger	349	Chester	234	Eden	555
Belgium	115	Climax Village	239	Erskine Village	511
Beltrami Village	226	Columbia	710	Esther	289
Brandsvold	538	Crookston City	6321		
Brandt	132				

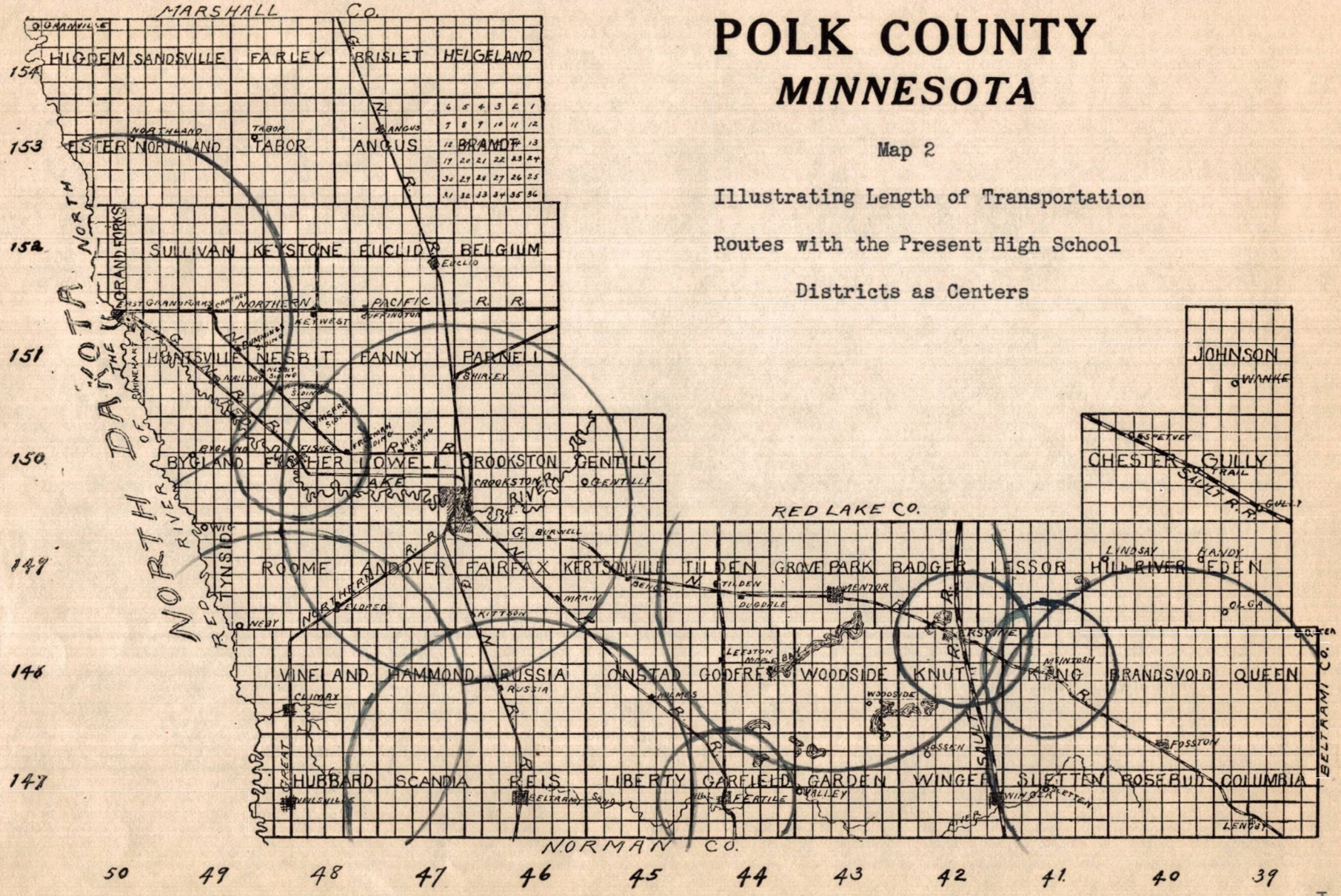
POLK COUNTY
MINNESOTA

Map 2

Illustrating Length of Transportation

Routes with the Present High School

Districts as Centers



Scale: 1/8 inch---1 mile.

24

Table 43 (Continued)

Euclid	368	Hagden	272	Northland	437
Fairfax	355	Hill River	517	Onstad	219
Fanny	262	Hubbard	457	Parnell	179
Farley	173	Huntsville	564	Queen	572
Fertile Village	800	Johnson	254	Reis	286
Fosston Village	978	Kertsonville	235	Rhinehart	149
Garden	622	Keystone	218	Roome	497
Garfield	592	King	484	Rosebud	471
Gentilly	507	Knute	585	Russia	294
Godfrey	436	Lengby Village	144	Sandsville	189
Grand Forks Township	372	Lesson	500	Scandia	168
Grove Park	340	Liberty	335	Sletten	490
Gully Township	402	Lowell	725	Sullivan	314
Gully Village	138	McIntosh Village	688	Tabor	385
Hammond	128	Mentor village	265	Tilden	175
Helgeland	94	Nesbit	308	Vineland	497
		Nielsville Village	186	Tynsid	193
				Winger Township	624
				Winger Village	258
				Woodside	616

Distribution of the Population

Outside of the cities and villages the population is rather evenly distributed. The smallest township population is 115 (Belgium), and the largest 725 (Lowell). Relative situation in the county does not determine population rank. For instance, Lowell Township lies between Crookston and Fisher in the western section, while the next most populous township, Columbia, with a population of 710, is situated in the extreme southeastern corner. In the same way, Fanny Township, lying just North of Lowell, has a population of only 262, while Andover, immediately South of Lowell, has 299. It may be said, therefore, that the rural population is of about equal density in all parts of the county.

Types of Vehicles

The movement is decidedly in the direction of motorized transportation for school children in Minnesota as elsewhere. Statistics from the State Department of Education show the following situation for the state:

Number of Districts Operating	
Wagons	69
Automobiles	216
Motor Buses	349
Number of Vehicles	
Wagons	126
Automobiles	581
Motor Buses	1078

It is to be presumed that practically all school transportation equipment in the future will be motorized. The conveyance of children in those districts which now transport pupils follows two plans: (1) the vehicles are owned by the district in some cases, and (2) others are privately owned. A number of studies have been made as to the comparative virtues of these two plans.

Table 44[a]

Comparative Costs of Operating District and Privately-Owned Motor Buses as Revealed by Various Studies

Study	Plan of Ownership	
	District	Private
Michigan 1930-1931		
Average Annual Cost per Pupil	$ 19.29	$ 37.92
Arkansas 1929-1930		
Per Pupil per Mile Cost	.01	.015
Utah by Lambert		
Per Pupil Mile	.0093	.0169
Florida by Johns 1926-1927	No Difference	
Minnesota by Engum 1929-1930		
Cost Per Child-Day	.16	.23
Cost Per Load-Mile	.31	.36

[a]From A Survey of School Bus Construction in Sixty-Nine Consolidated School Districts in Minnesota, Code VII -B-22, by T. C. Engum.

"It is fairly well established that where the pupils are transported by district-owned and operated equipment the costs are lower, the loads larger, the routes longer, the service better, and the equipment safer and more comfortable."[1]

[1]T. C. Engum, A Survey of School Bus Construction in Sixty-Nine Consolidated School Districts in Minnesota, Code VII-B-22, Mimeographed material from the State Department of Education, St. Paul.

NUMBERS OF TRANSPORTATION UNITS AND LENGTH OF ROUTES IN POLK COUNTY

If the existing high school centers in Polk County were used as the starting points for a program of transportation, the resulting transportation units and consequently the schools would vary considerably in size. East Grand Forks, for instance, has no other high school nearer to it than fifteen miles. Crookston has Fisher ten miles to the west, but no other high school neighbor in the county within twenty miles or more. Climax and Beltrami are also fairly isolated, though not in so marked a degree as the other two.

In the eastern end of the county the situation is otherwise. On Trunk Highway No. 8 (a paved road), Mentor, Erskine, McIntosh, and Fosston succeed one another from west to east at rather short intervals. The distance from Mentor to Erskine is six miles, from Erskine to McIntosh, six miles, and from McIntosh to Fosston, eight miles. The distance from Fosston to the southeastern corner of the county is about ten miles.

Reference to the map makes it apparent that the larger schools lie along the main line of the Great Northern Railway which runs from the west central boundary of the county to the southeastern corner. Seven of the ten schools, including the two largest in fact, are on this line. The remaining three high schools are Climax near the southwestern corner, Beltrami, about fifteen miles southeast of it near the southern boundary, and Fertile, twelve miles directly east of Beltrami.

There are no high schools in the northwestern corner. The nearest school to this territory is East Grand Forks. The distance from this school to the northern boundary in a direct line is about sixteen miles,

and to the northeastern corner of the upright staff of the "L", about twenty-seven miles. Crookston lies about twenty-six miles south of the northern boundary. It will also be remarked that there are no high schools serving the territory in the tip of the horizontal bar of the "L". McIntosh and Fosston both lie about twenty-four miles from the northern extremity of this tip.

The question whether all of the county could be conveniently served by transportation units centering in the present high schools must depend to some extent for an answer on an examination of what other consolidated schools are now doing.

According to statistics furnished by the State Department of Education for the year 1931-1932, the average length of motor bus routes in Minnesota is nine and three-tenths miles. There are a number of reasons, however, why this figure should probably not be regarded as very significant. Transportation in many of the older consolidated districts no doubt still follows practices established before motorization became common. These districts are probably smaller and the routes shorter than present conditions necessitate. The recency of the development of good roads is another factor in producing the same result, and the comparative inefficiency of motor transportation only a few years back is still another.

California is one of the leading states in the transportation of school pupils, and the experience of that state as set forth in the following quotation:

"The average daily round trip of a school bus in California has been found to be between thirty-five and forty miles. The maximum dis-

tance which elementary pupils are transported to and from school is sixty-two miles and the maximum distance high school pupils are transported to and from school is ninety miles. Approximately thirty per cent of the pupils are transported daily more than thirty miles from their homes to the schools." [1]

It will be agreed that longer routes are becoming increasingly feasible as roads and vehicles continue to improve. It seems not unreasonable to assume that pupils can well be transported a distance of thirty miles or more (one way) on the modern paved or surfaced road.

NUMBER OF TRANSPORTATION UNITS IN POLK COUNTY

If it is assumed that thirty-mile routes are not unreasonable, given the conditions in Polk County as regards roads, it would be possible to organize transportation units around the ten existing high school centers in such a way as to provide for the transportation of all the pupils in the county. Reference to Map 3 will illustrate how this might be done.

Generally speaking, circles twenty miles in diameter drawn around the high school centers would approximately include all of the territory in the county except the northwest and the northeast corners. Leaving these two sections out of account for the moment, it is apparent that none of the resulting routes would have to exceed ten miles except by a mile or two here and there. Crookston, Mentor, and Beltrami, for instance, would have small territories beyond this limit in Gentilly, Kertsonville and

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[1] California Schools, July, 1931, State Department of Education, P.305, as quoted in T. C. Engum, A Study of Public School Transportation Costs in Minnesota, 1929-1930. Unpublished Master's Thesis, University of Minnesota, P.107.


HIGHWAY MAP
of
POLK COUNTY, MINN.
Trunk Highways
State Aid Roads
County Aid Roads
MARSHALL CO.
PENNINGTON CO.
RED LAKE CO.
NORMAN CO.
MAHNOMEN CO.
NORTH DAKOTA
Revised Jan 1st 1931

Onstad townships. The units centering around Mentor, Erskine, McIntosh, and Fossston would have to be compressed to much narrower limits on an east-and-west line to allow for the small distances between them. These units would assume an oblong shape running roughly north and south, about ten miles long by about six or seven miles wide. If Erskine and McIntosh were eliminated as centers, the same terrotory could be served by Fossston and Mentor with maximum routes of twelve to fifteen miles.

The Fertile unit, because of its proximity to Beltrami and Mentor, would be limited, except toward the east, to a maximum route of about four miles. It is at present a larger school than either of the other two, and it might be considered desirable for this reason to give it the preference as to size of unit. The other are, however, more favorably situated to form larger centers.

Without the establishment of new centers, the northwestern section of the county would require the longest routes. None of them, however, would quite reach thirty miles. The maximum would be about twenty-seven. Obviously, this territory could best be served by East Grand Forks and Crookston. In the same way, the northeastern corner could be reached by McIntosh and Fossston with a maximum route of about twenty-five miles.

If it were desired to establish new centers in the two sections under discussion, they could be cared for with maximum routes of ten miles. But the resulting schools would be comparatively small.

To summarize, with all of the present high school centers utilized, there would be ten transportation units. Six of them would have maximum routes of ten miles or less. The other four might have routes up to twenty-seven miles. But by far the greater number of these routes would fall within the ten-mile limit.

COST OF TRANSPORTATION

A number of studies have been made of the cost of transportation of school pupils in Minnesota and elsewhere. Table 45 lists some of these studies and their findings.

Table 45[a]

COMPARISON OF AVERAGE COSTS PER PUPIL PER DAY IN THE TRANSPORTATION OF PUPILS BY DISTRICT-OWNED MOTOR BUSES AS FOUND IN SEVERAL COMMUNITIES.

The Studies		Average Cost per Pupil Per Day
Santa Barbara County, California	Survey Report, Solano[b] County, California, 1929, California Taxpayers Association, Table 229, P.90.	$.51
Kerns County, California	Survey Report, Kerns County, California, 1927, California Taxpayers Association, P. 23-27	.26
California	Evans, F. O. "Factors Affecting the Cost of Transportation in California," 1930, U. S. Bulletin No. 29, P. 11. For High School Owned Buses	.257
Colorado	Greene, H. E. "Excessive Cost of Transportation Under the Contract System," American School Board Journal, October 26, 1926.	
	For Dry Land	.226
	For Irrigated Land	.17
Oklahoma	Payne, J. Q. A Study of the Administration of Pupil Transportation in the Centralized Schools of Oklahoma 1928-29, P. 63. Unpublished Master's Thesis, Oklahoma A. and M. College.	.167
San Diego County, California	Survey Report for San Diego County. California Taxpayers Association P. 91-94.	.15
Indiana	Mimeographed News Bulletin, Vol. 5, No. 6, 1931, Department of Public Instruction, State of Indiana.	.137
Solano County, California	Survey Report for Solano County, California, 1929, California Taxpayers Association, P. 88-91.	.13
Minnesota	Median Cost Per Child-Day.	.16

[a] From T. C. Engum, Op. Cit., P. 112

[b] Question misprint for Santa Barbara?

In these studies, as will be seen, the cost per child-day ranges from thirteen cents to fifty-one cents. These extremes occur in the same state, California. The latest study made of the question in Minnesota finds the median cost per child-day in that state to be sixteen cents. The findings are contained in Table 46.

Table 46[a]

PER CHILD-DAY COSTS OF TRANSPORTING PUPILS WITH DISTRICT-OWNED MOTOR BUSES, 1929-30[b]

Per Child-Day Costs	Class of School						Total No. of District Owned Buses	Iron Range	Grand Total
			High School						
				Class					
	Ungraded	Graded	Department	A	B	C			
$.01-$.05			1	1	2	1	5		5
.06- .10			2	5	5	6	18	1	19
.11- .15	1	2	1	7	18	3	32	8	40
.16- .20	4	1	3	9	18	6	41	19	60
.21- .25	1	1		2	3	2	9	1	10
.26- .30				3	2	2	7	2	9
.31- .35		1	1	1	1		4	1	5
.36- .40					1	1	2	1	3
Over .40								3	3
Total	6	5	8	28	50	21	118	36	154
Q 1	$.15	$.15	$.08	$.11	$.13	$.09	$.11	$.15	$.12
Median	.18	.17	.15	.16	.15	.16	.16	.16	.16
Q 3	.20	.25	.18	.19	.19	.23	.20	.25	.19

[a] From T. C. Engum, A Study of Public School Transportation Costs in Minnesota, 1929-1930. Unpublished Master's Thesis. University of Minnesota, 1932.

[b] Depreciation charges not included.

"The range in the median per child-day costs is from fifteen cents for the high school departments to eighteen cents for the ungraded and Iron Range groups. The middle fifty per cent lies between twelve and nineteen cents. There are only three cases, all in the Range area, in which the costs exceed forty cents.

"The extreme costs are three cents for one vehicle operated in a Class B district and sixty-seven cents for another on the Iron Range." [1]

Table 47 gives a summary of median transportation costs for the consolidated schools of Minnesota for 1931-1932. The results here are substantially the same.

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[1] T. C. Engum, Op. Cit., P. 110

Table 47[a]

CERTAIN MEDIAN VALUES OF THE TRANSPORTATION COSTS AND REIMBURSEMENT AID FOR VARIOUS TYPES OF VEHICLES USED IN CONSOLIDATED SCHOOLS OF MINNESOTA, 1931-32.

Items	Classification by Type of Vehicle Used					State
	Motor Buses					
	District	Joint	Private	Auto	Wagon	
1	2	3	4	5	6	7
Median Costs						
Per C-M-D-U	.057 (.047)*	.082 (.075)#	.064	.082	.072	.073
Per Child-Day	.197 (.162)*	.233 (.212)#	.225	.235	.191	.211
Per Load-Mile	.294 (.241)*	.292 (.266)#	.308	.233	.24	.263
Median Aids						
Per C-M-D-U	.047	.064	.055	.071	.065	.065
Per Child-Day	.168	.17	.178	.194	.175	.176
Per Load-Mile	.24	.235	.269	.19	.23	.222

*Figures in parenthesis are exclusive of the depreciation and interest charges which have been calculated at 22% of the operating costs.
#Figures in parenthesis are exclusive of the depreciation and interest charges which have been calculated at 10% of the operating costs.

a-From A Study of Transportation Costs and Reimbursement Aids of the Consolidated Schools in Minnesota, 1931-1932. Mimeographed Material Prepared by he Department of Education, St. Paul, Minnesota.

In connection with the discussion of new buildings needed under a consolidation plan, it was estimated that the high school enrollment of the county would increase by 1,043. This increase would all come from the rural area and transportation would have to be provided for it. In addition to these the present rural school enrollment of 3,899 would have to be cared for in the same way. This makes a total of 4,942 children to be transported. The cost of this transportation, taking the median for the state per child-day may be found by the following formula:

Cost per child-day x The Number of Children Transported x The Length of the School Term in Days.

Substituting our figures in the above formula:

Cost of Transportation in Polk County= .16 x 4942 x 180= $142,322

It is to be observed that not by any means all of the cost of transportation would have to be borne locally, even under present laws. During the last few years, when appropriations have not allowed payment of aids in full, the state has paid approximately seventy per cent of the cost in the transportation aid. Table 48 gives some statistics on this point for 1931-1932.

Table 48[a]

GENERAL SUMMARY BY CLASS OF SCHOOLS OF THE ANNUAL TRANSPORTATION REPORTS FROM 403 CONSOLIDATED SCHOOLS IN MINNESOTA, 1931-32.

Items	Class of Schools						State
	Ungraded	Graded	Class of High School				
			Department	A	B	C	
1	2	3	4	5	6	7	8
A- No. of Schools	153	20	14	133	44	39	403
B- Enrollment							
Grades 1-8	9548	2657	1686	17975	10242	28384	70492
Grades 9-12	1096	240	361	8893	6237	17968	34795
Total	10644	2897	2047	26868	16479	46352	105287
C- Farm Pupils							
Boys	4403	1079	555	7868	3163	3986	21054
Girls	4280	992	565	8165	3607	3254	20863
Total	8683	2071	1120	16033	6770	7240	41917
D- No. Transported							
Resident	7865	1867	974	12760	4715	9354	37535
Non-resident	173	21	44	1160	576	414	2388
Total	8038	1888	1018	13920	5291	9768	39923
E- Costs							
Transportation	$270,742	$56,207	$33,227	$395,247	$133,193	$282,438	$1,171,055
Board	6,562	537	688	4,241	2,643	18,020	32,691
Total	$277,304	$56,744	$33,915	$399,488	$135,836	$300,458	$1,203,746

Table 48 (Continued)

Items	Class of Schools						State
	Ungraded	Graded	Class of High School				
			Department	A	B	C	
1	2	3	4	5	6	7	8
F- Total Aid	$222,956	$46,617	$30,715	$337,568	$103,005	$105,933	$846,794
G- Total C-M-D-U[b]	3,730,676	810,671	506,259	6,503,804	2,209,788	3,813,230	17,574,428
H- Average							
Cost per C-M-D-U[c]	.074	.069	.066	.061	.061	.079	.068
Aid per C-M-D-U	.059	.057	.061	.051	.046	.028	.048

[a] Depreciation and interest charges on district-owned motor buses and bus bodies not included.
[b] C-M-D-U = Child-Mile-Day Units.
[c] From mimeographed material published by the State Department of Education, St. Paul, Minnesota.

The total number of children transported in Minnesota in 1931-1932 was 39,923 at a total cost for transportation and board of $1,203,746. The total aid from the state was $846,794, about seventy per cent.

SUMMARY

The number of teachers in Polk County would be smaller by eighty-four and the expenditure for teachers salaries greater by $37,000 than at present, under a county-unit administration. This extra cost is very small when measured by the increased services rendered.

Elementary school enrollment for the county as a whole would remain virtually static. High school enrollment would probably be increased by about 1,000 as a result of the removal of present handicaps hampering the rural pupil.

Assuming that all of the increased high school enrollment and all of the present rural elementary pupils would have to be cared for in new buildings, the total expenditure for such buildings would approach a million dollars. This together with the present bonded debt of all districts in the county represents about eleven per cent of the assessed valuation, five and six-tenths less than the average corresponding ratio between bonded debt and valuation in the town schools of the county at present. The rural areas would bear a heavier bonded debt than at present and the towns a lighter one.

Transportation units for the county as a whole could be organized around the present ten high schools already established. It is possible under road conditions as they exist in the county to transport pupils as far as thirty miles, one way. Two or three routes approaching

this length would have to be laid out. Most routes would be less than ten miles long.

The total expenditure for transportation according to the plan presented, based on the cost per child-day for the state as a whole, would be $142,000 annually. Approximately three-fourths of this cost would be borne by the state.

Chapter IV

SUMMARY AND CONCLUSIONS

In Chapter II of the Present Study a number of features of school activity in Polk County were examined to determine what inequalities exist as between town and rural pupils in the opportunities for education which they enjoy and how serious these inequalities are.

Rural pupils in Polk County were found to be at a great disadvantage in the kind and amount of instruction afforded by the two types of schools. The teachers of the rural schools have in most cases to teach all of the eight grade levels of the elementary school, while the teachers in the town centers have only one, two, or in rare cases, three grades. The time given to recitation in the major subjects of the elementary curriculum in the rural schools is in no case more than fifty per cent of the time devoted to them in the town schools. This disparity is most marked in the primary grades, where close supervision is probably most important. It was also found that the town schools afford a much greater variety of offerings than do the rural, both curricular offerings such as industrial arts and music, and extra-curriculum activities.

A number of the various types of state aid are designed to encourage and support enrichments of the school curriculum. The conditions which render schools eligible to receive them are such that the small rural districts cannot, or at least do not, qualify. Consequently the town schools of the county receive seventy-two per cent more state aid per pupil than the rural schools.

The rural schools enroll an average of nineteen pupils per teacher, the town schools twenty-nine. If the schools of the county were con-

solidated and an average enrollment per teacher of thirty-five provided, the number of teachers in the county could be reduced from 353 to 259 even with the increased enrollment to be expected. Some rural schools enroll as few as five pupils.

The rural schools are less successful than the town schools in preparing pupils for graduation from the eighth grade. The town schools graduate eighty-eight per cent of their enrollment, the rural schools sixty-one per cent. More flexible requirements in the town schools contribute to this result.

Per pupil costs are lower in the rural schools. The average expenditure is forty-five dollars as compared with seventy dollars in the towns. The higher cost in the towns is accounted for by the greater variety of school offerings and especially by the fact that they afford the more expensive high school training. Extremes of per pupil cost are greater in the rural schools.

An average of eighty-four per cent of the estimated high school population of the towns attend high school, while only forty per cent of the corresponding rural population do so. This is an illustration of the effect which accessibility of schools has upon attendance.

In Chapter III the effect upon the various inequalities reviewed of a county-wide reorganization and consolidation is discussed.

The probable increase in the total school enrollment is shown to be about 1,043, all on the high school level. This estimate is based on the present proportion of the high school population of the towns enrolled in the high schools. The total number of teachers required for the county will be very considerably below the present number because larger classes

can be organized.

No definite conclusion could be drawn as to the amount of new construction needed to care for the pupils who would be enrolled in the comparatively large school centers contemplated under the county-unit plan of organization, for the reason that no reliable data were available as to the extent to which present building facilities are being utilized. It seems fair to conclude, however, that none of the rural schools would be usable. To arrive at a rough estimate of new building costs, it was assumed that all of the pupils now enrolled in rural schools, as well as the estimated additional high school enrollment would have to be cared for by new construction. With the reservations indicated, it may be tentatively concluded that about $900,000 would be required. This represents a county-wide total bond levy, including present indebtedness, of eleven per cent of the assessed valuation, as compared with an average in the towns at present of 16.5 per cent.

The cost of instruction under the county-unit plan would be greater than the total cost in the county at present in spite of a substantial reduction in the number of teachers. This is accounted for by the likelihood that the comparatively high salary levels prevailing in the towns would be adopted.

Feasible arrangements could be made for transportation units centering around the ten town high schools already organized. Road conditions are favorable and suitable equipment available for considerably longer routes than the present average for the state. Most of the proposed routes would fall within the ten mile limit. A few would approach thirty miles.

The total cost of transportation in the county, based on the average cost per child-day for the state as a whole, would be about $142,000. The greater part of this cost would be borne by the state rather than the county.

The following general conclusions may reasonably be drawn:

1. Present inequalities in educational opportunity as between rural and town pupils are sufficiently numerous and serious to call for vigorous efforts at reorganization with a view to eliminating them.
2. A county-unit plan will eliminate many of these inequalities.
3. A county-unit plan of school organization will call for great expenditures for the county as a whole, but not disproportionately great when the resultant benefits are considered.

Suggestions for Further Studies

1. A study of state aid in Minnesota with a view to suggesting changes so that it may reach those communities most in need of it.
2. A study of possible transportation routes in Polk County to determine their location, size, condition of roads, population, and cost of operation.
3. A study of school revenue tax-rates for schools in Polk County. What revenue is produced by the various units, and what per cent of the taxes are delinquent?
4. A study of school buildings in Polk County. Cost per pupil, and extent of utilization.
5. A study of county-units and other large units of school organization in the agricultural areas of the United States.

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