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FOREWORD

The information contained in this bulletin was submitted by Mr. Thomas Sheldon Reynolds as a thesis requirement for the degree of Master of Arts. As the title indicates, it contains information concerning the status of school transportation in Kentucky in 1935-36. After having examined, in a general way, the contents of this thesis, it occurred to me that it contained information which would be of interest to all people of this Commonwealth concerned with the transportation of school children I have, therefore, secured the consent of the author to publish it as an official bulletin of this Department. I think both the author and Dr. Lee Francis Jones, under whose direction it was prepared, are to be commended in securing this type of information. I am, therefore, ordering it published as an official bulletin of the Department of Education. I recommend it for your careful consideration.

H. W. PETERS,
Superintendent Public Instruction.

School Transportation in Kentucky 1935-36

By

THOMAS SHELDON REYNOLDS

A THESIS

Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Arts

WESTERN KENTUCKY STATE
TEACHERS COLLEGE

August, 1936

ACKNOWLEDGMENTS

The writer wishes to express his appreciation of the cooperation extended him by the county superintendents of Kentucky while making this study. He especially appreciates the generosity shown him by Gordie Young, Assistant Superintendent of Public Instruction, who furnished him with much valuable material and information and made it possible to get a one-hundred per cent reply to the questionnaires sent to the county superintendents. He is greatly indebted to his wife, Edith Pagan Reynolds, who assisted in assembling data, reading manuscripts, and encouraging him to finish the study. He also desires to express his appreciation to Dr. Lee Francis Jones, Head of the Department of Education at Western Kentucky State Teachers College, under whose direction this study has been made.

Chapter I

INTRODUCTION

Kentucky is now, and will long continue to be, a rural state. The rural children must be educated in standard schools; this is impossible with a one- and two-teacher school system. Large schools, where well trained teachers are provided, and where teachers are not overloaded with classes, must be maintained. As sparsely settled as Kentucky is in her rural sections, it is impossible to maintain large schools within walking distance of all the children.

Consolidated schools must serve large areas, and some people will of necessity live a long distance from school. This fact should not impair the chances of children getting the training they need for life. They cannot walk to school, so they will have to be transported either at their own expense or at public expense. It is easy to detect the difficulties that would arise if each family were to furnish its own conveyance. The logical step is for the community as a whole to assume the burden of transportation. An activity should be supported by public taxation, if that activity can be done more efficiently at public expense than at private expense. The transportation of children to school at public expense is now generally accepted by the best educational authorities as a function of the state school system.

In Kentucky the transportation of school pupils has grown from a very unimportant part of the school work, a few years ago, to one of the most important functions of the schools today. Almost all the counties in Kentucky are planning for transportation in the near future. The success of Kentucky's consolidation program is dependent upon the success of the transportation of pupils. Unless adequate transportation is provided the consolidated school will be a failure.

Transportation is a very expensive school service. According to federal figures, approximately three per cent (3%) of the total current expenditures for schools in the United States (1927-28) was spent on transportation.[1] The cost of transportation today would probably be a much larger per cent of the total expenditure for schools due to the growth of the consolidation program. In the county districts of Kentucky 6.2 per cent of the total current expenditures for schools for the year 1935-36 was spent for transportation. In this progressive movement we must be conservative. We cannot bankrupt the school systems with too extensive programs of transportation. School bus routes should be planned only where needed, and should be as economical as possible.

[1] "Statistics of State School Systems." 1927-28. Bulletin No. 5, U. S. Office of Education, p. 44.

The major purpose of this study is to determine the status of school transportation in Kentucky, with the hope that many of the local problems, conditions, and needs may be discovered, and if not solved, show the need for their solution. The State Department of Education of Kentucky, with Assistant Superintendent of Public Instruction, Gordie Young, as chairman of the committee on transportation, has set up a standard program of transportation for Kentucky.[2] The writer believes the control and regulation of school transportation by the State Department of Education is very desirable from an economical standpoint. This is shown by results produced in other states where transportation is controlled by the State Department of Education. In Indiana the cost of school transportation has been greatly reduced by close supervision and regulation by the Indiana State Department of Education.[3] It is hoped that this study will be of aid to the Kentucky Department of Education in working out its program of supervision and regulation for school transportation. It is also hoped that it will be of help to county school superintendents. Each county superintendent in the state should have information concerning transportation in other counties of the state, so that he may have some means of measuring the efficiency of his own system.

In making this study, questionnaires were mailed to each of the 120 county superintendents in Kentucky. The questionnaire made was designed to secure county summaries of policies, methods of transportation, number transported, cost, equipment, regulations, administrative set-ups, etc.

[2] "Manual on Pupil Transportation." Bulletin No. 2. Vol. IV; April, 1936. Kentucky State Board of Education.

[3] Timon Covert, "Financial Implications of the Consolidation of Schools and the Transportation of Pupils." United States Office of Education (Circular No. 117, March 1934).

Chapter II

SIGNIFICANCE OF THE PROBLEM

It may be said with some certainty that transportation of school children is a necessary accompaniment of school consolidation. It is relatively easy for school boards and school administrators in times of financial ease gradually to accede to request for expansion of transportation service and to spend increasing amounts of money for the service. It is not always easy in the face of economic crises suddenly to discontinue sections of the school transportation services to which patrons have been accustomed and thereby reduce expenditures. It is not always easy to tell whether a proposed extension of transportation service will be financially justifiable. But in every such problem the foundation for any change in policy or in methods of financing the system and in operating it economically is provided by the facts as to what the system actually costs.

The facts on cost are always needed. In times of economic depression the need is doubly great. School patrons and school administrators alike wonder whether the cost can be reduced or not. School administrators in one part of the state wonder whether or not it costs more or less to operate transportation systems in other parts of the state where roads are different and where people are distributed differently.

School boards who enter into contracts with private owners of conveyances would like to know whether or not the price paid is fair or excessive. School boards that own and operate their own conveyances would like to know whether small busses or large busses are more economical, whether long runs or short runs are more economical, and whether in the long run it is best to own transportation conveyances at all or to contract with private owners for the service needed. These are questions which make the cost phase of school transportation significant. Data reported in this study will throw some light on these questions, but will not settle them completely. These problems demand continuous and extensive study. The present report may add facts of importance to the general problem.

TABLE I

Significant Facts Concerning School Transportation Activities in Kentucky.

1.	Number of Elementary Pupils Receiving Benefits of Transportation	33,677
2.	Per Cent of Elementary Pupils Enrolled Who Receive Benefits of Transportation	9.3
3.	Number of High School Pupils Receiving Benefits of Transportation	17,056
4.	Per Cent of High School Pupils Enrolled Receiving Benefits of Transportation	40
5.	Number of Pupils of All Grades Receiving Benefits of Transportation	58,196
6.	Per Cent of Pupils of All Grades Enrolled Receiving Benefits of Transportation	14.4
7.	Total Dollars Expended for School Transportation	$725,319.12
8.	Total Dollars Expended for Current School Operating Cost	$11,885,580.30
9.	Per Cent which Transportation Costs are of Total Operating Cost	6.2
10.	The County School Census	514,183
11.	Per Cent of Pupils in School Census Receiving Benefits of Transportation	11.3
12.	Per Cent of Increase in Number of Busses Operated in Ninety-Six Counties of Kentucky in the Two Years, 1933-34 to 1935-36	59.2

Table 1 is a summary of tables. The first six items are a summary of Table IV which shows the per cent of pupils enrolled receiving benefits of transportation. Approximately 9.3 per cent of the enrolled elementary school pupils in Kentucky receive benefits of transportation; 40 per cent of the enrolled high school pupils receive benefits of transportation; 14.4 per cent of the total enrolled pupils receive benefits of transportation.

Items 7, 8, and 9 are devoted to the total cost of transportation. Item 9 shows that 6.7 per cent of the total school fund of the county districts goes for transportation. The amount spent in each county may be found in Table II of this report.

Item 10 is the school census for the county districts of Kentucky. Item 11 shows the per cent of pupils in school census receiving benefits of transportation.

TABLE II

Showing Increase in Number of Busses in the Two Years, 1933-34 to 1935-36 in 96 Counties of Kentucky

TABLE II

Showing Increase in Number of Busses in the Two Years 1933-34 to 1935-36 in 96 Counties of Kentucky.

COUNTY	No. of Busses in 1933-34			No. of Busses in 1935-36			Per Cent Increase in No. County Owned Busses	Per Cent Increase in No. Private Owned Busses	Per Cent Increase in Total No. Busses
	County Owned	Private Owned	Total	County Owned	Private Owned	Total			
Adair	0	0	0	0	0	0	0	0	0
Allen	0	0	0	0	9	9			
Anderson	0	0	0	0	0	0	0	0	0
Ballard	7	1	8	8	1	9	14.2		12.5
Barren	0	0	0	0	4	4			
Bath	0	0	0	4	1	5			
Boone	12	4	16	15	7	22	25.	75.	37.5
Boyd	0	3	3	0	3	3			
Boyle	7	0	7	7	1	8			14.2
Bracken	0	14	14	0	18	18	0	28.5	28.5
Bullitt	0	10	10	0	17	17		70.	70.
Butler	0	0	0	0	0	0	0	0	0
Caldwell	0	1	1	4	0	4	300.		300.
Calloway	0	10	10	0	11	11		10.	10.
Campbell	0	5	5	0	8	8		60.	60.
Carlisle	0	0	0	0	2	2			
Carter	0	0	0	0	1	1			
Casey	0	0	0	0	0	0	0	0	0
Christian	3	1	4	3	2	5	0	100.	25.
Clark	0	0	0	0	14	14			
Clay	0	0	0	0	0	0	0	0	0
Clinton	0	0	0	0	0	0	0	0	0
Cumberland	0	0	0	0	1	1	0	0	0
Daviess	0	24	24	0	26	26		8.3	8.3
Elliott	0	0	0	0	1	1			
Estill	0	0	0	0	0	0	0	0	0
Fayette	*	*	22			29			31.8
Floyd	0	0	0	0	0	0	0	0	0
Franklin	15	2	17	18	3	21	13.3	5.	23.5
Fulton	0	1	1	9	4	4		300.	300.
Gallatin	0	0	0	1	2	3			
Garrard	0	13	13	0	20			53.8	53.8
Graves	0	33	33	0	43	43		30.3	30.3
Grayson	0	0	0	0	0	0	0	0	0
Green	0	0	0	0	0	0	0	0	0
Greenup	3	0	3	2	0	2		33⅓	33⅓
Hancock	0	0	0	2	0	2			

TABLE II—Continued

Showing Increase in Number of Busses in the Two Years 1933-34 to 1935-36 in 96 Counties of Kentucky.

COUNTY	No. of Busses in 1933-34			No. of Busses in 1935-36			Per Cent Increase in No. County Owned Busses	Per Cent Increase in No. Private Owned Busses	Per Cent Increase in Total No. Busses
	County Owned	Private Owned	Total	County Owned	Private Owned	Total			
Hardin	0	12	12	2	12	14		16⅔	16⅔
Harrison	15	2	17	14	4	18		100.	20.
Hart	0	0	0	*	*	8			
Henderson	0	33	33	0	32	32		3.†	3.†
Hickman	0	1	1	2	6	8		500.	700.
Hopkins	0	0	0	1	5	6			
Jackson	0	0	0	0	2	2			
Jefferson	0	31	31	0	34	34		9.6	9.6
Jessamine	0	0	0	0	0	0	0	0	0
Johnson	0	0	0	2	0	2			
Kenton	23	5	28	26	3	29	13.		3.5
Knott	1	1	2	1	1	2	0	0	0
Knox	0	0	0	5	0	5			
Larue	0	0	0	0	2	2			
Laurel	0	0	0	0	1	1			
Lawrence	0	0	0	2	1	3			
Lee	0	0	0	0	3	3			
Leslie	0	0	0	0	1	1			
Letcher	0	0	0	4	2	6			
Lewis	0	0	0	0	24	24			
Livingston	0	0	0	0	5	5			
Logan	0	7	7	0	8	8		14.2	14.2
Lyon	0	0	0	0	0	0		0	0
Magoffin	0	0	0	0	0	0	0	0	0
Marion	0	4	4	0	6	6			
Marshall	0	0	0	0	0	0			
Martin	0	0	0	0	0	0			
Mason	3	45	48	1	43	44	66.†		12.†
McCracken	0	12	12	0	12	12	0	0	0
McCreary	0	0	0	1	3	4			
McLean	0	0	0	0	8	8			
Menifee	0	0	0	0	0	0	0	0	0
Mercer	0	0	0	0	15	15			
Metcalfe	0	0	0	0	3	3			
Monroe	0	0	0	0	3	3			
Montgomery	0	5	5	0	9	9		80.	80.
Morgan	0	0	0	0	0	0	0	0	0

TABLE II—Continued

Morgan	0	0	0	0	0	0	0	0	0

TABLE II—Continued

Showing Increase in Number of Busses in the Two Years 1933-34 to 1935-36 in 96 Counties of Kentucky.

COUNTY	No. of Busses in 1933-34			No. of Busses in 1935-36			Per Cent Increase in No. County Owned Busses	Per Cent Increase in No. Private Owned Busses	Per Cent Increase in Total No. Busses
	County Owned	Private Owned	Total	County Owned	Private Owned	Total			
Nelson	0	5	5	0	5	5	0	0	0
Nicholas	0	5	5	0	11	11		120.	120.
Ohio	0	11	11	2	17	19		54.5	72.7
Owsley	0	0	0	0	0	0	0	0	0
Pendleton	8	19	27	12	21	33	50.	15.2	33⅓
Perry	0	2	2	2	1	3		50.†	50.
Pike	0	0	0	0	1	1			
Pulaski	1	0	1	4	1	5	300.		400.
Rockcastle	0	0	0	1	0	1			
Russell	0	0	0	0	0	0	0	0	0
Shelby	0	11	11	0	16	16		45.4	45.4
Simpson	0	0	0	0	4	4			
Spencer	0	0	0	0	1	1			
Taylor	0	0	0	0	0	0			
Todd	0	2	2	0	4	4		100.	100.
Trigg	0	0	0	1	5	6			
Union	2	0	2	20	0	20	900.	0	900.
Warren	0	42	42	0	52	52		23.8	23.8
Washington	0	0	0	0	1	1			
Whitley	0	0	0	0	5	5			
Wolfe	0	0	0	0	0	0			
Woodford	14	0	14	15	6	21	7.1		50.
Totals	114	377	513	182	598	817	59.6	58.6	59.2

* Owned technically by Board.
† Decrease.

Table II shows the percent of increase in the number of busses in 96 counties in Kentucky for 1933-34 to 1935-36. The table shows the per cent of increase in county-owned busses to be 59.6; in privately owned busses to be 58.6; and in the total number of busses in operation to be 59.2.

The number of busses in operation was taken from a questionnaire mailed out in 1933-34 by the Kentucky State Department of Education. Transportation has probably increased more in Kentucky than is shown by the increase in the number of busses, the reason being that present-day busses are larger and haul more pupils than did busses purchased a few years ago.

TABLE III

Per Cent of Census Pupils Transported.*

COUNTY	Number in Census	Number Pupils Transported	Per Cent of Census Transported
Adair	4,216	0	0
Allen	3,820	350	9.42
Anderson	1,840	0	0
Ballard	2,476	410	16.5
Barren	5,889	85	1.4
Bath	2,616	258	9.8
Bell	8,592	350	4.07
Boone	2,062	1,321	64.
Bourbon	3,022	1,152	
Boyd	2,496	235	9.4
Boyle	2,529	872	34.4
Bracken	1,659	762	45.9
Breathitt	6,991	444	6.3
Breckinridge	4,467	410	9.1
Bullitt	1,870	468	25.0
Butler	4,243	0	0
Caldwell	2,238	350	15.6
Calloway	4,152	445	10.7
Campbell	1,933	281	14.5
Carlisle	1,724	79	4.5
Carroll	1,308	950	72.6
Carter	7,626	45	.59
Casey	5,432	0	0
Christian	5,600	235	4.19
Clark	2,537	1,018	40.1
Clay	7,928	0	0
Clinton	2,705	0	0
Crittenden	2,604	150	5.75
Cumberland	3,170	80	2.50
Daviess	6,128	1,785	29.1
Edmonson	3,578	262	7.3
Elliott	2,624	50	1.9
Estill	4,540	0	0
Fayette	5,797	3,053	52.6
Fleming	2,900	600	20.3
Floyd	15,073	0	0
Franklin	753	1,400	.....
Fulton	2,436	365	14.9
Gallatin	875	120	13.7
Garrard	2,882	1,469	50.9
Grant	2,222	710	31.9
Graves	6,755	1,421	21.03
Grayson	4,622	0	0
Green	3,148	0	0
Greenup	4,706	206	4.37
Hancock	1,767	225	12.73
Hardin	4,474	841	18.79
Harlan	17,691	875	4.93
Harrison	2,720	1,658	60.95
Hart	4,250	405	9.52
Henderson	4,227	1,484	35.1
Henry	2,732	600	21.9
Hickman	2,611	290	11.1

TABLE III—Continued

Per Cent of Census Pupils Transported.*

COUNTY	Number in Census	Number Pupils Transported	Per Cent of Census Transported
Hopkins	6,344	345	5.4
Jackson	4,218	16	.3
Jefferson	12,798	2,264	17.6
Jessamine	2,264	0	0
Johnson	6,191	340	3.8
Kenton	3,445	1,603	46.5
Knott	6,404	173	2.6
Knox	7,663	545	7.1
Larue	2,005	53	2.64
Laurel	6,597	70	1.0
Lawrence	5,129	200	3.89
Lee	3,071	66	2.14
Leslie	4,614	35	.758
Letcher	9,932	377	3.69
Lewis	3,977	995	25.0
Lincoln	4,301	858	19.94
Livingston	2,199	100	4.54
Logan	5,325	400	7.51
Lyon	1,512	0	0
Madison	6,324	976	15.43
Magoffin	6,125	0	0
Marion	4,103	217	5.2
Marshall	3,328	0	0
Martin	3,564	0	0
Mason	3,300	1,961	59.4
McCracken	3,762	1,090	28.9
McCreary	4,657	121	2.5
McLean	2,717	581	21.3
Meade	2,754	273	9.9
Menifee	1,954	0	0
Mercer	2,874	1,366	47.5
Metcalfe	3,074	172	5.5
Monroe	4,065	135	3.3
Montgomery	2,530	205	8.1
Morgan	5,779	0	0
Muhlenberg	8,492	593	6.9
Nelson	3,623	165	4.5
Nicholas	1,622	578	35.6
Ohio	7,310	411	5.6
Oldham	1,734	571	32.9
Owen	2,163	777	35.9
Owsley	2,600	0	0
Pendleton	2,241	1,473	65.7
Perry	11,550	160	1.3
Pike	19,408	75	38.6
Powell	2,413	185	7.6
Pulaski	8,939	461	5.1
Robertson	758	111	14.6
Rockcastle	4,506	119	2.6
Rowan	4,464	234	5.2
Russell	3,992	0	0
Scott	2,770	1,100	39.6
Shelby	2,792	1,214	43.4

TABLE III—Continued

Per Cent of Census Pupils Transported.*

COUNTY	Number in Census	Number Pupils Transported	Per Cent of Census Transported
Simpson	2,072	150	7.2
Spencer	1,880	18	.9
Taylor	2,810	0	0
Todd	2,354	193	8.1
Trigg	3,609	210	5.8
Trimble	1,541	326	28.2
Union	2,906	575	19.7
Warren	5,945	1,850	31.1
Washington	3,181	60	1.8
Wayne	4,896	165	3.4
Webster	3,243	1,058	32.6
Whitley	6,972	286	4.12
Wolfe	3,322	0	0
Woodford	1,920	1,072	55.8
Total	514,183	58,196	11.3

* "Kentucky Public School Directory 1935-36." Education Bulletin, No. 9, Vol. III, November, 1935. Kentucky Department of Education, p. 56.

Table III shows the per cent of pupils in the census receiving benefits of transportation. This ranges all the way from nothing in twenty-one counties to as high as 72.6 per cent in Carroll County. The per cent for all the counties of the state is 11.3.

TABLE IV

Per Cent of Enrolled Pupils Transported

COUNTY	No. of Pupils Enrolled			No. of Pupils Transported			Per Cent of Pupils Enrolled Transported		
	Elementary	High School	Total	Elementary	High School	Total	Elementary	High School	Total
Adair	3,666	201	3,867	0	0	0	0	0	0
Allen	2,633	266	2,899	70	280	350	2.6	.....	12.4
Anderson	1,256	155	1,411	0	0	0	0	0	0
Ballard	1,769	460	2,229	290	120	410	16.3	26.0	18.3
Barren	4,485	300	4,785	0	85	85	0	28.3	17.7
Bath	1,994	56	2,050	198	60	258	9.9	1.	12.5
Bell	6,122	711	6,833	350	0	350	5.7	.....	5.1
Boone	1,371	352	1,723	1,002	319	1,321	7.3	90.6	76.6
Bourbon	2,493	358	2,851	826	326	1,152	33.1	91.	40.4
Boyd	1,548	245	1,793	180	55	235	11.6	22.4	13.1
Boyle	1,531	489	2,020	730	142	872	47.6	29.	43.1
Bracken	1,232	150	1,382	700	62	762	56.8	41.3	55.1
Breathitt	5,644	200	5,844	214	230	444	3.8	.....	7.6
Breckinridge	2,921	488	3,409	250	160	410	8.5	32.7	12.0
Bullitt	1,520	65	1,585	418	50	468	27.4	76.9	29.5
Butler	3,377	242	3,619	0	0	0	0	0	0
Caldwell	1,632	287	1,919	160	190	350	9.8	66.2	18.2
Calloway	2,706	391	3,097	339	106	445	12.5	27.1	14.3
Campbell	1,021	237	1,258	263	18	281	25.7	7.5	22.3
Carlisle	1,475	306	1,781	25	54	79	1.7	17.6	4.4
Carroll	.....	.....	.....	800	150	950	.....	.....	.....
Carter	5,663	570	6,233	0	45	45	0	7.8	.7
Casey	4,020		4,020	0	0	0	0	0	0
Christian	4,685	235	4,920	175	60	235	3.7	21.2	4.7
Clark	1,655	282	1,937	225	793	1,018	13.2		52.5
Clay	6,089	354	6,443	0	0	0	0	0	0
Clinton	2,192		2,192	0	0	0	0	0	0
Crittenden	2,006	210	2,216	120	30	150	5.9	14.2	6.7
Cumberland	2,584	74	2,658	40	40	80	1.5	54.0	3.0
Daviess	3,411	680	4,091	1,250	535	1,785	36.6	78.6	51.0
Edmonson	3,215	332	3,547	181	81	262	5.6	24.4	7.3
Elliott	1,958	110	2,068	50	0	50	2.5	0	2.3
Estill	3,140		3,140	0	0	0	0	0	0
Fayette	3,094	1,452	4,546	.....	.....	3,053	.....	.....	69.3
Fleming	2,304	73	2,377	500	100	600	21.7	.....	25.2
Floyd	13,010	780	13,790	0	0	0	0	0	0

TABLE IV—Continued.

TABLE IV—Continued.

Per Cent of Enrolled Pupils Transported

COUNTY	No. of Pupils Enrolled			No. of Pupils Transported			Per Cent of Pupils Enrolled Transported		
	Elementary	High School	Total	Elementary	High School	Total	Elementary	High School	Total
Franklin	1,723	524	2,247	900	500	1,400	52.2	95.4	62.3
Fulton	1,058	210	1,268	325	40	365	30.7	19.0	28.7
Gallatin	666	87	753	80	40	120	12.0	45.9	15.9
Garrard	2,186	460	2,646	1,064	405	1,469	48.6	88.0	55.5
Grant	1,401	490	1,891	410	300	710	29.2	83.6	37.5
Graves	4,208	932	5,140	.....	.....	1,421	.....	.....	25.5
Grayson	3,747	422	4,169	0	0	0	0	0	0
Green	2,374		2,374	0	0	0	0	0	0
Greenup	3,549	310	3,859	90	116	206	2.5	37.4	5.3
Hancock	1,270	175	1,445	145	80	225	11.4	45.6	15.5
Hardin	3,034	569	3,603	551	290	841	18.1	50.9	23.3
Harlan	11,602	1,368	12,970	250	625	875	21.5	47.1	6.7
Harrison	1,445	689	2,134	1,100	558	1,658	76.1	80.9	77.6
Hart	3,930	294	4,224	220	185	405	5.6	62.9	9.8
Henderson	2,590	930	3,520	1,009	475	1,484	38.9	51.0	42.1
Henry	1,863	452	2,315	370	230	600	19.8	50.8	25.9
Hickman	1,645	374	2,019	206	84	290	12.5	22.4	14.3
Hopkins	4,462	519	4,981	150	195	345	3.3	37.5	6.9
Jackson	2,460	199	2,659	0	16	16	0	8.0	.6
Jefferson	6,723	846	7,569	1,701	563	2,264	25.3	66.5	29.9
Jessamine	1,670	99	1,769	0	0	0	0	0	0
Johnson	4,615	584	5,199	40	200	240	.8	34.2	4.6
Kenton	1,634	622	2,256	1,059	544	1,603	64.1	87.4	71.0
Knott	4,874	622	5,496	111	62	173	2.2	9.9	3.1
Knox	.....	.....	.....	.....	.....	545	.....	.....	.....
Larue	1,573	63	1,636	0	53	53	0	84.1	3.2
Laurel	4,917	336	5,253	.....	.....	70	.....	.....	13.3
Lawrence	4,394	659	5,053	0	200	200	0	30.3	3.9
Lee	2,601	.....	2,601	16	50	66	.6		
Leslie	3,715	279	3,994	0	35	35	0	12.5	.8
Letcher	7,187	1,049	8,236	0	377	377	0	35.8	4.5
Lewis	3,092	329	3,421	760	235	995	21.3	71.4	29.0
Lincoln	3,135	362	3,497	654	204	858	20.8	56.6	24.5
Livingston	1,523	294	1,817	50	50	100	3.2	17.0	5.5
Logan	3,512	493	4,005	292	108	400	8.3	21.9	9.9
Lyon	1,239	104	1,343	0	0	0	0	0	0

TABLE IV—Continued.

Per Cent of Enrolled Pupils Transported

COUNTY	No. of Pupils Enrolled			No. of Pupils Transported			Per Cent of Pupils Enrolled Transported		
	Elementary	High School	Total	Elementary	High School	Total	Elementary	High School	Total
Madison	4,194	406	4,600	726	250	976	17.3	61.5	21.2
Magoffin	5,361	241	5,602	0	0	0	0	0	0
Marion	1,304	234	1,538	92	125	217	7.0	53.4	14.1
Marshall	2,547	367	2,824	0	0	0	0	0	0
Martin	3,090	185	3,275	0	0	0	0	0	0
Mason	1,940	634	2,574	1,456	505	1,961	75.0	79.6	76.1
McCracken	2,061	947	3,008	100	990	1,090	4.8	.....	36.2
McCreary	3,437	295	3,732	7	114	121	.2	38.6	3.2
McLean	1,758	572	2,330	297	284	581	16.8	49.6	24.9
Meade	1,756	254	2,010	150	123	273	8.5	48.4	13.5
Menifee	1,429	.....	1,429	0	0	0	0	0	0
Mercer	1,650	315	1,965	720	646	1,366	43.6	.....	69.5
Metcalfe	2,258	231	2,489	34	138	172	1.0	59.7	6.9
Monroe	3,250	144	3,394	75	60	135	2.3	41.6	3.9
Montgomery	1,607	93	1,700	176	29	205	10.9	31.1	12.0
Morgan	4,864	375	5,239	0	0	0	0	0	0
Muhlenberg	1,619	899	2,518	412	181	593	25.4	20.1	23.1
Nelson	2,822	119	2,941	140	25	165	4.9	21.0	5.4
Nicholas	1,241	99	1,340	500	78	578	40.2	78.7	43.1
Ohio	4,928	1,145	6,073	411	0	411	8.3	0	6.7
Oldham	1,178	259	1,437	527	44	571	44.6	16.9	39.8
Owen	1,734	63	1,797	539	238	777	31.0	.....	43.2
Owsley	2,108	131	2,239	0	0	0	0	0	0
Pendleton	525	359	.....	1,473	0	1,473	.....	.....	.....
Perry	4,585	1,224	5,809	20	140	160	.4	11.4	2.7
Pike	16,599	758	17,357	0	75	75	0	9.8	.4
Powell	2,388	244	2,632	0	185	185	0	75.8	7.0
Pulaski	7,151	315	7,466	261	200	461	3.6	63.4	6.1
Robertson	543	74	617	100	11	111	18.4	14.8	17.9
Rockcastle	3,592	.....	3,592	0	119	119	.....	.....	3.3
Rowan	3,098	376	3,474	160	74	234	5.1	19.6	6.7
Russell	3,656	239	3,895	0	0	0	0	0	0
Scott	1,989	354	2,343	.....	.....	1,100	.....	.....	46.9
Shelby	1,678	670	2,348	.....	.....	1,214	0	0	51.7
Simpson	1,475	108	1,583	125	25	150	8.4	23.1	9.4
Spencer	1,284	146	1,430	18	0	18	1.4	0	1.2

TABLE IV—Continued

TABLE IV—Continued

Per Cent of Enrolled Pupils Transported

COUNTY	No. of Pupils Enrolled			No. of Pupils Transported			Per Cent of Pupils Enrolled Transported		
	Elementary	High School	Total	Elementary	High School	Total	Elementary	High School	Total
Taylor	2,365	18	2,383	0	0	0	0	0	0
Todd	2,040	94	2,134	115	78	193	5.6	82.9	9.0
Trigg	2,546	258	2,804	65	145	210	2.5	56.2	7.4
Trimble	1,093	237	1,330	228	98	326	20.8	41.3	24.4
Union	1,675	272	1,947	423	152	575	25.2	55.8	29.0
Warren	4,485	677	5,162	1,600	250	1,850	35.6	36.7	35.8
Washington	2,187	185	2,372	.....	.....	60	.....	.....	2.5
Wayne	3,798	160	3,958	75	90	165	1.9	56.2	4.1
Webster	2,327	372	2,699	803	255	1,058	34.5	68.5	39.3
Whitley	6,262	505	6,767	18	268	286	.2	53.0	4.2
Wolfe	2,800	.....	2,800	0	0	0	0	0	0
Woodford	1,575	27	1,602	922	150	1,072	58.5	.....	66.9
Totals	360,801	42,536	403,337	33,677	17,056	58,196	9.3	40.0	14.4

TABLE V—Continued

Per Cent of Total School Expenditures Devoted to Transportation.

COUNTY	Total Expenditures for All School Pupils	Total Expenditures for Transportation	Per Cent of Total Expenditures Spent for Transportation
Hickman	$ 67,264.93	$ 4,390.35	6.5
Hopkins	129,400.63	7,010.00	5.4
Jackson	61,402.60	405.00	.6
Jefferson	597,191.87	48,730.50	8.1
Jessamine	70,390.00	0	0
Johnson	115,705.67	3,168.00	2.7
Kenton	152,678.92	18,463.18	12.
Knott	111,420.16	1,950.00	1.7
Knox	116,774.17	6,000.00	5.1
Larue	41,134.76	840.00	2.
Laurel	113,525.40	1,180.00	3.2
Lawrence	100,449.18	2,796.00	2.7
Lee	55,176.71	1,080.00	1.
Leslie	72,000.00	900.00	1.2
Letcher	203,706.76	1,902.68	.93
Lewis	122,981.32	13,058.00	10.6
Lincoln	97,665.88	9,640.58	9.8
Livingston	51,246.30	1,500.00	2.9
Logan	136,475.41	5,755.00	4.2
Lyon	32,090.73	0	0
Madison	140,616.30	8,840.00	6.2
Magoffin	105,116.63	0	0
Marion	80,289.60	3,541.25	4.4
Marshall	74,763.00	0	0
Martin	67,112.05	0	0
Mason		27,000.00	
McCracken	151,144.05	11,190.15	7.4
McCreary	82,934.33	2,830.00	3.4
McLean	66,734.41	4,800.00	
Meade	60,875.00	6,000.00	9.8
Menifee	33,550.00	0	0
Mercer	105,750.00	13,576.95	12.8
Metcalfe	50,921.87	2,340.00	4.5
Monroe	60,009.75	1,990.76	3.3
Montgomery	55,785.00	5,464.57	9.7
Morgan	108,262.09	0	0
Muhlenberg	162,296.68	5,265.00	3.2
Nelson	106,924.70	2,698.50	2.5
Nicholas	54,370.00	8,100.00	14.8
Ohio	144,386.60	5,010.00	3.5
Oldham	70,193.84	8,058.60	11.3
Owen	50,141.57	9,422.50	18.7
Owsley	42,449.49	0	0
Pendleton	74,738.05	12,411.33	16.6
Perry	181,688.98	1,800.00	.9
Pike	404,954.19	904.90	.1
Powell	43,772.06	1,391.09	3.1
Pulaski	145,700.00	9,000.00	6.1
Robertson	20,763.23	1,040.00	5.0
Rockcastle	78,895.85	533.24	1.6
Rowan	82,678.80	3,761.50	4.5
Russell	64,396.43	0	0

TABLE V—Continued

Per Cent of Total School Expenditures Devoted to Transportation.

COUNTY	Total Expenditures for All School Pupils	Total Expenditures for Transportation	Per Cent of Total Expenditures Spent for Transportation
Scott	$ 98,800.00	$ 14,450.00	16.1
Shelby	114,686.00	16,243.00	14.1
Simpson	44,405.95	1,467.50	3.3
Spencer	40,837.43	560.00	1.3
Taylor	49,679.28	0	0
Todd	53,498.62	2,316.00	4.3
Trigg	70,889.68	2,635.00	3.7
Trimble	42,701.00	3,384.00	7.9
Union	71,004.67	7,704.28	10.8
Warren	158,729.11	17,000.00	10.7
Washington	65,491.82	900.00	1.3
Wayne	73,062.76	1,700.00	2.3
Webster	90,989.72	10,901.90	11.9
Whitley	113,600.00	4,000.00	3.5
Wolfe	46,174.00	0	0
Woodford	100,400.00	9,873.19	9.8
Total	$11,785,580.30	$725,319.12	6.2

Table V shows the per cent of the total operating cost devoted to transportation. In Table V it may be seen that where some counties devote nothing to transportation, other counties devote as much as 20 per cent of their total operating cost to the same item. The per cent for all the counties is 6.2. These facts help to show the reason for studying transportation cost in the state.

TABLE VI

Miscellaneous Information Concerning Transportation in Kentucky.

COUNTY	Years Transportation has been Provided	Number All-Steel Bodies	Average Number Hauled on Busses	Average Time per Round Trip of Busses (Minutes)	Number Shelters Provided	Average Salary of Drivers of Co.-Owned Busses	Method of Ownership Preferred by Supt.	Liability Insurance
Adair	0	0	0	0	0	0	0	0
Allen	2	0	25	.....	0	.....	Private	No
Anderson	0	0	0	0	0	0	0	0
Ballard	14	0	45	90	0	$20.00	County	No
Barren	1	0	21	60	0	.....	Private	No
Bath	10	0	38	90	0	$40.00	County	Yes
Bell	5	0	35	60	0	$30.00	County	Yes
Boone	13	0	54	45	0	$30.00	County	No
Bourbon	12	8	50	30	20	.....	Private	No
Boyd	9	0	40	45	0	.....	Combination	Yes
Boyle	16	3	70	45	0	$40.00	County	No
Bracken		0	42	45	0	.....	Private	No
Breathitt	3	2	40	120	6	$24.00	County	Yes
Breckinridge	8	2	41	90	15	$18.00	County	Yes
Bullitt	6	2	21	45	0	.....	County	Yes
Butler	0	0	0	0	0	0	0	0
Caldwell	4	3	40	60	0	$40.00	County	Yes
Calloway	10	0	31	60	0	.....		No
Campbell	11	4	30	75	0	.....	Private	Yes
Carlisle	2	0	37	70	0	.....	Private	Yes
Carroll	16	0	25	45	0	.....	Private	Yes
Carter	2	0	25	45	0	.....	Combination	Yes
Casey	0	0	0	0	0	0	0	0
Christian	5	0	32	65	0	$29.00	County	No
Clark	3	1		60	0	.....		No
Clay	0	0	0	0	0	0	0	0
Clinton	0	0	0	0	0	0	0	0
Crittenden	8		30	40	2	.....	.....	Yes
Cumberland	1	0	30	60	0		Private	Yes
Daviess	8	4	45	60	20		County	Yes
Edmonson	4	0	24	60	0		Private	Yes
Elliott	1	0	20	60	0		County	No
Estill	0	0	0	0	0	0	0	0
Fayette	15	0	38		10	430.00	County	Yes
Fleming	13	0	35	40	7		Private	No
Floyd	0	0	0	0	0	0	0	0
Franklin	15	2	46	90	0	$52.00	Private	No

TABLE VI—Continued

TABLE VI—Continued

Miscellaneous Information Concerning Transportation in Kentucky.

COUNTY	Years Transportation has been Provided	Number All-Steel Bodies	Average Number Hauled on Busses	Average Time per Round Trip of Busses (Minutes)	Number Shelters Provided	Average Salary of Drivers of Co.-Owned Busses	Method of Ownership Preferred by Supt.	Liability Insurance
Fulton	2	0	50	75	0	$30.00	County	Yes
Gallatin	2	1	40	70	0	$15.00	Private	Yes
Garrard	15	0	45	60	0		Combination	No
Grant	18	3	50	60	0	$40.00	County	No
Graves	6	0	32	60	0	$64.00	Private	No
Grayson	0	0	0	0	0	0	0	0
Green	0	0	0	0	0	0	0	0
Greenup	6	0	27	90	0	$94.00		No
Hancock	1	2	50	70	0	$16.00	County	Yes
Hardin	10	0	60	100	6	$20.00		Yes
Harlan	3	5	38	60	0	$80.00	County	Yes
Harrison	10	1	45	60	0	$40.00	County	Yes
Hart	1		32		0			No
Henderson	12	0	55	40		$96.00	Private	Yes
Henry	5	1	30	90	0	$25.00	County	No
Hickman	3	1	29	90	0	$30.00	County	Yes
Hopkins	1	4	35	60	10	$20.00	Private	Yes
Jackson	2	0	8	45	0		Private	No
Jefferson	18	17	36	140	0		Private	No
Jessamine	0	0	0	0	0	0	0	0
Johnson	2	2	40	30	0	$52.00	County	Yes
Kenton	12	5	63	90	0	$45.00	County	No
Knott	5	1	30	35	0	$75.00	County	No
Knox	1	0	49	45	0	$45.00	County	Yes
Larue	1	0	26	50	0		County	Yes
Laurel	1	0	35	60	0	$20.00	County	Yes
Lawrence	1	2	40	45	0	$40.00	County	Yes
Lee	1	0	16	120	0	$35.00	Private	No
Leslie	1	0	30	45	0		County	No
Letcher	1	4	35	90	0	$23.00	County	Yes
Lewis	5	0	35	90	4		Private	Yes
Lincoln	10	0	30	60	0	$35.00	County	No
Livingston		0	18	35	0		Private	No
Logan	4	0	50	120	3	$50.00	Private	No
Lyon	0	0	0	0	0	0	0	0
Madison	11	0	51		0		Private	Yes
Magoffin	0	0	0	0	0	0	0	0

TABLE VI—Continued

Miscellaneous Information Concerning Transportation in Kentucky.

COUNTY	Years Transportation has been Provided	Number All-Steel Bodies	Average Number Hauled on Busses	Average Time per Round Trip of Busses (Minutes)	Number Shelters Provided	Average Salary of Drivers of Co.-Owned Busses	Method of Ownership Preferred by Supt.	Liability Insurance
Marion	6	0	25	90	0		Private	Yes
Marshall	0	0	0	0	0	0	0	0
Martin	0	0	0	0	0	0	0	0
Mason	25	0	35	45	0	$49.00	Private	No
McCracken	6	2	35	45	0	$60.00		Yes
McCreary	2	1	19	77	2	$45.00	County	No
McLean	2	1	34	30	0			Yes
Meade	5	4	46	90	0		County	Yes
Menifee	0	0	0	0	0	0	0	0
Mercer	1	7	41	120	0		Private	Yes
Metcalfe	2	0	34	80	0		Private	Yes
Monroe	2	0	45	60	0			Yes
Montgomery	8	1	24	120	5		Private	Yes
Morgan	0	0	0	0	0	0	0	0
Muhlenberg	5	1	37	50	0	$66.00	County	Yes
Nelson		0	20	30	0		County	Yes
Nicholas	6	0	30	85	0		Private	Yes
Ohio	8	1	17	120	3	$50.00	Private	No
Oldham	9	1	32	120	0	$31.20	County	No
Owen	10	1	28	55	0		Private	No
Owsley	0	0	0	0	0	0	0	0
Pendleton	15	5	32	75	12	$35.00	County	No
Perry	2	2	40	120	0	$50.00	County	Yes
Pike	2	0			0		Private	
Powell	4	1	60		0	$30.00	County	Yes
Pulaski	1	1	40	40	0	$25.00	County	Yes
Robertson	7	0	52	120	0		Private	No
Rockcastle	1	0	40	75	0		Private	Yes
Rowan	7	1	20	60	0		County	Yes
Russell	0	0	0	0	0	0	0	0
Scott	10	8	50	45	0	$40.00	Private	Yes
Shelby	14		40	40			Private	Yes
Simpson	1	0	40	75	0		Private	No
Spencer	2	0	16	60	0		Private	Yes
Taylor	0	0	0	0	0	0	0	0
Todd	2	0	35	90	0		Combination	Yes
Trigg	2	1	20	80	0	$20.00	County	Yes

TABLE VI—Continued

TABLE VI—Continued

Miscellaneous Information Concerning Transportation in Kentucky.

COUNTY	Years Transportation has been Provided	Number All-Steel Bodies	Average Number Hauled on Busses	Average Time per Round Trip of Busses (Minutes)	Number Shelters Provided	Average Salary of Drivers of Co.-Owned Busses	Method of Ownership Preferred by Supt.	Liability Insurance
Trimble	6	4	50	45	0		Private	No
Union	3	1	41		12		County	Yes
Warren	20	0	35	45	0		Private	No
Washington	6	1	25	90	0	$25.00	County	No
Wayne	11	1	25	90		$25.00	County	No
Webster	13	0	40	90	20		Private	Yes
Whitley	1	2	50	120	0		Private	Yes
Wolfe	0	0	0	0	0	0	0	0
Woodford	9	13	45	70	0	$35.00	County	No
Totals		141			157			

From Table VI we find that forty-one county superintendents prefer privately owned busses; forty-four prefer district-owned busses; and five prefer a combination of ownership.

Over three times as many busses are reported to be operated in the state under contract by individuals as are owned by districts. The number of district-owned busses increased 1 per cent more in the two-year period mentioned than the busses used by contract with private individuals. This is not to be regarded as an answer either way to the question of whether or not it is best for a district to own and operate its own transportation system. A discussion of this issue of district-owned system vs. contract system appears in a later section of this report.

Table VI also shows that liability insurance was carried in fifty-six counties of the State. It also shows that there were 141 all-steel bus bodies in operation in the State. There were only 157 shelters provided children.

What can be said here with some certainty is that the trends of the Kentucky transportation systems mean increased comfort of pupils, saving of time, and money economy per unit of service.

These trends as shown serve to emphasize again the importance of the transportation problem in Kentucky. They provide a good background for a study of the cost facts reported in a later part of this report.

Chapter III

UNIT COST OF TRANSPORTATION

This study was made for the school year 1935-36 and was carried forward through the cooperation of all the county superintendents of the State and with the cooperation of the State Department of Education.

The data were secured on forms sent to the offices of the County Superintendents. Data on each transportation system were secured to give length of route, number of pupils hauled, number of days operated, type of contract, insurance, total annual cost of transportation to the county, and many minor questions.

Limitations of the Data

The data suffer limitations: There is no clear evidence as to which are the ones in each case; it is quite probable that some districts included the "depreciation" and "overhead" charges, while some did not. Evidence from other studies shows that where there are methods used at all there are almost as many methods of estimating depreciation in school busses as there are operators. It was assumed at the beginning of the study that there would be less error generally in the final results and a greater probability of securing data at all if the cost figures were called for simply by the phrase, "total annual cost of transportation to the county". The superintendents were instructed to allow for interest on investment and depreciation on district owned busses.

The pupil-mile unit.—One difficulty involved in making comparisons of costs by means of the pupil-mile unit is that the number of pupil-miles is built up in a variety of ways. In one study pupil-miles will be calculated by multiplying median distance traveled by the number of pupils carried. In another study the number of pupil-miles is regarded as the product of the average daily mileage of the bus by the average load carried in pupils. In still other cases the seating capacity of the bus is multiplied by the length of the route. Probably the basic reason why these methods are used is that the facts showing length of haul for individual pupils are not known. The precise method of computing pupil-miles is to sum for each route the distance each of the individual pupils ride. This would have been almost impossible in the present study. In this study the pupil-miles are calculated by the method of multiplying the total length of the route by the total number of pupils hauled regardless of the distance. This will make the cost per pupil-mile much less than that shown in other studies using one of the other methods.

No attempt was made to determine specific operating cost for such items as labor, maintenance, repairs, gas, oil, tires, etc. Such facts would be of great assistance to districts which own and operate their own systems, but it was assumed in making the original set-up for the study that very few districts would possess data on these items due to the nature of the accounting systems in general use and further that all districts would feel that the burden of computing or estimating such items would be large, and as a consequence very few districts would cooperate in the study.

Cost Units Used in This Study

The writer feels that up to date no single comprehensive unit can be as useful in a cost study as several units. In the case of school transportation so many factors enter in to cause expenditures to be made such as the number of pupils hauled, the size of the bus, the distance run, the type of road, the kind of management, and the days of operation, that no one unit like the pupil or the bus or the day or the mile will tell the true story of "costs". It seems certain also that even the commonly used combination unit, the pupil-mile, suffers distinct limitations. In the present study both pupil-mile, and bus-mile units together with some others are used.

Results of the study.—The results of the study are presented in one series of tables which follow immediately, and in another table which appears in the latter part of the chapter. A picture of the transportation activities as a whole in the 120 county districts of Kentucky is presented in Tables VII and VIII which give totals in each county and set forth the facts on daily bus mileage, pupils hauled, annual pupil-miles, and cost of the transportation service. The costs are stated in terms of (1) mile of route, (2) pupil hauled annually, (3) pupil hauled daily, (4) pupil-mile, and (5) bus-mile.

TABLE VII

Aggregate Facts on Transportation in the County Districts of Kentucky.

COUNTY	Number Busses	Total Mileage Traveled Two Ways Daily	Typical Number Days of Operation		Aggregate Pupils Hauled on Routes Included			Aggregate Computed Pupil-Miles		
								Daily		Annually
			High School	Elem.	High School	Elem.	Total	High School	Elem.	Annually
Adair	0	0	0	0	0	0	0	0	0	0
Allen	9	304	180	140	280	70	350	2,610	630	558,000
Anderson	0	0	0	0	0	0	0	0	0	0
Ballard	9	396	180	160	120	290	410	1,320	3,190	748,000
Barren	4	65	180	0	85	0	85	680	0	122,400
Bath	5	155	180	140	60	198	258	900	2,970	577,800
Bell	4	280	180	.....	350	.....	5,250	5,250	.....	945,000
Boone	22	792	160	160	319	1,002	1,321	5,742	18,036	3,804,480
Bourbon	19	907	180	160	326	826	1,152	4,890	12,390	2,862,600
Boyd	3	105	180	180	55	180	235	962	3,150	738,250
Boyle	8	450	180	180	142	730	872	1,420	7,300	1,569,600
Bracken	18	231	180	160	62	700	762	806	9,100	1,601,080
Breathitt	3	128	180	140	230	214	444	2,760	2,568	856,300
Breckinridge	7	186	180	140	160	250	410	2,080	3,250	829,400
Bullitt	17	255	180	160	50	418	468	375	3,135	569,100
Butler	0	0	0	0	0	0	0	0	0	0
Caldwell	4	144	180	140	190	160	350	3,420	2,880	1,018,800
Calloway	11	113	180	140	106	339	445	530	1,695	332,700
Campbell	8	264	180	160	18	263	281	297	4,339	747,700
Carlisle	2	58	180	140	54	25	79	783	362	191,620
Carroll	20	312	180	160	150	800	950	1,200	5,200	1,048,000
Carter	1	24	180	0	45	0	45	540	0	97,200
Casey	0	0	0	0	0	0	0	0	0	0
Christian	5	100	180	180	60	175	235	600	1,750	423,000
Clark	14	560	180	180	225	793	1,018	2,250	7,930	1,832,400
Clay	0	0	0	0	0	0	0	0	0	0
Clinton	0	0	0	0	0	0	0	0	0	0
Crittenden	2	76	180	140	30	120	150	390	1,560	260,520
Cumberland	1	60	160	140	40	40	80	600	600	180,000
Daviess	26	1,092	180	140	535	1,250	1,785	11,235	26,250	5,679,300
Edmonson	11	132	180	140	81	181	262	525	1,176	259,320
Elliott	1	16	.....	140	0	50	50	0	400	56,000
Estill	0	0	0	0	0	0	0	0	0	0
Fayette	29	1,392	180	180	.....	.....	3,053	.....	.....	4,396,320
Fleming	17	198	180	140	100	500	600	3,000		528,000
Floyd	0	0	0	0	0	0	0	0	0	0

TABLE VII—Continued

Aggregate Facts on Transportation in the County Districts of Kentucky.

COUNTY	Number Busses	Total Mileage Traveled Two Ways Daily	Typical Number Days of Operation		Aggregate Pupils Hauled on Routes Included			Aggregate Computed Pupil-Miles		
								Daily		Annually
			High School	Elem.	High School	Elem.	Total	High School	Elem.	Annually
Franklin	21	840	180	140	500	900	1,400	7,000	12,600	3,024,000
Fulton	4	80	160	160	40	325	365	400	3,250	584,000
Gallatin	3	96	180	140	40	80	120	640	1,280	294,400
Garrard	20	360	180	140	405	1,064	1,469	3,645	9,576	1,996,740
Grant	18	540	180	180	300	410	710	4,500	6,150	1,917,000
Graves	43	796	180	140	.....	.....	1,421	.....	.....	2,174,130
Grayson	0	0	0	0	0	0	0	0	0	0
Green	0	0	0	0	0	0	0	0	0	0
Greenup	2	96	180	140	116	90	206	1,392	1,080	401,760
Hancock	2	100	180	140	80	145	225	1,000	1,812	333,680
Hardin	14	420	160	160	290	551	841	4,350	8,265	2,018,400
Harlan	8	1,000	180	180	625	250	875	12,500	5,000	3,150,000
Harrison	18	954	180	160	558	1,100	1,658	7,254	14,300	3,593,720
Hart	8	280	180	140	185	220	405	3,237	3,850	1,121,660
Henderson	32	640	180	140	475	1,009	1,484	4,750	10,090	2,367,600
Henry	10	300	180	180	230	370	600	2,875	4,625	1,350,000
Hickman	8	250	180	140	84	206	290	1,285	3,151	672,552
Hopkins	6	170	180	140	195	150	345	2,730	2,100	785,400
Jackson	2	40	180	140	16	0	16	160	0	28,800
Jefferson	34	802	180	180	563	1,701	2,264	5,911	17,860	4,278,780
Jessamine	0	0	0	0	0	0	0	0	0	0
Johnson	2	100	180	180	200	40	240	1,600	320	312,800
Kenton	29	1,015	180	180	544	1,059	1,603	9,520	18,532	5,049,360
Knott	2	136	180	180	62	111	173	620	1,110	311,400
Knox	5	270	180	140	300	245	545	2,700	2,205	794,700
Larue	2	22	180	140	53	0	53	291	0	52,380
Laurel	1	89	180	140	70	.....	70	560	264	137,760
Lawrence	3	90	180	0	200	0	200	3,000	0	540,000
Lee	3	30	180	140	50	16	66	250	80	56,200
Leslie	1	28	180	0	35	0	35	245	0	44,100
Letcher	6	247	180	0	377	0	377	3,770	0	678,600
Lewis	25	375	180	160	235	760	995	1,762	5,700	1,229,160
Lincoln	18	470	180	140	204	654	858	2,625	8,502	1,667,640
Livingston	5	53	180	140	50	50	100	275	275	88,000
Logan	8	288	180	140	108	292	400	1,944	5,256	1,085,760
Lyon	0	0	0	0	0	0	0	0	0	0

TABLE VII—Continued

Aggregate Facts on Transportation in the County Districts of Kentucky.

COUNTY	Number Busses	Total Mileage Traveled Two Ways Daily	Typical Number Days of Operation		Aggregate Pupils Hauled on Routes Included			Aggregate Computed Pupil-Miles		
								Daily		Annually
			High School	Elem.	High School	Elem.	Total	High School	Elem.	Annually
Madison	16	230	180	160	250	726	976	1,800	5,227	1,160,320
Magoffin	0	0	0	0	0	0	0	0	0	0
Marion	6	120	180	140	125	92	217	1,250	920	353,800
Marshall	0	0	0	0	0	0	0	0	0	0
Martin	0	0	0	0	0	0	0	0	0	0
Mason	44	748	180	160	505	1,456	1,961	4,292	12,376	2,752,720
McCracken	12	708	180	160	990	100	1,090	9,900	1,000	1,942,000
McCreary	4	88	180	140	114	7	121	1,254	77	236,500
McLean	4	240	180	140	284	297	581	4,260	4,455	1,390,500
Meade	9	216	180	140	123	150	273	1,476	1,800	517,680
Menifee	0	0	0	0	0	0	0	0	0	0
Mercer	15	675	180	160	646	720	1,366	6,460	7,200	2,314,800
Metcalfe	3	115	160	160	138	34	172	2,622	646	575,320
Monroe	3	35	180	140	60	75	135	540	675	191,700
Montgomery	9	200	180	160	29	176	205	319	1,936	367,180
Morgan	0	0	0	0	0	0	0	0	0	0
Muhlenberg	8	232	180	160	181	412	593	1,267	2,884	689,500
Nelson	5	175	180	140	25	140	165	437	2,450	421,660
Nicholas	11	297	180	160	78	500	578	1,053	6,750	1,269,540
Ohio	19	200	180	140	0	411	411	0	822	147,960
Oldham	14	516	180	180	44	527	571	792	9,486	1,850,040
Owen	12	444	180	140	238	539	777	1,904	4,312	946,400
Owsley	0	0	0	0	0	0	0	0	0	0
Pendleton	33	1,128	180	160	.....	.....	1,475	.....	.....	1,178,400
Perry	3	170	180	140	140	20	160	1,960	260	403,200
Pike	3	24	180	140	75	0	75	300	.....	54,000
Powell	2	170	180	140	185	0	185	3,885	0	499,500
Pulaski	6	438	180	140	200	261	461	7,200	9,456	2,619,840
Robertson	2	67	180	140	0	111	111	0	1,300	182,000
Rockcastle	1	30	180	.....	119		119		600	108,000
Rowan	6	88	180	180	74	160	234	518	1,120	294,840
Russell	0	0	0	0	0	0	0	0	0	0
Scott	12	400	170	170	.....	.....	1,100	.....	.....	1,589,500
Shelby	16	640	170	170	.....	.....	1,214	.....	24,280	4,127,600
Simpson	4	70	180	140	25	125	150	212	1,062	186,840
Spencer	1	22	.....	160	.....	18	18	.....	198	31,680

TABLE VII—Continued

Aggregate Facts on Transportation in the County Districts of Kentucky.

COUNTY	Number Busses	Total Mileage Traveled Two Ways Daily	Typical Number Days of Operation		Aggregate Pupils Hauled on Routes Included			Aggregate Computed Pupil-Miles		
								Daily		Annually
			High School	Elem.	High School	Elem.	Total	High School	Elem.	Annually
Taylor	0	0	0	0	0	0	0	0	0	0
Todd	4	120	180	140	78	115	193	1,170	1,725	452,100
Trigg	6	180	180	140	145	65	210	2,175	975	528,000
Trimble	6	180	180	160	98	228	326	1,470	3,420	811,800
Union	20	180	180	160	152	423	575	1,216	3,384	750,320
Warren	52	500	180	140	250	1,600	1,850	1,250	8,000	1,345,000
Washington	1	24	180	180	.....	.....	60			64,800
Wayne	4	120	180	140	90	75	165	1,350	1,125	400,500
Webster	11	242	180	140	255	803	1,058	2,805	8,833	1,741,520
Whitley	5	220	180	140	268	18	286	5,896	396	1,116,720
Wolfe	0	0	0	0	0	0	0	0	0	0
Woodford	21	740	180	180	150	922	1,072	2,250	13,830	2,894,400
Aggregate of all County Districts	1,053	30,844	17,360	14,040	17,056	33,677	58,196	218,866	413,094	113,501,550
Average	11	312	175	142			589	2,211	4,172	1,146,480

TABLE VIII

Costs of Transportation in the County Districts of Kentucky.

COUNTY	Total Reported Cost to the County	Annual Cost in the Aggregate per Mile of Route (2 ways)	Annual Cost in the Aggregate per Pupil Hauled	Daily Cost in the Aggregate per Pupil Hauled	Cost in the Aggregate per Pupil-Mile	Cost in the Aggregate per Bus-Mile	Prevailing Reported Method of Payment
Adair	$ 940.	0	0	0	0	0	0
Allen	8,738.	$28.74	$24.27	$ .140	$ .016	$ .17	Contract
Anderson	0	0	0	0	0	0	0
Ballard	4,455.35	11.27	10.86	.065	.006	.07	County
Barren	1,500.	23.07	17.63	.097	.012	.13	Contract
Bath	3,500.	22.71	13.56	.091	.006	.15	County
Bell	4,000.	14.28	11.42	.063	.004	.08	County
Boone	13,938.15	17.59	15.61	.065	.004	.11	County
Bourbon	14,988.	16.52	13.01	.078	.005	.16	Contract
Boyd	2,700.	25.71	11.49	.063	.004	.14	Combination
Boyle	6,872.37	15.27	7.88	.043	.004	.08	County
Bracken	7,500.	32.46	9.84	.060	.005	.13	Contract
Breathitt	3,391.46	26.49	7.63	.047	.004	.16	County
Breckinridge	4,500.	24.19	10.97	.070	.005	.15	Contract
Bullitt	5,600.	21.96	11.96	.073	.010	.13	Contract
Butler	0	0	0	0	0	0	0
Caldwell	6,756.15	46.91	19.30	.119	.007	.26	County
Calloway	3,700.	32.74	8.31	.055	.011	.21	Contract
Campbell	5,437.00	20.59	19.35	.119	.007	.12	Contract
Carlisle	1,278.00	22.03	16.17	.097	.007	.13	Contract
Carroll	10,000.00	32.65	12.50	.076	.009	.16	Contract
Carter	1,000.00	41.66	22.22	.123	.010	.23	Combination
Casey	0	0	0	0	0	0	0
Christian	3,000.00	30.00	12.34	.070	.007	.11	County
Clark	11,000.00	19.64	10.80	.060	.006	.11	Contract
Clay	0	0	0	0	0	0	0
Clinton	0	0	0	0	0	0	0
Crittenden	1,012.50	13.32	6.75	.045	.004	.09	Contract
Cumberland	880.00	14.66	11.00	.073	.005	.09	Contract
Daviess	26,000.00	23.56	14.56	.095	.005	.15	Contract
Edmonson	2,883.56	21.85	11.00	.072	.011	.14	Contract
Elliott	707.80	44.23	14.14	.101	.012	.31	Contract
Estill	0	0	0	0	0	0	0
Fayette	39,065.00	28.06	12.79	.071	.008	.16	Contract
Fleming	8,788.00	44.37	14.64	.099	.016	.30	Contract

TABLE VIII—Continued

Costs of Transportation in the County Districts of Kentucky.

COUNTY	Total Reported Cost to the County	Annual Cost in the Aggregate per Mile of Route (2 ways)	Annual Cost in the Aggregate per Pupil Hauled	Daily Cost in the Aggregate per Pupil Hauled	Cost in the Aggregate per Pupil-Mile	Cost in the Aggregate per Bus-Mile	Prevailing Reported Method of Payment
Floyd	0	0	0	0	0	0	0
Franklin	$12,500.00	$14.88	$ 8.93	$ .063	$ .004	$ .15	County
Fulton	2,440.00	30.50	6.68	.041	.004	.19	Contract
Gallatin	3,500.00	36.45	29.16	.190	.012	.23	Combination
Garrard	11,565.00	32.12	7.87	.052	.006	.15	Contract
Grant	12,743.43	23.59	17.94	.099	.007	.13	County
Graves	19,506.95	24.44	13.72	.089	.009	.15	Contract
Grayson	0	0	0	0	0	0	0
Green	0	0	0	0	0	0	0
Greenup	1,700.00	17.70	8.25	.050	.004	.11	County
Hancock	1,080.00	10.80	4.80	.031	.003	.07	County
Hardin	11,617.85	26.61	13.80	.086	.006	.16	Contract
Harlan	10,000.00	20.00	11.42	.063	.004	.11	County 4, Contract 4
Harrison	15,500.00	16.24	9.34	.056	.006	.10	County
Hart	6,800.00	24.28	16.79	.106	.006	.15	Combination
Henderson	23,360.00	36.50	15.74	.074	.010	.23	Contract
Henry	10,000.00	33.33	16.66	.092	.007	.18	Contract
Hickman	4,390.35	17.56	15.13	.099	.006	.15	Contract
Hopkins	7,010.00	41.23	20.31	.124	.009	.16	Contract
Jackson	405.00	10.12	25.31	.140	.014	.06	Contract
Jefferson	48,730.50	60.76	21.25	.119	.011	.33	Contract
Jessamine	0	0	0	0	0	0	0
Johnson	3,168.00	31.68	13.20	.073	.010	.17	County
Kenton	18,463.18	18.19	11.51	.063	.004	.10	County
Knott	1,950.00	14.33	11.27	.062	.006	.08	County 1, Contract 1
Knox	6,000.00	22.22	11.00	.068	.008	.14	County
Larue	840.00	38.18	15.85	.088	.015	.21	Contract
Laurel	1,180.00	13.25	11.45	.068	.008	.08	County
Lawrence	2,796.00	31.06	13.98	.077	.005	.18	County
Lee	1,080.00	36.00	16.36	.096	.019	.21	Contract
Leslie	900.00	32.14	25.71	.142	.020	.18	Contract
Letcher	1,902.68	7.70	5.04	.030	.004	.07	County
Lewis	13,058.00	34.82	13.02	.079	.010	.16	Combination

TABLE VIII—Continued

Costs of Transportation in the County Districts of Kentucky.

COUNTY	Total Reported Cost to the County	Annual Cost in the Aggregate per Mile of Route (2 ways)	Annual Cost in the Aggregate per Pupil Hauled	Daily Cost in the Aggregate per Pupil Hauled	Cost in the Aggregate per Pupil-Mile	Cost in the Aggregate per Bus-Mile	Prevailing Reported Method of Payment
Lincoln	$ 9,640.58	$20.51	$11.23	$ .075	$ .006	$ .10	Contract
Livingston	1,500.00	28.30	15.00	.093	.017	.17	Contract
Logan	5,755.00	19.98	18.38	.095	.005	.14	Contract
Lyon	0	0	0	0	0	0	0
Madison	8,840.00	38.43	8.14	.057	.008	.26	Combination
Magoffin	0	0	0	0	0	0	0
Marion	3,541.25	25.34	16.31	.100	.010	.16	Contract
Marshall	0	0	0	0	0	0	0
Martin	0	0	0	0	0	0	0
Mason	27,000.00	36.09	13.76	.083	.010	.21	Contract
McCracken	11,190.15	15.08	10.26	.057	.006	.17	County
McCreary	2,830.00	32.15	23.38	.131	.011	.17	Contract
McLean	4,800.00	14.11	8.26	.051	.004	.09	Contract
Meade	6,000.00	27.77	21.97	.139	.011	.11	Contract
Menifee	0	0	0	0	0	0	0
Mercer	13,576.95	20.11	9.93	.058	.006	.12	Contract
Metcalfe	2,340.00	20.34	13.60	.077	.004	.12	Combination
Monroe	1,990.76	56.87	14.74	.093	.010	.35	Contract
Montgomery	5,464.57	27.32	26.65	.183	.014	.16	Contract
Morgan	0	0	0	0	0	0	0
Muhlenberg	5,265.00	22.69	8.87	.053	.008	.13	Contract
Nelson	2,698.50	15.42	16.35	.111	.006	.10	Contract
Nicholas	8,100.00	26.95	14.01	.086	.006	.16	Contract
Ohio	5,010.00	25.05	12.21	.086	.004	.18	Contract
Oldham	8,058.60	14.06	14.11	.078	.005	.08	County
Owen	9,422.50	21.22	12.12	.079	.010	.14	Contract
Owsley	0	0	0	0	0	0	0
Pendleton	12,411.33	11.00	8.42	.049	.010	.07	Combination
Perry	1,800.00	10.58	11.25	.064	.004	.07	County
Pike	904.90	39.20	12.54	.069	.017	.21	Contract
Powell	1,391.09	8.18	7.51	.041	.004	.06	County
Pulaski	9,000.00	20.54	19.48	.124	.004	.16	County
Robertson	1,040.00	15.97	10.40	.074	.006	.11	Contract
Rockcastle	533.24	17.77	13.33	.074	.605	.12	Contract
Rowan	3,761.50	42.72	16.07	.089	.012	.23	Contract

TABLE VIII—Continued

Costs of Transportation in the County Districts of Kentucky.

COUNTY	Total Reported Cost to the County	Annual Cost in the Aggregate per Mile of Route (2 ways)	Annual Cost in the Aggregate per Pupil Hauled	Daily Cost in the Aggregate per Pupil-Hauled	Cost in the Aggregate per Pupil-Mile	Cost in the Aggregate per Bus-Mile	Prevailing Reported Method of Payment
Russell	0	0	0	0	0	0	0
Scott	$14,450.00	$36.12	$13.33	$ .077	$ .009	$ .21	Contract
Shelby	16,243.00	25.37	13.37	.078	.004	.15	Contract
Simpson	1,467.50	20.96	9.78	.066	.008	.15	Contract
Spencer	560.00	25.45	31.11	.159	.014	.16	Contract
Taylor	0	0	0	0	0	0	0
Todd	2,316.00	19.30	12.00	.076	.005	.12	Contract
Trigg	2,635.00	14.63	12.55	.074	.005	.08	Contract
Trimble	3,384.00	18.80	10.38	.062	.004	.10	Contract
Union	7,704.28	48.15	13.38	.081	.010	.28	County
Warren	17,000.00	34.00	9.18	.063	.012	.24	Contract
Washington	900.00	37.50	15.00	.083	.013	.20	Contract
Wayne	1,700.00	14.16	10.30	.042	.004	.09	County
Webster	10,901.90	45.05	10.30	.069	.006	.14	Contract
Whitley	4,000.00	18.18	13.98	.078	.004	.10	Contract
Wolfe	0	0	0	0	0	0	0
Woodford	9,873.19	13.34	9.11	.052	.004	.08	County
Aggregate of County Districts	$725,319.12	$23.51	$12.46	.082	.006	.15	
Average	$ 7,253.19	$25.42	$13.69	.081	.0078	.15	

It cost a Kentucky county district, on the average, $25.42 per year for each mile of bus route maintained. The cost per mile varies from $7.70 in Letcher County to $60.76 in Jefferson County. How much difference is really necessary within any given district due to differences in living conditions, in roads, and in their response to varying climatic conditions is impossible to determine from the data in this study. The wide differences found suggest the recommendation that school administrators scrutinize the basis of payments where routes of similar length and load show wide variation in cost on the basis of the mile of route maintained.

What it costs annually and daily on the whole to provide a pupil with transportation service on a vehicle is shown in columns 13 and 14 of Table VIII. This disregards any grade classification of pupils. The average annual pupil cost of transportation for each of the 120 counties, as shown in column 13 of Table VIII varies from $4.80 in Hancock County to $31.11 in Spencer County.

In the aggregate it cost 8.2 cents per day for each child transported in the State of Kentucky, disregarding distance hauled and class of service. The cost varies from 4.1 cents in Powell County to 18.3 cents in Montgomery County.

The average cost per pupil-mile on 1,053 bus routes, as shown in column 15 of Table VIII, is 7.8 mills. The average pupil-mile cost for each county varies from four-tenths of one cent to two cents. This is low due to the fact that the entire length of the route was used to calculate the pupil-miles.

The average cost per bus-mile is fifteen cents. The amount paid per mile the bus runs ranges from seven cents to thirty-five cents.

District-Owned U. S. Contract Systems

Data necessary to a conclusive answer as to whether it is cheaper for the school district to own and operate its own transportation system or to provide this service by contract are not available in the United States generally nor in the data of the present study. It is a question yet to be settled. Opinions on the question among the superintendents of the state of Kentucky is divided. Forty-four in replying to the question stated they preferred the district-owned system and forty-one stated they preferred the contract system. It can be urged with good reason that there are important points at issue in the question other than the point of money cost, though cost differences are important.

It seems perfectly clear that a poorly managed and indifferent administered system operated under district ownership by a superintendent who is unskilled in the administration of transportation and who is glad to shift the increasing problems incident to such administration of transportation to others, is a poor system to compare with one operated by an intelligent and conscientious contractor. Such comparisons are not always avoided when this general issue is raised.

The relative money economy of a well-managed contract system

and an equally well-managed district-owned system would have to be determined from data that permit accurate classifications according to age, type and size of vehicles, type and gradient of roads, lengths of routes and size of loads. It would be thoroughly necessary also to isolate current operating costs from capital costs and overhead charges under a uniform method of accounting. The comparison should be made over a period of years to permit proper spreading of capital outlay costs and the operation of a depreciation curve. Table IX gives some data relevant to this problem. The accuracy of the figures in Table IX depends upon the accuracy of the data submitted by the county superintendents. Some of the superintendents considered the life of a bus five years. However, it is doubtful if any of the superintendents have all the information on file that is mentioned about to make an accurate study.

TABLE IX

Effect of Method of Operation on Transportation.

ITEM	County Owned Busses	Contract Busses
Number of Busses Included	249	719
Average Annual Cost per Mile of Route (2-way)	19.84	27.43
Average Annual Cost per Pupil Hauled	11.46	14.51
Average Daily Cost per Pupil Hauled	.065	.086
Average Cost per Pupil-Mile	.005	.008
Average Cost per Bus-Mile	.122	.17

This table indicates that in Kentucky the transportation of district-owned systems costs less than on the contract-systems on the bases of annual cost per pupil hauled, daily cost per pupil hauled, per pupil-mile, per bus-mile, and annual cost per mile of route. There are only twenty-seven counties included in the ownership group and it is not certain how clear has been the discrimination between capital outlays and depreciation costs in the total costs reported. These data are to be regarded only as a tentative indication of the relative costs of the two methods. However, the trends shown are similar to those found in recent studies in other states.

Dr. H. L. Fulmer of the South Carolina State Department of Education found the cost per child per day transported by district-owned busses in South Carolina was $0.117 and by contract $0.139.[1] In the state of Arkansas the average cost per pupil per mile per day on school-owned busses was found to be 1.0 cent whereas where the transportation was under contract the average cost per pupil-mile per day was 1.5 cents.[2] A. C. Lambert found the district-

[1] H. L. Fulmer, **A Statistical Study of School Transportation in South Carolina.** (State Department of Education, Columbia, S. C., December, 1931), p. 10.

[2] Harry A. Little, "Public Transportation of School Pupils in Arkansas." (Little Rock, Ark., State Department of Education, September, 1930), p. 24.

owned system to be cheaper than the contract-system in a study made in twenty-three districts in Utah.[3]

The safest conclusion at present is that this issue of district-owned U. S. contract-systems of transportation needs further and careful study in the state of Kentucky. The case is not entirely clear for money economy in district-owned systems, though there are indications of its relative economy.

Commonly used arguments for and against district-ownership of school busses are summarized here.

For District-Ownership:

1. The school system has no object in making money from its transportation system, and for that reason school ownership generally means better and more comfortable busses.

2. Ownership permits better supervision and control of the system.

3. With reasonably equal competence in management, transportation is generally cheaper under school control.

4. School-owned busses are usually kept in better repair.

5. Drivers can usually be secured at lower cost under district-ownership. These drivers are commonly of high grade including teachers in some cases.

6. There is a tendency throughout the country to change from private to public ownership.

7. The method of competitive bidding does not insure either the best drivers nor the best equipment.

8. Busses belonging to the school district can be used for all school purposes.

9. Experience of school systems in contracting other auxiliary services like janitorial services has not always been satisfactory nor economical.

10. Under the contract system, the district does not escape the capital outlay costs incident to the purchase of busses and equipment; they are charged in by one method or another.

11. The school district should not permit the superintendent to escape the responsibility for training himself to administer transportation as he does other school functions.

12. School ownership provides the opportunity for close supervision at all times, so as to provide more comfort and safety in the transportation system.

For the Contract-System:

1. The system of contract relieves the district from large capital outlays necessary to its inauguration of a transportation system and to its upkeep.

2. The contractor takes better care of his equipment than does the school district.

[3] A. C. Lambert, "The Costs of Transporting School Children by Vehicles in the Utah Consolidated School Districts." (Salt Lake City, Utah, State Department of Education), p. 48.

3. There are no arguments under this system where the busses are after school hours nor of what use is made of them off schedule.

4. No unnecessary mileage is paid for.

5. The district knows exactly what its transportation is to cost under this system. Budgeting is facilitated.

6. Responsibility incident to inspection, repair, and maintenance can be shifted from the superintendent to the contractor.

7. Liability for personal and property damage in case of accidents can be handled better under this system.

8. Large depreciations costs incident to long summer vacations under the district-owned plan can be avoided by the contract plan.

9. The interested and experienced contractor will enforce rules and regulations upon his drivers with more care than will a public corporation, the school district.

10. Large numbers of districts use the contract system and seem to find it satisfactory.

Chapter IV

SUMMARY AND CONCLUSIONS

In the first part of this study the writer has tried to show the need for greater attention to the transportation problem in Kentucky.

It was shown that 6.2 per cent of the total amount spent for schools in the 120 county districts for the school year 1935-36 was expended for transportation. This amount ranged from nothing in twenty counties to as high as 20 per cent in others.

Approximately 14.4 per cent of the enrolled pupils received benefits of transportation, and 11.3 per cent of the census pupils received benefits of transportation.

The number of busses in ninety-six counties of Kentucky increased 59.2 per cent in the two-year period from 1933-34 to 1935-36. There are more than three times as many busses operated by the contract system as by the district-owned system. However, all facts in this study seem to indicate that the district-owned system is cheaper. Fory-four superintendents stated they prefer the district-owned system; forty-one replied that they prefer the contract system, and five reported that they prefer combination ownership.

Cost units found in Table VIII are relatively low in comparison with other states. However, the variation from district to district indicates the need for continued study of the transportation problem. The average cost per mile of route was found to be $25.42; the annual cost per pupil hauled was $13.69; the daily cost per pupil hauled was $.081; the cost per pupil-mile was $.0078; and the average cost per bus-mile was found to be fifteen cents. Table IX shows all these items mentioned above to be cheaper by the district-owned system of payment.

It is urged here that school administrators be not hasty to judge the efficiency of the various transportation systems in Kentucky on the basis of the cost data reported herein. The figures will be useful for comparative purposes, truly, but they will be most useful to the extent that they stimulate administrators to analyze, by reputable methods, the "costs" within their own systems, but in the light of conditions in the state generally and in the light of conditions in the district itself.

Standards of cost efficiency can not be set up from the data available in this study. Uncertainty over precise methods used by the various districts in charging capital outlays, interest, and depreciation, and the method by which these items have been segregated is great enough yet to make the central tendencies reported

here purely tentative as standards of costs. This does not mean, however, that these cost facts may not be used for all they are worth.

Before adequate standards of reasonable costs can be set up in Kentucky with very much certainty there must be more precise isolation of such factors as variable roads and differences in vehicles, and there must be greater uniformity in accounting practices within the various districts than has yet been accomplished. Clear segregation should be made of capital costs, overhead charges, and current operating expenditures.

It is also urged that the efficiency of a school transportation system involves such vital factors as regularity, flexibility, adequacy, comfort, and safety. Cost analysis constitutes but one approach to the problem of the efficiency of a school transportation system.

The writer is of the opinion that the transportation problem will become greater as the years go by. He believes that the most practical solution for this problem lies in more regulation by the State Department of Education. He can see no method for securing uniformity in figuring cost facts except through definite requirements made by the State Department of Education.

In conclusion the writer would like to make the following recommendations:

1. That each county superintendent acquaint himself with the techniques presented in this report in order that he may be able to apply them to his local situation.

2. That superintendents be guided by the following information in planning bus routes: Low operating costs are, on the average, the result of new, county-owned and county-operated busses which carry large pupil loads over good roads.

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