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A Report of Pupil Transportation Operations for Carlyle Community Unit School District #1: Contracting and District Owned Operations Compared

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A REPORT OF PUPIL TRANSPORTATION OPERATIONS FOR CARLYLE COMMUNITY UNIT SCHOOL DISTRICT #1: CONTRACTING AND DISTRICT OWNED OPERATIONS COMPARED

BY
DONALD O. BRETSCH

A REPORT OF PUPIL TRANSPORTATION OPERATIONS FOR CARLYLE COMMUNITY UNIT SCHOOL DISTRICT #1: CONTRACTING AND DISTRICT OWNED OPERATIONS COMPARED

(TITLE)

BY

DONALD O. BRETSCH

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

THE PROBLEM

Introduction

Since 1970 approximately one million pupils are transported each school year in the State of Illinois. This gigantic task requires the services of sixteen thousand drivers and eleven thousand vehicles, logging in total an excess of one hundred million miles annually. Transporting children to and from school presently costs the Illinois taxpayers over fifty million dollars a year.

Pupil transportation for Illinois is comprised of the services provided by the individual school districts throughout the state. During the 1974-75 school year, 1046 Illinois school districts provided transportation in accordance with the school code. These districts fulfilled their transportation obligations under a plan of district ownership, joint ownership, or contracted service.

The large expenditure of public funds necessary for the annual transportation of school children merits consideration. The most economical way to transport pupils should be determined. It behooves every board of education throughout the state to provide its school community with an efficient transportation system by the most economical manner possible.

Statement of the Problem

The purpose of this field study is to compare district ownership of transportation to a contractual arrangement, particularly for Carlyle Community Unit District #1.

Reason for the Study

Since the formation of Carlyle Community Unit District #1 in 1948, pupil transportation had been provided by contractual arrangement with C. W. Heinzmann & Son, Inc., a local private agency. Because of difficulty experienced in negotiating a favorable contract for the 1974-75 school year, the board of education decided on February 13, 1974, to no longer contract transportation services. Since a joint ownership arrangement was not possible, the decision to enter into the business of acquiring, operating and maintaining a district owned transportation system was made. The board was united in their decision and confident that the district could provide its constituents with quality pupil transportation at a lesser cost than could be done through contracting.

This study may, in part, serve as a public report to the citizenry of the Carlyle school district regarding the practicality of the board's decision to change from contracted transportation to district owned. The content and data to be supplied may also serve as an objective reference for other boards of education confronted with deciding between district owned or contracted transportation.

Definitions

The following definitions are used for this study:

Contract System: An arrangement for pupil transportation by contracting the services through a private agency. The school district does not own or operate buses.

Cost Per Mile: The average expense incurred a school district per bus mile driven. Computed by dividing the net transportation cost by the total number of bus miles driven.

Cost Per Pupil: The average expense incurred a school district per eligible pupil transported. Computed by dividing the net transportation cost by the number of eligible pupils transported.

District Owned System: An arrangement for pupil transportation by district owned and operated buses. Also referred to as public owned system.

Eligible Pupils: Those pupils transported to and from school who live one and one-half miles or more from their attendance center and for whom the district receives reimbursement.

Linear Density: The number of eligible pupils transported per bus mile driven. Computed by dividing the number of bus miles driven by the number of eligible pupils transported per day.

Net Operating Cost: The expense incurred by a school district for transporting eligible pupils to and from school for one fiscal year.

Sparsity Factor: The number of eligible pupils per square mile of school district. Computed by dividing the number of eligible pupils transported by the square mile size of the district.

Unit District: A public school district that includes grades kindergarten through twelve.

Extent of Study

A review of the literature and a financial investigation of some comparable school districts are made to determine which mode of transportation operation is more likely to be suitable for a school district such as Carlyle Community Unit #1. A comparison of transportation costs for the Carlyle district under contracting and under district ownership is presented. An accounting of the establishment of a district owned transportation system for the Carlyle Unit is included.

Procedure and Limitations

The information concerning Illinois school districts was obtained from the Department of Research and Statistics of the Illinois Office of Education. Information for fiscal year 1974-75 was collected from Circular Series A #344, Circular Series A #346 and selected data processing printouts. The statistical data used in the analysis was taken from Form 50-23, "Transportation Reimbursement," (See Appendix A) as submitted for fiscal year 1974-75. Information concerning the Carlyle Unit District was obtained from the district's business office and from interviews with the superintendent and business manager.

Factors of sparsity and linear density are computed to use to determine comparability of the sample groups and the Carlyle district. Financial study and comparisons will be made by computation of factors of per eligible pupil cost and cost per bus mile driven.

The study will be limited to Illinois unit districts which either own their own pupil transportation system or completely contract for transportation services. Districts which provide pupil transportation by using both a district owned operation and contracting will not be

investigated. It is assumed that all data supplied to the Illinois Office of Education via Form 50-23 are complete and accurate.

CHAPTER II

A HISTORICAL BACKGROUND AND REVIEW OF THE LITERATURE

Historical Background

It has largely been within the past half century that Americans came to no longer support the belief that an elementary education was sufficient for the majority. The American ideal that "all children have a right to free public education" came to fully include the secondary school. As the extent and need for public education was re-assessed, and rural populations continued to decline, the one-room country school quickly began to diminish from the American scene. Consolidation of school districts became the widespread solution to the challenge of supplying appropriate educational programs for all young Americans. With the consolidation movement, the need for publicly supported pupil transportation was firmly established.

The establishment and daily operation of publicly supported pupil transportation systems has had a profound and lasting effect upon public education in America. The school bus eliminated the enduring daily trek to and from school for millions of boys and girls, allowing them to spend their energy within the learning institution. Transportation provisions made compulsory attendance enforceable and, more important, realistic. The school bus eliminated the hazards experienced daily by multitudes of students by providing them with a safe,

dependable means of getting to and from school. Buses brought numbers of children of common ages together, enhancing the development of educational programs and better utilization of professional staff. The school bus helped to provide a solution to a number of the financial and educational problems confronting school districts in sparsely populated areas. It made the attainment of a secondary education possible for all youth. It helped to provide the handicapped with proper educational services. It made possible the development of appropriate vocational education programs by bringing together students of common needs and interests. The school bus brought about the expansion of a wealth of inter-scholastic activity and competition. It expanded the classroom to include the community and other areas of educational value by making the field trip a common method of teaching. It provided a means of facilitating the achievement of racial and ethnic balance within the schools. The school bus has indeed had a most profound effect upon American education. The school bus has probably been more instrumental in bringing about lasting change in American education than all the publicized educational innovations combined.

Publicly supported pupil transportation was never a questionable function of the public school as it was clearly conceived as a suitable means to a pre-determined end. The question of how the needed transportation services can best be provided has been an issue of controversy.

The Literature

Initially, as school districts established transportation services for their pupils, the contract method was the choice of many.

Although the need for transportation was clearly established, numerous school administrators were hesitant in developing a district owned system. Many felt it was not included as a part of their domain. Some were apprehensive about the ability of their district to become equipped and staffed to provide the necessary services. Others were convinced that quality service could best be provided by agencies already involved in the business of public transportation. The solution for many of them was to contract with a local operator and largely transfer their responsibility for pupil transportation to the contractor.[1] In essence, the school administrator found it fairly easy to discharge his responsibility for pupil transportation and in effect was instrumental in establishing the contract mode of operation.

Since World War II, there has been a major change in the attitude of school administrators toward pupil transportation. As they became more fully familiarized and involved with the operational and financial aspects of school transportation, the reluctance to accept the necessary responsibility diminished considerably. Although there are undoubtedly some exceptions, the majority of practicing school administrators take as much pride in improving the efficiency of pupil transportation as they do in overseeing quality improvement in other integral aspects of the total school operation. Administratively, pupil transportation service has become a most significant part of school management. As the responsibility for transportation became an area

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[1]Oscar T. Jarvis, Harold W. Gentry, and Lester D. Stephens, Public School: Business Administration and Finance (West Nyack, New York: Parker Publishing Company, 1968), p. 211.

of responsibility common to school administration, the feasibility of contracting for service became more closely scrutinized.

When considering the issue of district owned versus contracting, several factors must be considered along with cost. Size of the school district, density of district population, geographic terrain, overall road conditions and weather are most frequently the significant variables. Although these variables collectively as well as individually may provide favor to a particular mode of operation, in final analysis they are basic in lending assistance in determining an answer to the major question of economy. Regardless of responsibility, convenience, or other pertinent factors, the overriding issue which any school board must resolve is "which mode of operation is most economical for their particular district: public owned or contracted."

The literature largely supports that in the majority of cases district owned buses can be operated more economically than contracted buses. In addition to the financial advantage, some other factors which merit consideration are basically supportive of district owned buses.

In his book, The Administration of American Public Schools, Harlan Hagman firmly supports district owned buses in stating, "Only poor administration by schools can prevent the school transportation operation from being financially to the advantage of the school district."[2] Hagman writes that from a standpoint of economy and efficiency of administration of transportation service, it is evident that full ownership

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[2]Harlan L. Hagman, The Administration of American Public Schools (New York: McGraw-Hill, 1951), p. 316.

and operation by the school system is most satisfactory in the long run. As the size of the fleet increases, the economy factor becomes more important as considerable money can be saved in purchasing, maintenance and storage.

Besides economy, Hagman emphasizes the advantage of district control, especially in the employment and supervision of bus drivers and maintenance personnel. District owned buses also favor the avoidance of problems often experienced in contract renewal, modification in routing and times of operation.[3]

Hagman's viewpoints received strong support from the American Association of School Administrators. In a yearbook entitled The American Superintendency it states, "Economics and improved service through progress toward school board ownership of buses and away from transportation by private contractors should be accomplished as soon as possible."[4]

In writing on the subject of public ownership of school buses, Joe Mini indicates a degree of uncertainty on the topic. Mini agrees that a good percentage of school districts can operate more economically with their own system but cautions his readers in accepting the assumption that a district owned system necessarily reduces excessive costs. School owned or contracted buses is a decision which demands advance research on the part of every district. He emphasizes, "It

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[3] Ibid., p. 15.

[4] American Association of School Administrators, The American Superintendency, Thirtieth Yearbook (Washington, D.C.: Department of National Education Association, February, 1952), p. 190.

must be constantly stressed that management, personnel, training, and supervision are the necessary factors in a successful transportation program."[5]

In contrast, Morphet, Johns and Reller, authors of Educational Administration, take a most definite stand on the variables stressed by Mini. Based on collective research they state:

> One of the most important policy decisions for the board to make is whether it should own and operate its own buses or contract for transportation services. Numerous studies have been made of this matter in a number of states. The advantages usually found for public ownership are as follows.
>
> 1. It is more economical because fleet operation is more efficient than individual operation and profits are eliminated.
>
> 2. Better service is provided, because school employees are more responsive to supervision than private contractors.
>
> 3. Better equipment is provided, because contractors frequently cannot finance proper equipment.
>
> 4. Better drivers can be selected, because the board is not restricted to the man who can buy a bus.
>
> 5. Routing and scheduling are more efficient, because the board owns the equipment and can control it.
>
> 6. The educational program can be carried out more efficiently, because the board can use its own equipment for educational trips more readily than it can use contracted equipment.[6]

They also note that about the only advantages of contracting are as follows:

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[5]Joe L. Mini, "District-Owned or Contracted Buses?" Illinois School Board Journal 37 (September-October, 1952), pp. 16-17.

[6]Edgar L. Morphet, R. L. Johns and Theodore L. Reller, Educational Administration (Englewood Cliffs, New Jersey: Prentice-Hall, 1959), pp. 473-474.

1. The board knows at the beginning of the year exactly what its transportation costs are.

2. The administration has less managerial responsibility.

The advantages of public ownership so overweigh its disadvantages that the boards of education are rapidly changing to public ownership.[7]

Like support is supplied by Calvin Grieder and William Rosenstengel. In their text Public School Administration they state:

> It is a known fact that a profit must be made if the contract method is used, thereby increasing the cost of transportation of pupils. In these states in which the district owns the buses there is more efficiency in the transportation system, and routes and time schedules may be changed to meet the changing school needs.[8]

Featherson and Culp provide an endorsement for school owned systems but are explicit in emphasizing the importance of factors outside economy, primarily management. They warn against the assumption that proper administration is necessarily included with public owned systems. They reason, "Public owned buses cost too much to operate if proper management is not provided."[9]

Jarvis, Gentry and Stephens feel much the same as Mini and Featherson. They stress that all factors be considered along with economy. In their book Public School Administration and Finance they advise that by eliminating the profit taking of contracted operations, many school districts would find it generally less expensive

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[7] Ibid.

[8] Calvin Grieder and William E. Rosenstengel, Public School Administration (New York: Ronald Press, 1961), p. 27.

[9] Glenn E. Featherson and D. C. Culp, Pupil Transportation State and Local Program (New York: Harper and Rowe, 1965), p. 105.

to operate their own transportation systems. In addition, they precisely indicate that management, geographic terrain, long winters, and urbanization are factors which may make contracting advantageous to some school districts.[10] The Ohio Task Force reported that the state could save over twelve million dollars annually by adopting a state owned system under the state school board. The committee wrote:

> The authority could centralize purchasing; recruit, train, and supervise drivers; consolidate insurance programs; set uniform bus specifications; and relieve local districts of responsibility for transporting except for routing, scheduling and student discipline.[11]

Implemented, this recommendation would totally eliminate the contracting versus district owned decision. Any question regarding financial advantage would be strictly academic.

A comprehensive study for the state of Illinois by the Business Management Task Force firmly supported public ownership. Committee investigation revealed that although some school districts appeared to have economical contractual arrangements, most who used contracting did so to avoid the responsibility of district ownership and management. It was basically concluded that the contractor supplied no service that could not be provided equally well by the district itself.

The Task Force projected a two million dollar saving per year in Illinois by elimination of contracting pupil transportation. In their

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[10] Jarvis, Gentry, and Stephens, Public School: Business Administration and Finance, p. 211.

[11] Ohio Task Force Report, "How Business Would Run Your Schools," School Management 12 (December, 1968), p. 25.

rationale they write:

> The differential between district owned and contract transportation is explained by the following facts: For the most part, contractors must pay all local, state, and federal taxes, while school districts are exempt. Generally, they amortize their vehicles over a four-year period, compared to at least seven years in district-owned operations. Also, private firms must earn an acceptable profit to continue their business.[12]

The Illinois Director of Finance and Claims, Fred Bradshaw, and his assistant, Robert Pyle, are equally opposed to contracting. In a co-author publication for the Illinois School Board Journal they state that "districts should own or lease buses rather than contracting for service."[13] They leave little doubt that district owned is the most economical.

The weight of the literature definitely favors public ownership of buses. Except for small districts, public ownership generally provides a financial advantage. There exists, however, several other factors besides economy that must be considered, the foremost being efficient management.

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[12]Business Management Task Force of the Governor's Commission on Schools, Survey and Recommendations (Springfield: The Public Education Management Survey, Inc., November, 1972).

[13]Fred Bradshaw and Robert Pyle, "School Costs," Illinois School Board Journal 41 (July-August, 1973), p. 15.

CHAPTER III

COMPARISON OF DISTRICT OWNED AND CONTRACTED SYSTEMS DURING 1974-75

Sample Selection

Specifications for Illinois school districts eligible for purpose of sample use were:

1. Community unit school districts (Grades kindergarten through twelve)
2. Located within Illinois Office of Education Downstate Geographic Regions 3, 4, 5, or 6 (See Appendix B)
3. Of a total district size in excess of 80 square miles
4. Of a 1974-75 district enrollment under 3500 pupils.

A card was made for each district owned and each contracted operation meeting the prescribed specifications. Cards for district owned and cards for contracted systems were placed in separate containers. Ten cards were drawn from each container to determine the districts to be used to comprise the sample groups. The make-up of the two comparative groups is listed in the chart which follows.

TABLE 1

CONTRACTED SYSTEM SAMPLE

School District	I.O.E. Region	Enrollment	Square Miles
Arcola C.U. Dist. #306	4	962	112.82
Arthur C.U. Dist. #305	4	776	85.39
Atwood-Hammond C.U. Dist. #39	4	788	93.82
Egyptian C.U. Dist. #5	6	937	113.00
Harrisburg C.U. Dist. #3	6	2765	132.76
Highland C.U. Dist. #5	5	2474	181.27
Monticello C.U. Dist. #25	4	1973	159.10
Sparta C.U. Dist. #140	5	2416	191.00
Taylorville C.U. Dist. #3	3	3491	151.00
Tuscola C.U. Dist. #310	4	1413	96.50

TABLE 2

DISTRICT OWNED SAMPLE

School District	I.O.E. Region	Enrollment	Square Miles
Cumberland C.U. Dist. #77	4	1359	185.60
Eldorado C.U. Dist. #4	6	1566	100.04
Litchfield C.U. Dist. #12	5	1999	105.00
Meridian C.U. Dist. #101	6	1643	96.50
Pana C.U. Dist. #8	3	2013	164.00
Panhandle C.U. Dist. #2	5	874	169.00
Shelbyville C.U. Dist. #4	4	1777	142.00
Teutopolis C.U. Dist. #50	6	1408	108.00
Trico C.U. Dist. #176	6	1189	175.00
Waterloo C.U. Dist. #5	5	2021	186.50

TABLE 3

AVERAGE ENROLLMENT AND
AVERAGE DISTRICT SIZE OF SAMPLE GROUPS

	Avg. Dist. Enrollment	Avg. Dist. Size
Contracted System Sample	1799.5	131.66 sq. miles
District Owned Sample	1584.9	142.76 sq. miles

Treatment of Sample

As mentioned in Chapter II, there are several variables which can have degrees of effect upon the school transportation operation and the costs involved. Factors of weather, road conditions, size of district, population density, salary, and administrative efficiency are among the most frequently cited. The inability to properly treat such type variables makes specific comparison of one particular school district to another inadvisable. The process of selective sampling and computation of averages incorporates a balance of these variables and increases the validity of the data.

The Illinois school districts named are included only for purpose of establishing the needed sample groups. The study is designed to make group comparison only; therefore, no comparisons were drawn between the school districts which comprised the sample groups themselves.

As indicated in the preceding table, the two comparative groups are "Contracted System Sample" and District Owned Sample." All data used pertain specifically to the 1974-75 fiscal year.

Sparsity Factor

The density of the population of a school district can have a pronounced effect upon transportation costs. It is a most important variable for which there is no control. Any comparisons made of transportation costs between various school districts without considering the density of the population would most likely be invalid. A school district of 200 square miles which transports 500 pupils will have a greater operating expense than a school district of 100 square miles which transports 500 pupils. The length of bus routes is greatly affected by the size of district and population distribution. A sparsely settled community can require long routes with few passengers resulting in a high cost per pupil transported.

The relationship between the number of pupils transported and the size of the school district is frequently referred to as the sparsity factor. The literature very definitely concludes that the sparsity factor is a most important variable to consider in determining transportation costs.

The difference of the sparsity factor for the two sample groups was found to be 0.73.

TABLE 4

SPARSITY FACTOR OF SAMPLE GROUPS

	# Eligible Pupils Transported	District Size	Sparsity Factor
District Owned Sample	10,105.77	1427.65	7.08
Contracted System Sample	8,356.43	1316.65	6.35
		Difference	0.73

Linear Density

Aside from the number of pupils transported, the factor most often used in determining the local transportation needs is the density of the population. The sparsity factor is the computation frequently used to determine population distribution within the district. For reasons previously indicated, it is imperative that full attention be given to population distribution when the transportation operations of school districts are analyzed or compared.

A somewhat more refined method of determining the effects of population distribution upon transportation is realized by computing linear density. Linear density takes routing into consideration and yields the number of miles of bus travel necessary for each eligible pupil transported. It will generally furnish the most accurate picture of the transportation burden of the local district. Unless there are considerable differences in road conditions, driver salary, or routing efficiency, cost comparisons can fairly be made between districts which have common factors of linear density.

TABLE 5

LINEAR DENSITY OF SAMPLE GROUPS

	# Miles	# Eligibles Transported	Avg. # Days	Linear Density
District Owned Sample	1,887,720	10,105.77	176.8	1.06 mi.
Contracted System Sample	1,495,641	8,356.43	177.3	1.01 mi.
			Difference	0.05 mi.

Cost Analysis

When analyzing the financial aspects of a school district's transportation operation, two meaningful computations are developed. Transportation expenditures are figured on a basis of cost per eligible pupil transported and a basis of cost per bus mile driven. Although both computations may serve as a basis for financial study, it is important to emphasize that the cost per eligible pupil is generally the most valid means of analyzing a school district's transportation costs.

It would not be uncommon to find the cost per eligible pupil and the cost per bus mile driven to be in an inverse relationship. A school district of higher population density could likely have a lower cost per eligible pupil and a higher cost per bus mile driven. By comparison, a sparsely populated school district could likely have a higher cost per eligible pupil and a lower cost per bus mile driven. The reasons for such a relationship would result from a common need for

equipment and personnel but a significant variance in the number of eligible pupils transported and the number of miles driven. A 60-minute bus route covering 20 miles which transports 50 eligible pupils will render a lower cost per eligible pupil and a higher cost per bus mile driven than a 60-minute bus route covering 40 miles which transports 25 eligible pupils.

Basically, linear density of eligible pupils is inversely related to the cost per eligible pupil transported. As the density increases, the cost per eligible pupil decreases. Regardless of the type of financial analysis employed, cost per eligible pupil or cost per bus mile driven, either or both are equitable comparative computations between school districts only when the factors of linear density are similar.

The difference of the average cost per eligible pupil for the two sample groups was found to be $27.30.

TABLE 6

COST PER PUPIL OF SAMPLE GROUPS

	Net Operating Cost	# Eligibles Transported	Cost Per Pupil
Contracted System Sample	$1,072,979.67	8,356.43	$128.40
District Owned Sample	$1,021,701.69	10,105.77	$101.10
		Difference	$ 27.30

The difference of the cost per bus mile driven for the two sample groups was found to be 17.62¢.

TABLE 7

COST PER MILE OF SAMPLE GROUPS

	Net Operating Cost	# Miles Driven	Cost Per Mile
Contracted System Sample	$1,072,979.67	1,495,641	71.74¢
District Owned Sample	$1,021,701.69	1,887,720	54.12¢
		Difference	17.62¢

Compendium

The composition of the two sample groups consisted of 20 downstate unit school districts selected at random. Outside of geographic regions and type of organization, the sample was controlled by specifications on number of square miles and enrollment. As explained, the variables of road conditions, weather, salary, and administrative efficiency were not investigated. It is assumed that the limitations established for the sample will by element of chance account for near equal allotment for these variables within each group.

The population distribution of the sample was analyzed to determine if the two groups were comparable. The sample groups had a sparsity factor difference of 0.73 and a linear density variance of 0.05. These figures not only indicate the groups to be comparable on population distribution, but almost identical.

The operating costs of the two groups were analyzed on a cost per eligible pupil transported and a cost per bus mile driven. The sample groups showed significant differences of $27.30 per eligible pupil

cost and 17.62¢ per bus mile driven, with the district owned system sample being the lesser amount on both computations.

A theoretical financial projection of these variations to a school district transporting 1,000 eligible pupils 150,000 miles would be substantial. On a cost per eligible pupil projection, the district could save $27,300 annually with a school owned syetem. On a cost per bus mile driven projection, the district could save $26,430 annually with a school owned system. In addition, these same cost variations could be similarly projected against the district's services for field trips, extra-curricular travel, and travel necessary for providing special educational opportunity.

Financial comparison of the two sample groups revealed significant differences. The comparison supports the findings of the literature, that school owned and operated transportation syetems are generally found to be more economical than contractual arrangements.

CHAPTER IV

TRANSPORTATION OPERATIONS FOR CARLYLE COMMUNITY UNIT #1

Introduction

Due to difficulties experienced in negotiating a new transportation contract for the 1974-75 school year, the Carlyle Board of Education decided on February 13, 1974, to no longer contract services and to establish a district owned transportation system. The superintendent and business manager were directed to begin planning and prepare recommendations for equipment needs and acquisition. The superintendent was designated the responsibility of serving as transportation director.

This chapter will provide an overview of the planning effort, equipment purchases, and personnel necessary for the Carlyle district to change from a contracted to a district owned arrangement. A financial investigation of the 1973-74 fiscal year under contracting and the 1974-75 fiscal year of district owned operation will be presented. General factors of cost analysis will be compared with the sample groups to gain perspective on the financial efficiency of the newly established district owned system.

Planning Effort

The primary objectives in planning the establishment of the district owned transportation system for Carlyle were:

1. To become acquainted with some efficiently operated school owned transportation systems.
2. To obtain quality maintenance equipment, maintenance facility, and maintenance supplies at the lowest possible cost.
3. To locate and hire an experienced mechanic prior to July 1, 1974.
4. To acquire the necessary number of transportation vehicles and have them in top condition by August 15, 1974.
5. To have the bus maintenance facility completed and properly equipped by August 15, 1974.
6. To have the bus storage area completed by August 15, 1974.
7. To have the needed number of drivers properly trained and under contract by August 15, 1974.
8. To have all routing work completed in detail by August 15, 1974.
9. To make a smooth transition from a contracted arrangement to a district owned system.

Both the superintendent and business manager were most familiar with the contracted operation which served the district. Their knowledge of the contracted operation helped considerably in routing and determining equipment needs and number of buses necessary.

Visitations to schools with district owned transportation provided valuable knowledge for decision making. Information concerning manufacturers, distributors, layout and type of maintenance facility, maintenance equipment, personnel salaries, and administrative organization was sought and compiled. With a thorough knowledge of the previous

system and an acquired knowledge from some other school districts, the Carlyle administration was prepared to effectively handle the task of establishing its own pupil transportation system.

Facility and Equipment

Carlyle Community Unit #1 established a district owned transportation system for a cost of approximately $225,000. A listing by category of that expenditure is supplied.

Building--2 stall bus garage 50' X 80' metal Armco construction complete with plumbing, lighting, and heating	$ 40,000
Buses--17 used buses: 7 - 1974 - 72 passenger Internationals 2 - 1974 - 66 passenger GMC's 6 - 1973 - 66 passenger GMC's 2 - 1971 - 66 passenger GMC's (All Ward body buses)	$146,500
Fencing & Gates--6' chain link with 3 strands top barb wire .	$ 7,000
Gas Tank & Pump	$ 1,225
Insurance--On fleet and facility	$ 3,000
Maintenance Equipment & Tools	$ 8,000
Radios--2-way independent ban communication system	$ 11,700
Rock for Parking Area	$ 3,000
Site (One acre)	$ 4,000

An accounting of the specific items of equipment is not included as the needs may well vary among different school districts. Information regarding the elements of a purchase category are only for the

purpose of providing a school district interested in establishing a public owned system with an idea of what type of purchases might be necessary.

After comparative pricing of new and used buses with several bus companies, the administration decided to purchase used buses. The savings, by purchasing good quality used buses rather than new buses, amounted to $66,000. The buses were purchased through Hannon Bus Company in Edwardsville, Illinois, a distributor for Ward's Bus Bodies of Kansas City, Missouri. All buses were Ward bodies with either International or General Motor chassis. The buses were in excellent condition with less than 25,000 miles on any particular bus. The seven Internationals were six months old with less than 8,000 miles driven. The initial savings by starting the operation with used buses was certainly helpful in cutting initial expenditure for the Carlyle district.

A practice which merits consideration is the limitation on types of buses and availability of replacement parts. When interviewing the Carlyle superintendent, he indicated this to be a recommendation he received from other school districts he visited. He followed the recommendation and indicates it was a very wise decision. The Carlyle bus fleet consists entirely of Ward bodies and International or GMC chassis. The lack of variation within the fleet has simplified maintenance, has kept the necessary equipment for maintenance to a minimum, and has kept the stock inventory of supplies uniform. Also emphasized was the fact that the district is within 50 miles of their original distributor and replacement parts are readily available.

Personnel

A main priority in the area of personnel was to employ a fully qualified person to handle bus maintenance. The district was fortunate in being able to fill the position with a competent mechanic who had a number of years of experience with a local automobile dealer. He was employed in June of 1974 and served well in directing the equipment layout of the maintenance facility.

The bus drivers were largely hired from those who were previously driving for the contractor. Positions not filled were advertised and new drivers employed. The superintendent assumed the responsibility of training drivers, requiring physical examinations, and the fulfillment of education in first aid for the drivers.

Salaries and benefits for drivers were established on the basis of what was previously paid and the schedules of other districts. Drivers were contracted under the wage agreement which follows.

$7.00 per trip on route exceeding 40 miles

$6.50 per trip on route between 30 and 39 miles

$6.00 per trip on route between 20 and 29 miles

$5.00 per trip on route under 20 miles

Extra-curricular trips at 8¢ per mile plus $2.25 per hour layover time

10 days sick leave per year and 2 days personal leave

Drivers with more than 600 hours annually were on Illinois Municipal Retirement. Drivers with less than 600 hours annually were on Social Security.

All drivers received classification as school district personnel within the group of non-certified employees. All drivers were under the

direct supervision of the transportation director, in this case the unit superintendent.

Just prior to the start of the 1974-75 school year a meeting of all drivers and building principals was held. Expectations of student conduct were outlined and procedures of dealing with cases of improper conduct established. A policy sheet explaining the requirements for passenger behavior was prepared for distribution to all student riders.

The superintendent presented directions for snow routes and procedure for emergency drills. Drivers were presented detailed route assignments and listings of student passengers. All questions posed were easily handled by the superintendent as he had well prepared himself to serve as transportation director. He had driven all the new buses, driven all the routes, knew the roads, knew the resident locations of the students, and knew the mileage and time necessary for every route.

The planning objectives were fulfilled in detail and on schedule. The needed facilities were complete and operable. The vehicles were in top running condition. The necessary maintenance equipment was acquired and ready for use. The needed personnel were under contract, properly trained and ready for work. Routing was completed to the last detail.

Carlyle Community Unit #1 started school on August 26, 1974, with its own bus system. It was quickly evident that the planning and administrative effort had been superior. Carlyle made a smooth transition from a contracted arrangement to a school owned and operated system.

District Owned and the Sample

Carlyle Unit District #1 is within the specifications of organization, enrollment, geographic location, and geographic size established for the Illinois districts comprising the sample groups. Data for the 1974-75 fiscal year indicated Carlyle to be a K-12 unit district with an enrollment of 1,754 pupils and a geographic size of 230.97 square miles located within I.O.E. Region #5. In addition, the population distribution and number of eligible pupils transported were comparable to the average district of the sample groups.

TABLE 8

NUMBER OF PUPILS TRANSPORTED AND POPULATION DISTRIBUTION OF SAMPLE GROUPS AND CARLYLE

	# Eligible Pupils Transported	Sparsity Factor	Linear Density
Average Distribution of Contracted Syetem Sample	835.6	6.35	1.01
Average Distribution of District Owned Sample	1010.6	7.08	1.06
Carlyle Community Unit #1	1085.1	4.70	1.15

Financial investigation revealed Carlyle also to be comparable to other district owned operations on cost factors. The difference between the district owned sample and the Carlyle District was $8.62 per eligible pupil transported and .1¢ per mile traveled.

TABLE 9

COST PER ELIGIBLE PUPIL AND COST PER MILE
OF SAMPLE GROUPS AND CARLYLE

	Cost Per Eligible Pupil	Cost Per Mile
Contracted System Sample	$128.40	71.7¢
District Owned Sample	$101.10	54.1¢
Carlyle Comm. Unit #1	$109.72	54.2¢

1973-74 Compared to 1974-75

A financial comparison of the 1973-74 contracted year and the 1974-75 district owned year revealed that the Carlyle district lowered costs considerably. The cost per eligible pupil difference was found to be $29.46.

TABLE 10

COST PER PUPIL FOR CARLYLE UNDER CONTRACTING
AND UNDER DISTRICT OWNED OPERATION

	Net Operating Cost	# Pupils Transported	Cost Per Pupil
Contracted 73-74	$157,777.41	1133.60	$139.18
District Owned 74-75	$119,064.14	1085.11	$109.72
		Difference	$ 29.46

The cost per bus mile driven difference was found to be 17.0¢.

TABLE 11

COST PER MILE FOR CARLYLE
UNDER CONTRACTING AND UNDER DISTRICT OWNED OPERATION

	Net Operating Cost	# Miles Driven	Cost Per Mile
Contracted 73-74	$157,777.41	221,522	71.2¢
District Owned 74-75	$119,064.14	219,737	54.2¢
		Difference	17.0¢

A fact that is highly significant is that Carlyle lowered its cost factors considerably in a year of rampant inflation by elimination of contracting. If the cost factors for the two years were found to be identical, it would have indicated financial improvement.

An investigation of transportation cost savings by comparison to projections of contracting for the 74-75 school year will actually serve to give a better indication of the financial advantage of the change. The contract dispute erupted when the contractor approached the Carlyle School Board with a proposal calling for a 20% increase over the 73-74 school year. Assuming that negotiations brought a compromise of a 10% increase, the per pupil cost for the 74-75 school year would have been $153.10. The per pupil cost difference between contracting and a district owned operation for the 1974-75 school year becomes $43.38. Although an assumption was made regarding contract settlement, the $43.38 per eligible pupil difference is probably the more accurate figure when checking for actual savings incurred by the

elimination of contracting. Projected against the 1085.11 eligibles transported, the net saving would be in excess of $47,000 per year. In addition, the same cost variations could similarly be projected against the district's services for field trips, extra-curricular travel, and travel necessary for providing special educational opportunity.

Comparison of cost factors also reveals that, initially, Carlyle did not have a very satisfactory contractual arrangement when compared to the contracted system sample. Carlyle's per eligible pupil cost was an actual $10.78 higher in the fiscal year 1973-74 than the average contracted district was for the 1974-75 fiscal year. The projection indicates the variation was going to become even more excessive, reaching a projected per pupil difference of $43.38 in 1974-75.

TABLE 12

COST FACTORS BY YEARS

	Cost Per Pupil	Cost Per Mile
Carlyle on Contract 73-74	$139.18	71.2¢
Contracted System Sample 74-75	$128.40	71.7¢
Carlyle on Projected Contract 74-75	$153.10	78.3¢
Carlyle on District Owned 74-75	$109.72	54.2¢

Financial comparison of the Carlyle school district owning their own transportation system to operating on a contractual arrangement reveals a significant difference. The comparison supports the literature

as well as the study sample findings that school owned and operated transportation systems are generally found to be more economical than contractual arrangements. In addition, the investigation reveals that the newly established district owned system for Carlyle is operating on a financial level comparable to the average district owned sample.

The Future

Carlyle Community Unit #1 invested approximately $225,000 to establish a district owned transportation system. A breakdown on the cost indicates expenditures of $170,000 from the transportation fund, $55,000 from the building fund, and the payment of interest to be made from the educational fund. During the first year of operation, the net operating cost was lowered $37,000. The actual saving over contracting, when including special education transportation and extra-curricular travel, exceeds $50,000. Assuming a $50,000 annual savings is maintained, the Carlyle district will have completely paid for the transportation investment of $170,000 within a four-year period. The break-even point on the facility investment of $55,000 will be of longer range, as all savings realized must be specifically on the local level.

While the Carlyle school district is paying off its transportation operation with savings realized, it has a considerably newer fleet of buses serving its pupils. The contractor's buses ranged in model from year 1960 to year 1972 with the average being 1966.5. Presently, the district's fleet ranges in model from year 1971 to year 1974 with the average being 1973.3. In addition, the board of education is no longer confronted with having to negotiate an annual transportation

contract, has direct control over drivers, has increased opportunity to supply better transportation service, and enjoys the other common advantages which are characteristic of a school owned transportation system.

Regarding the Carlyle operation, only two disadvantages merit attention. There is a considerable increase in the amount of paper work. Reports, record keeping, payrolls, and budgeting demand additional effort from the bookkeeping staff. The major disadvantage is the necessity of having the superintendent serving as transportation director. Although he has surpassed the sizable task of establishing the district owned operation, the managerial responsibility continues. Routing, purchasing, personnel, and a variety of routine duties are time-consuming items. Hopefully, the board of education will soon favor the hiring of a transportation director and relieve the superintendent of that responsibility.

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

This study was conducted to determine if it is better for a school district to contract for pupil transportation services or to own and operate its own system. Of specific interest was the Carlyle Community Unit District which operated under a contractual arrangement during and previous to the 1973-74 fiscal year and changed to a public owned and operated system for the 1974-75 fiscal year.

The literature regarding district owned transportation systems and contract systems was reviewed. Comparative sample groups were established to collect recent financial data of both type operations. The contracted arrangement and the district owned system of Carlyle were investigated. The process and effort of establishing a district owned system was studied.

Summary

The literature largely supports school districts owning and operating their own transportation systems. With the exception of small districts, it is generally concluded that a school district can more economically supply pupil transportation with its own system than by contracting for service because the profit element inherent in contracting is eliminated. In addition, it is concluded that with

efficient management, a school district cannot only save money with a district owned system but can provide better service as well.

Study of the sample groups indicated that district owned and operated systems provide pupil transportation at lesser costs than contractual arrangement. During the 1974-75 school year, comparison of the sample groups revealed that the district owned sample operated with a per eligible pupil cost $27.30 lower than the contracted sample. Comparison of the cost per bus mile driven showed a 17.6¢ lower per mile cost for the district owned sample.

The Carlyle school district provided pupil transportation more economically with its own system than it did with a contracted arrangement. The per eligible pupil cost for Carlyle dropped from $139.18 in 1973-74 while contracting to $109.72 in 1974-75 with a district owned system. Like comparison displayed the cost per bus mile driven dropping from 71.2¢ to 54.2¢. The same cost factor variations were even more significant when the projected cost for contracting for the 1974-75 fiscal year was compared to the actual amount of the cost factors for the same year. The per eligible pupil cost difference in favor of the district owned system rose to $43.38 and the per bus mile driven cost difference climbed to 24.1¢.

The financial analysis of the Carlyle district indicated that in comparison to the contract sample, Carlyle did not have a very economical contractual agreement to start with. In addition, the computed cost factors indicated that the district owned operation established for Carlyle was financially comparable to the average of the district owned sample.

The investigation of the establishment of a district owned system for the Carlyle school district assures that it is possible for a school district to abolish contracting and have its own operation within a relatively short period of time. Making the change requires considerable effort and a sizable initial investment but the benefits are quickly realized.

Conclusions

On the basis of the information presented in this study, the following conclusions are drawn.

1. School owned and operated transportation systems generally supply school districts with more economical pupil transportation than do contractual arrangements.
2. Excluding the major factor of economy, the advantages of a district owned system outweigh the advantages of contracting.
3. Large amounts of Illinois tax dollars could be saved each year if more school districts would eliminate contracting.
4. It is possible for a school district to establish its own transportation operation without a long-term financial burden.
5. The Carlyle Board of Education made a very wise decision when they abolished contracting and established their own transportation system.

APPENDIX A

ANNUAL CLAIM FOR PUPIL TRANSPORTATION REIMBURSEMENT 1974-75

I.O.E. FORM 50-23

CODE
REGION
DISTRICT NAME
DISTRICT NUMBER

STATE BOARD OF EDUCATION
ILLINOIS OFFICE OF EDUCATION
Finance and Claims Section
100 North First Street
Springfield, Illinois 62777

ANNUAL CLAIM FOR PUPIL TRANSPORTATION REIMBURSEMENT 1974-1975

(Sections 29-5 and 14-13.01 of The School Code of Illinois)

INSTRUCTIONS: Copies 1 and 2 to be sent to Regional Superintendent by July 10. Copy 1 to be forwarded to the above address by July 25.

	A 1½ MILES OR MORE	B UNDER 1½ MILES	C TOTAL A + B
1 TOTAL DAYS OF TRANSPORTED PUPIL ENROLLMENT			
2 NUMBER OF PUPILS TRANSPORTED	Line 1 Col. A ÷ Line 4	Line 1 Col. B ÷ Line 4	TOTAL A + B
3 MILES TRAVELED	Total Miles K-12 To and From School	Total Co-Curricular Miles	Approved Vocational Pupil Transportation Miles

4 DAYS SCHOOL IN SESSION	5 NUMBER OF SPECIAL EDUCATION PUPILS TRANSPORTED DURING SUMMER SCHOOL	6 NUMBER OF PUBLIC SCHOOL PUPILS TRANSPORTED	
7 NUMBER OF NON-PUBLIC SCHOOL PUPILS TRANSPORTED	8 NUMBER OF SPECIAL EDUCATION PUPILS TRANSPORTED (Regular School Term)	9 NUMBER OF AREA VOCATIONAL EDUCATION PUPILS TRANSPORTED	
10 AREA OF DISTRICT	11 ASSESSED VALUATION (1973)	12 TRANSPORTATION FUND TAX RATE (1973) %	13 MODE OF OPERATION (Regular Only) ☐ District Owned ☐ Contract ☐ Both

ITEMIZATION COSTS	A REGULAR PUPIL TRANSPORTATION	B APPROVED VOCATIONAL PUPIL TRANSPORTATION	C SPECIAL EDUCATION PUPIL TRANSPORTATION	D TOTAL TRANSPORTATION
14. Operating Costs				
4-504.0 Health	$	$	$	$
4-506.1 Salaries				
4-506.2 Contractual				
4-506.4 Supplies				
4-506.7 Travel				
4-506.8 Payments to Other Districts				
4-506.9 Other				
4-507.0 Maintenance				
4-508.0 Fixed Charges				
4-509.0 Other (Attach Itemization)				
15. Total Operating Expenditures				
16. Summer School Transportation Expenditures (See Instructions)				
17. Allowable Depreciation (Attach IOE Form 50-24)				
18. Net Operating Expenditures (Line 15 + Line 17)				
19. Deductions				
a. 4-402.92 Revenues Received from State Grants				
b. 4-402.8 and 4-402.91 Revenues Received from Federal Grants				
4-408.0 Payments from Other Districts				
d. 4-409.0 Other Revenue (Attach Itemization)				
e. 4-419.2 Fees Collected for Summer School Transportation				
f. 4-419.2 Fees Collected for Approved Co-curricular Activities				
g. School District's Costs Applicable to Co-Curricular Activities				
20. Total Deductions (Total Lines 19a through 19g)				
21. Net Operating Cost To and From School (Line 18 - Line 20)	$	$	$	$

COMPUTATION DATA (Optional)

If all pupils are transported 1½ miles or more, omit lines 22, 23, 24, 25, and proceed to line 26.

22. Weighted Eligible Pupils (Line 2, Column A x 2) _____
23. Total Weighted Pupils (Line 22 + Line 2, Column B) _____
24. Cost Per Pupil of Non-Eligible Pupils (Line 21, Column A ÷ Line 23) _____
25. Total Cost to Transport Non-Eligible Pupils (Line 24 x Line 2, Col. B) _____
26. Total Cost to Transport Eligible Pupils (Line 21, Column A - Line 25) _____
27. Qualifying Amount (Line 11 x .03, .05, .07) _____
28. Transportation Equalization (Line 27 - Line 27) _____
29. 4/5 Cost to Transport Eligibles (4/5 of Line 26) _____
30. Total Equalization (Section 29-5) _____
31. Flat Grant ($16 x Line 2, Column A) _____
32. Greater of Lines 30 or 31 _____
33. Area Vocational Claim (4/5 of Line 21, Column B) _____
34. Adjustments (See Instructions) _____
35. Net Special Education Claim (4/5 of Line 21, Column C plus Line 34) _____
36. Adjustments (Regular and Vocational) _____
37. Net Pupil Transportation Claim 1974-1975 (Regular and Vocational) _____

AFFIDAVIT

State of Illinois }
County } ss.

We, the undersigned, do hereby certify that the foregoing statements are true to the best of our knowledge and belief. Each item on the claim is substantiated by detailed work papers on file in the school district office.

_____ Signature of Board Clerk or Secretary

_____ Signature of District Administrator

Subscribed and sworn to in my presence this _____ day of _____ 19____.

SEAL.

_____ Signature of Notary Public

APPROVED AND FILED _____, 19____.

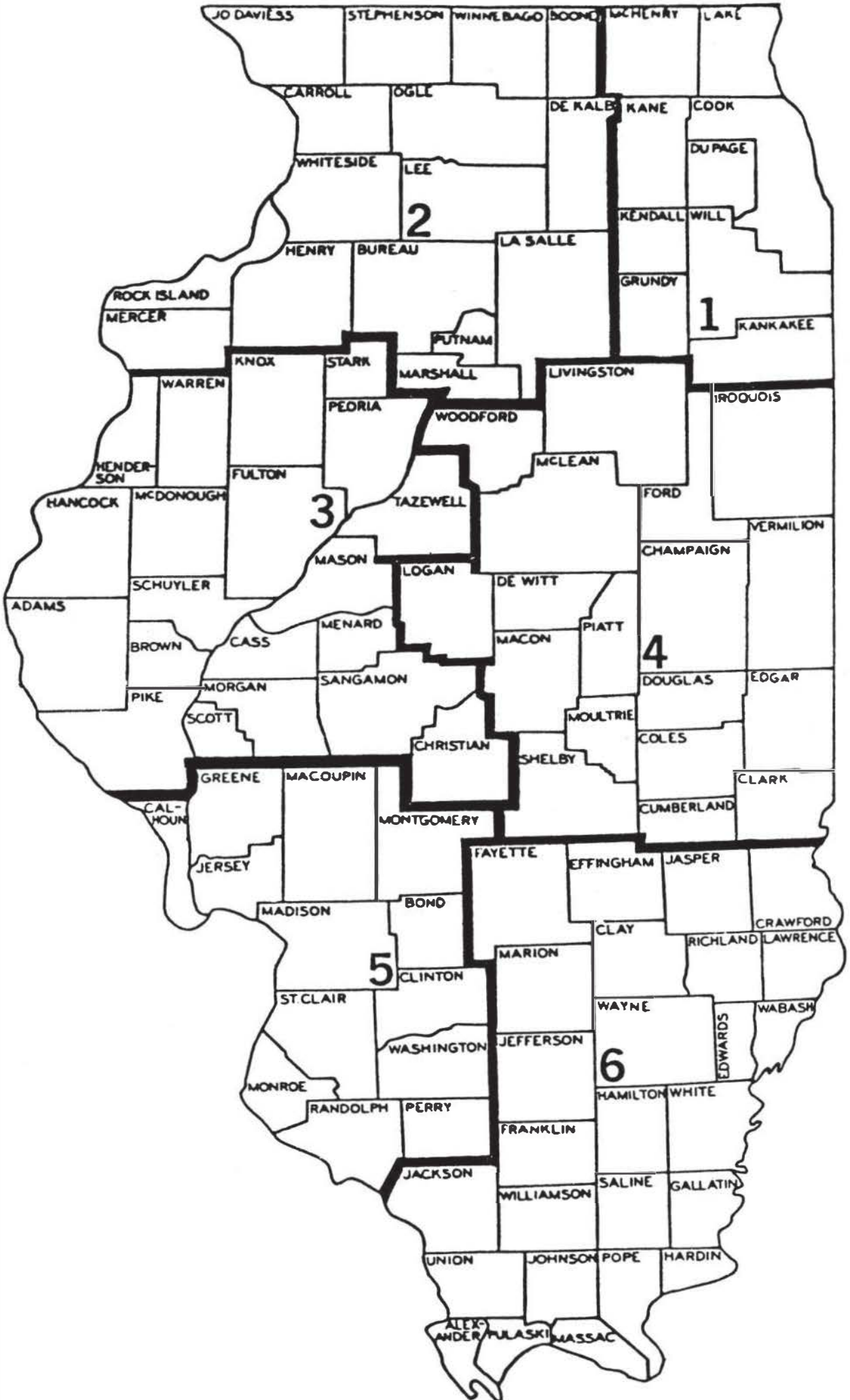
_____ Signature of Regional Superintendent

IOE 50-23 (3/75)

COPY NO. 1

APPENDIX B

ILLINOIS OFFICE OF EDUCATION GEOGRAPHIC REGIONS FOR THE STATE OF ILLINOIS


JO DAVIESS
STEPHENSON
WINNEBAGO
BOONE
MCHENRY
LAKE
CARROLL
OGLE
DE KALB
KANE
COOK
DU PAGE
WHITESIDE
LEE
2
KENDALL
WILL
HENRY
BUREAU
LA SALLE
GRUNDY
ROCK ISLAND
MERCER
1
KANKAKEE
PUTNAM
KNOX
STARK
MARSHALL
LIVINGSTON
WARREN
PEORIA
WOODFORD
IROQUOIS
HENDER-
SON
FULTON
3
McLEAN
HANCOCK
McDONOUGH
TAZEWELL
FORD
VERMILION
MASON
CHAMPAIGN
LOGAN
DE WITT
SCHUYLER
ADAMS
MENARD
PIATT
BROWN
CASS
MACON
4
PIKE
MORGAN
SANGAMON
DOUGLAS
EDGAR
SCOTT
MOULTRIE
CHRISTIAN
COLES
SHELBY
GREENE
MACOUPIN
CLARK
CAL-
HOUN
CUMBERLAND
MONTGOMERY
JERSEY
FAYETTE
EFFINGHAM
JASPER
MADISON
BOND
CRAWFORD
CLAY
RICHLAND
LAWRENCE
MARION
5
CLINTON
ST.CLAIR
WAYNE
WABASH
WASHINGTON
JEFFERSON
EDWARDS
6
MONROE
HAMILTON
WHITE
RANDOLPH
PERRY
FRANKLIN
JACKSON
SALINE
GALLATIN
WILLIAMSON
UNION
JOHNSON
POPE
HARDIN
ALEX-
ANDER
PULASKI
MASSAC

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