

DOCUMENT RESUME

ED 043 935

EA 001 687

AUTHOR Sanders, Frank, Jr.
TITLE Indiana School Transportation: A Review of Policies, Procedures, and Costs.
INSTITUTION Indiana State Dept. of Public Instruction, Indianapolis.; Indiana State Univ., Terre Haute. School of Education.
REPORT NO R-67-C
PUB DATE Jul 68
NOTE 99p.
EDRS PRICE EDRS Price MF-\$0.50 HC-\$5.05
DESCRIPTORS *Administrative Policy, *Bus Transportation, *Costs, Equipment Maintenance, *Equipment Utilization, Fringe Benefits, Graphs, Insurance Programs, Salaries, *School Buses, Storage, Student Transportation, Tables (Data), Wages
IDENTIFIERS Indiana

ABSTRACT

This detailed report and analysis of school bus transportation in Indiana is divided into the following topics: transportation policies; bus utilization; the bus driver and his terms of employment; bus ownership; insurance, storage, maintenance, and fuel costs; bus ownership and costs; and the transportation director. A strong case is made for further studies, analyses, and reports dealing with bus transportation--particularly those that emphasize transportation policies and costs. Numerous tables and graphs are used to report study findings. (LLR)

8
1.

1

ED0 43935

INDIANA SCHOOL TRANSPORTATION:
A REVIEW OF POLICIES, PROCEDURES, AND COSTS

by

Dr. Frank Sanders, Jr.

Published and Distributed by

The Indiana State University
Bureau of School Administrative Services

and

The Indiana State Department
of Public Instruction

July, 1968

TABLE OF CONTENTS

	Page
INTRODUCTION	1
Population	1
Distribution of Returns	3
 PUPIL TRANSPORTATION POLICIES	 5
Extent of Pupil Transportation	5
Percentage of Public School Pupils Transported . . .	5
Public School - Parochial School Transportation . .	6
Total Pupils Transported in Indiana	7
Eligibility for Transportation	9
Walking Distance to Bus Stop	9
Distances to School	10
Student Time Spent on School Bus	10
Kindergarten Transportation Policy	12
 BUS UTILIZATION	 16
The Utilization Factor	16
Use of Fleet for Other Than School Routes	20
 THE BUS DRIVER	 22
Driver Fringe Benefits	25
Driver Retirement Policy	26
Driver Pay	27
District-Owned Units	27
Jointly Owned Units	28
Privately Owned Units	30
Trips Other Than Route	31
 BUS OWNERSHIP	 37
Trends in Ownership Policy	37
Bus Purchases	43
Type and Capacity of New Bus Units Purchased	44
Bus Construction and Standards	45
Procedure Reported on Bus Bid Evaluation	46
Cost Price of School Buses - District Owned	47

	Page
OTHER BUS OPERATION CONSIDERATIONS	48
Insurance	48
Bus Storage	51
Maintenance and Service	52
Gasoline Purchasing Procedures and Costs	53
 COSTS OF TRANSPORTATION	 56
Types of Ownership and Bus Costs	57
 THE TRANSPORTATION DIRECTOR	 77
Title	77
Other Duties Assigned to the Transportation Director	78
Estimate of Time Spent on Transportation	78
Salaries of Transportation Directors	79
 CONCLUSIONS	 80
Reporting Method and Use of the Instrument	80
Status Report Resulting From Use of the Instrument	80
 RECOMMENDATIONS	 84
 BIBLIOGRAPHY	 86
 APPENDIX	 87

LIST OF TABLES

Table	Page
1. Number and Per Cent of Respondents Classified by Regions of the State	3
2. Number and Per Cent of Respondents Classified by Enrollment Groups	3
3. Percentage of Public School Enrollment Being Transported in the Responding School Districts	6
4. Policy on Public School Bus Service to Parochial Schools	8
5. Pupils Transported, Statewide Totals, 1967-68 . .	7
6. Number and Per Cent of Districts Reporting Maximum Distances Pupils Walk to a Scheduled Bus Stop . .	10
7. Number and Per Cent of Districts Reporting Maximum Distances Pupils Walk to School Classified by Grade Levels	11
8. Maximum Time Spent on School Bus	12
9. Number and Per Cent of Districts Reporting Kindergarten Transportation Policy Classified by State Regions	14
10. Number and Per Cent of Districts Reporting Kindergarten Transportation Policy Classified by Enrollment Groups	15
11. Number and Per Cent of Districts Reporting Percentages of Bus Utilization Based on Rated Seat Capacity and Number of Pupils Transported, Classified by Tiers of Counties	18
12. Number and Per Cent of Districts Reporting Percentages of Bus Utilization Based on Rated Seat Capacity and Number of Pupils Transported, Classified by Enrollment Groups	19
13. Work Assignments Given Indiana Bus Drivers, Classified by Tiers of Counties and By Sex	24

Table	Page
14. School Bus Drivers Classified by Age and Sex, Statewide Totals, 1967-68	25
15. Responses Regarding Bus Driver Retirement Policy Classified by Tiers of Counties and Enrollment Groups	27
16. Daily Wage Paid to Drivers of District-Owned Buses as Reported by 81 Indiana Schools Classified by Tiers of Counties and Enrollment Groups	29
17. Trends in Indiana School Bus Ownership Policy Classified by Tiers of Counties	39
18. Trends in Indiana School Bus Ownership Policy Classified by Enrollment Groups	40
19. Vehicle Ownership, Statewide Totals, 1967-68	41
20. Capacity and Ownership of Buses, Statewide Totals, 1967-68	42
21. Current Preference on Type of New Bus Units Being Purchased by Indiana Districts Responding to the Study	44
22. Current Preference on Capacity of New Bus Units Being Purchased by Indiana Districts Responding to the Study	45
23. Fleet Insurance Coverage and Limits Reported By Indiana Districts	50
24. Three Most Typical Types of Insurance Coverage Reported by Responding Districts, Listed by Top Limit in Classification	51
25. Policies and Procedures on Bus Maintenance in Indiana School Districts	53
26. Procedures Used by Responding Districts in the Purchase of Gasoline for Indiana School Buses	54
27. Cost of Gasoline Purchased by Responding Districts	55
28. Summary of Average Costs Reported in Four Cate- gories Classified by Type of Ownership	59

Table	Page
29. Average Annual Cost per Mile for Buses in Districts Responding, Classified by Type of Ownership and Tiers of Counties	61
30. Average Annual Cost Per Pupil Transported for Districts Responding, Classified by Type of Ownership and Tiers of Counties	63
31. Average Annual Cost Per Seat at Rated Capacity for Buses in Districts Responding, Classified by Type of Ownership and Tiers of Counties	66
32. Average Annual Operating Cost for Each Unit on Route for Districts Responding, Classified by Type of Ownership and Tiers of Counties	69

LIST OF FIGURES

Figure		Page
1.	Regions of Indiana Dividing the Counties Into Six Groups	2
2.	Report of the Lowest Paid Jointly Owned Unit Driver in the Fleet of Each District Responding, Indicated by Miles Driven for Daily Wage	33
3.	Report of the Highest Paid Jointly Owned Unit Driver in the Fleet of Each District Responding, Indicated by Miles Driven for Daily Wage	34
4.	Report of the Lowest Paid Privately Owned Unit Driver in the Fleet of Each District Responding, Indicated by Miles Driven for Daily Wage	35
5.	Report of the Highest Paid Privately Owned Unit Driver in the Fleet of Each District Responding, Indicated by Miles Driven for Daily Wage	36
6.	Average Cost Per Mile Reported by Types of Ownership and Tiers of the State	72
7.	Average Cost Per Pupil Transported by Types of Ownership and Tiers of the State	73
8.	Average cost Per Rated Seat Reported by Types of Ownership and Tiers of the State	75
9.	Average Cost of Operation for Each Unit on Route by Types of Ownership and Regions of the State	76

Foreword

A number of Indiana school administrators have expressed the opinion that there is need for a compilation of current statewide pupil transportation data. Local school district pupil transportation concerns center on policy development and adequate procedures for implementation of efficient pupil transportation systems. In 1965 the author conducted such a study. This study received widespread distribution as a joint effort of the Indiana School Boards Association and the Indiana Association of Public School Superintendents.

In order to bring the original project up to date, the Indiana State University Bureau of School Administrative Services and the Indiana State Department of Public Instruction have assisted the author in the preparation and distribution of the 1968 edition of "Indiana School Transportation: A Review of Policies, Procedures, and Costs." It is hoped that the information provided in this document will aid school authorities in pupil transportation analysis and development.

This report is the result of the combined efforts of many groups and persons. Grateful acknowledgment should go to Dr. Robert Jerry, Deputy Superintendent, Indiana State Department of Public Instruction and the research staff of the Indiana State Department of Public Instruction; Mrs. Jane Angell, for her expert editorial advice; and Mrs. Linda Ulrich, for typing and preparing the preliminary and final copies.

John C. Hill, Director
Indiana State University
Bureau of School Administrative Services

INTRODUCTION

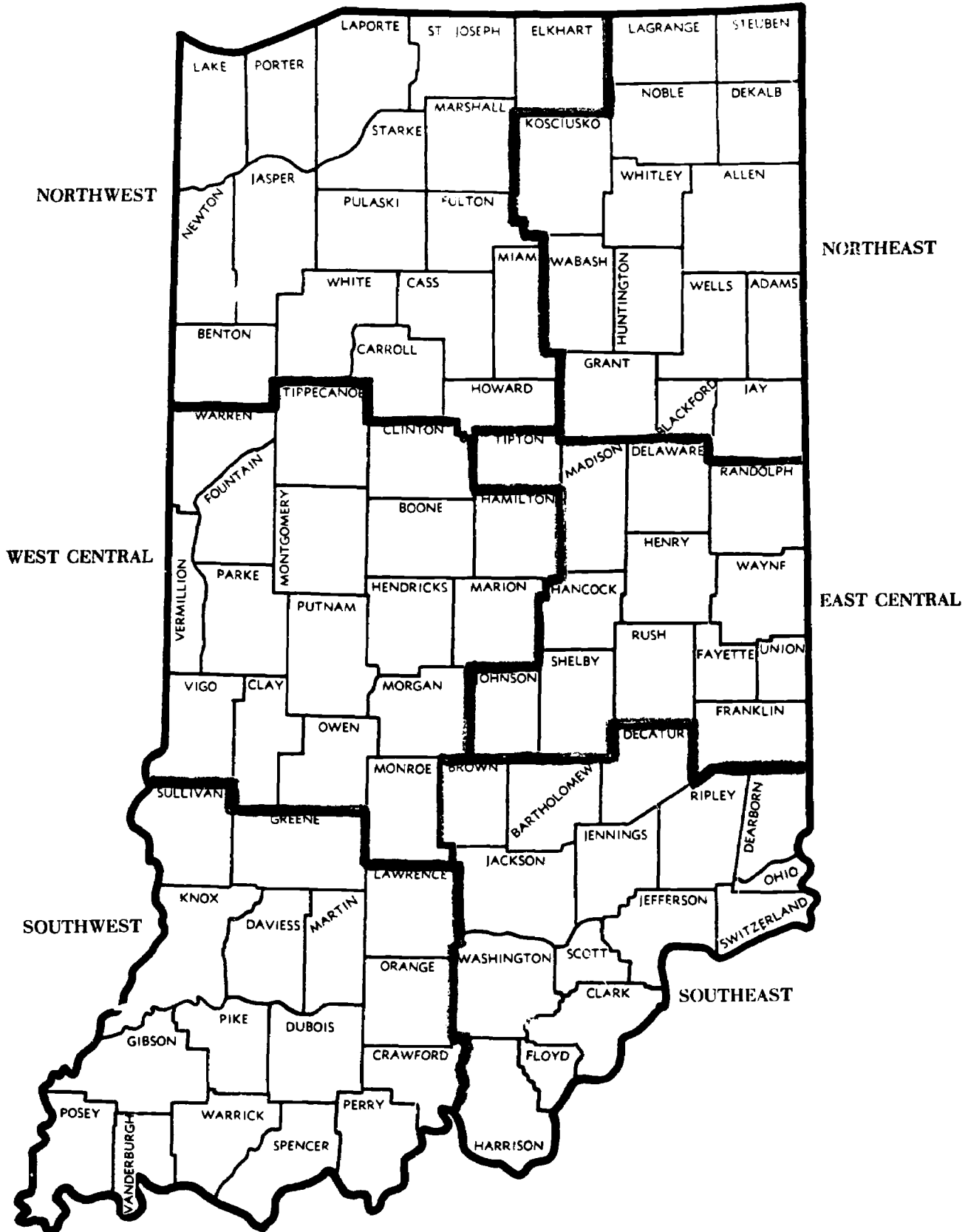
In 1965 the author conducted an original review of policies, procedures, and costs of pupil transportation in Indiana public schools. This study, conducted as a partial requirement for the author's doctoral degree at Indiana University, resulted in a publication supported and distributed by the Indiana School Boards Association and the Indiana Association of Public School Superintendents. School authorities throughout the state of Indiana were most appreciative of the data provided in the original study and have expressed the need for updating this information. As a result of this encouragement, the author requested the assistance of the Indiana State University Bureau of School Administrative Services and the Indiana State Department of Public Instruction to survey the state of Indiana and report current transportation data to the school corporations throughout the state.

Population

The original questionnaire was revised and mailed to a total of 263 school corporations chosen for this study. To qualify for inclusion, a district has to be under the direction of a school board and a superintendent, and also provide transportation by means of a bus fleet.

Figure 1 shows the regions of the state used to classify districts. The state was divided into six regions called Northwest, Northeast, West Central, East Central, Southwest, and Southeast. For certain presentations in the study the two horizontal divisions were paired up and referred to as the Northern Tier, the Central Tier, and the Southern Tier.

Figure 1. Regions of Indiana Dividing the Counties Into Six Groups.



Distribution of Returns

Of the 263 instruments mailed to Indiana school districts, 170, or 64.6 per cent, were returned containing information of value to the study. Tables 1 and 2 show the distribution of returns in state regions and enrollment groups.

Table 1. Number and Per Cent of Respondents
Classified by Regions of the State.

State Region	Returned	
	Total	Per Cent
Northeast	31	18.2
Northwest	36	21.2
East Central	32	18.8
West Central	30	17.7
Southeast	17	10.0
Southwest	24	14.1
Totals for State	170	100.0

Table 2. Number and Per Cent of Respondents
Classified by Enrollment Groups.

Enrollment Group	Returned	
	Total	Per Cent
1 - (under 1,000)	15	8.8
2 - (1,001-3,000)	104	61.2
3 - (3,001-7,000)	33	19.4
4 - (7,001-12,000)	12	7.1
5 - (12,001 and over)	6	3.5
Totals for State	170	100.0

The largest block of school districts included in the study was in the enrollment group from 1,000 to 3,000 students. In another part of the study it is pointed out that 78 superintendents indicated they had no additional help with transportation problems.

PUPIL TRANSPORTATION POLICIES

Extent of Pupil Transportation

As fleet operations become more complex and a higher percentage of the student body is transported, greater need will undoubtedly be felt for well defined transportation policies. The cost of transportation is affected by the extent of the fleet operation. The degree of urbanization and the size of the district will influence the percentages. The states transporting over 50 per cent of their students in 1965, according to Featherston and Culp, included Arkansas, Louisiana, Maine, Mississippi, South Carolina, Virginia, and West Virginia.¹ Indiana schools were transporting approximately 42 per cent of their pupils. Sixteen other states were hauling more than 40 per cent of their enrollment. Only three or four states provided transportation for less than 20 per cent of the public school children. In 1965 the national average was approximately 35.7 per cent.

Percentage of public school pupils transported. The schools responding to this study indicated that an average of 65.4 per cent of the public school students were being transported. Since all schools in the study had transportation programs, the percentage in the study would be higher than the state average of 42 per cent; the statewide figure reported by Featherston and Culp included all districts regardless of whether the school had transportation.

Table 3 shows the percentages applying to the 164 districts responding

¹ Featherston, E. G., and Culp, D. P., Pupil Transportation, State and Local Programs, pp. 2-7.

to this question in the study. Over 75 per cent of the respondents transported more than 50 per cent of their student enrollment.

Table 3. Percentage of Public School Enrollment Being Transported in the Responding School Districts.

Percentage	Number of Districts
0-5	0
6-10	3
11-15	0
16-20	6
21-25	3
26-30	3
31-35	2
36-40	9
41-45	10
46-50	6
51-55	9
56-60	13
61-65 Mean: 65.4 per cent	12
66-70	13
71-75	12
76-80	16
81-85	11
86-90	11
91-95	12
96-100	13
Total	164

Public school - parochial school transportation. The 170 responses to the question on transportation of parochial school children revealed that the school corporations did not have uniform policies. No transportation was provided for the parochial child on public school buses

in 40 districts. It should be pointed out that 23 districts from this group reported that there were no parochial school buildings in their territory; therefore, no policy was needed. Also, many districts had regular parochial buses serving their students, and public school buses were not needed.

Table 4 provides information as to the nature of the local district policy on public school bus service to parochial schools, listed by regions of the state.

Total pupils transported in Indiana. The Indiana State Department of Public Instruction has reported that a total of 554,666 pupils were transported in Indiana during the 1967-68 school year. Table 5 presents a summary of pupils transported within the state classified as private and parochial schools and public school, kindergarten and grades 1-12.

Table 5. Pupils Transported, Statewide Totals, 1967-68.

Classification	Total Enrollment	Pupils Transported	Per Cent Transported
Private and Parochial	128,735	24,122	18.7
Public			
Kindergarten	76,533	13,740	18.0
Grades 1-12	1,092,154	516,804	47.3
Totals	1,297,422	554,666	42.8

It is interesting to note that 18.7 per cent of the private and parochial school children were transported as compared with 47.3 per cent of the public school pupils enrolled in grades 1-12 and 18 per cent of the public kindergarten school children. A total of 42.8 per cent of all children attending private, public, and parochial schools were transported in Indiana during the 1967-68 school year.

Table 4. Policy on Public School Bus Service to Parochial Schools .

Policy	Total for State		District Responses by Region					
	Number	Per Cent	North-east	North-west	East-central	West-central	South-east	South-west
No stated policy	2	1.2				2		
Do not transport parochial students	40	23.5	9	8	9	7	1	6
Transport if on route, room on bus, to point nearest school	71	41.8	13	17	10	13	10	8
Transport same as public school	34	20.0	4	5	9	3	4	9
No parochial schools in district	23	13.5	5	6	4	5	2	1
Total	170	100.0	31	36	32	30	17	24

Eligibility for Transportation

Policy in this area can only be general in nature. Many local factors must be considered; even between two communities in the same district, eligibility requirements may vary. Because of existing safety conditions, including availability of sidewalks, amount of traffic, type of crosswalks, and related factors dealing with pedestrian and vehicle traffic, exceptions must be recognized and variations granted. In any event the board of education should set definite minimum riding distances for pupils to qualify for transportation.

Walking distance to bus stop. Of the districts responding to the question of policy regarding maximum walking distance to the bus, 101 schools, or 62.7 per cent, had no policy. This refers to stated written policy. All districts have "policy," even if only that which is being practiced, but not formalized. Safety is the chief consideration. Approximately 17.4 per cent reported a distance of from five blocks to one-half mile. Several rural districts indicated a "door-to-door" policy, while others reported a policy of grouping stops in housing additions. The more urbanized the area, the more likely the district was to have designated pick-up points at outlying schools or bus stops. Table 6 shows the responses made by the 161 districts concerning the maximum distance pupils walk to a bus stop.

Table 6. Number and Per Cent of Districts Reporting Maximum Distances Pupils Walk to a Scheduled Bus Stop.

Maximum Walk to Bus Stop	District Responses	Per Cent
No stated policy	101	62.7
One block	15	9.3
Two blocks	5	3.1
5-6 blocks	12	7.5
$\frac{1}{4}$ to $\frac{1}{2}$ mile	16	9.9
$\frac{1}{2}$ to 1 mile	8	5.0
Safety only factor	4	2.5
Totals	161	100.0

Distances to school. The most often reported maximum distance for students to walk to school was one and one-half miles, as shown in Table 7. No transportation was provided within city or town limits in 30 districts, while 39 districts permitted all students to ride buses regardless of the distance to the building. Safety factors were indicated as the major reason for adopting this type of eligibility policy.

Student time spent on school bus. Considering all grade levels, respondents indicated that most students in Indiana were riding a bus a maximum of from 41 to 60 minutes per trip. At the elementary level, 92 of 170 districts indicated that range of time; similar figures were reported at the 41 to 60 minutes range for the junior and senior high school groups. Table 8 summarizes the time reported by districts.

Table 7. Number and Per Cent of Districts Reporting Maximum Distances Pupils Walk to School Classified by Grade Levels.

Maximum Walk to School	District Responses by Classification of Students					
	Elementary		Junior High		Senior High	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
1/4 mile	13	13.5	8	9.0	9	11.5
1/2 mile	19	19.8	13	14.6	9	11.5
3/4 mile	6	6.2	2	2.3	3	3.9
7/8 mile	1	1.0	--	--	--	--
One mile	18	18.8	18	20.2	18	23.1
1 1/4 miles	2	2.1	4	4.5	5	6.4
1 1/2 miles	19	19.8	31	34.8	29	37.2
Two miles	0	--	1	1.1	5	6.4
Over two miles	0	--	0	--	0	--
Outside city only	18	18.8	12	13.5	--	--
Totals	96	100.0	89	100.0	78	100.0

Notes:

1. Thirty-nine districts reported that all students may ride.
2. One district established pick-up points for high school students 1 1/2 miles from school and transported all who came to the stop.

Table 8. Maximum Time Spent on School Bus.

Maximum Time on Bus	Elementary	Junior High	Senior High
20 minutes	11	7	7
21-40 minutes	52	37	33
41-60 minutes	92	96	96
Over 60 minutes	15	26	33
Total Districts	170	166	169

Kindergarten Transportation Policy

Until recent state support formula changes, kindergarten was a total responsibility of the local district. As reorganizations were completed, more public pressure was exerted on those corporations not providing kindergarten at public expense. When kindergarten programs become a part of the total school program, the local school board must determine what policy to follow regarding the transportation of kindergarten children. Since most kindergartens are operated on a one-half day basis for each pupil, transportation cannot follow the usual pattern of morning and afternoon service.

Table 9 reviews the status of kindergarten transportation policy in the 160 Indiana districts participating in this study and answering that portion of the instrument.

Of the 166 districts responding, 40, or 24.1 per cent, had no kindergarten program financed from the school budget. Of the 126 districts with kindergarten programs, 33 districts did not transport children. If transportation were provided at all, most districts transported one way only.

Regional differences were quite evident in the location of kindergarten transportation programs. Districts in the northern tier reported a higher concentration of both kindergarten programs and transportation service for the activity. An analysis of Table 10 will reveal that the larger the school district becomes, the more likely the district will have a kindergarten program and the less likely that it will transport kindergarten children.

Table 9. Number and Per Cent of Districts Reporting Kindergarten Transportation Policy Classified by State Regions.

State Region	No District Supported Kindergarten	No Transportation Provided	Transportation One Way	Transportation Both Ways	Considering Transportation for Kindergarten Next Year	Totals
Northeast	4	3	21	3	(0)	31
Northwest	4	6	22	5	(1)	36
East Central	14	7	10	0	(0)	31
West Central	12	8	8	2	(0)	30
Southeast	2	6	6	2	(0)	16
Southwest	4	3	13	2	(0)	22
Totals	40	33	80	12	(1)	166
Per Cent of Total	24.1	19.9	48.2	7.2	(.6)	100.0

Note: One district reported summer kindergarten only.

Table 10. Number and Per Cent of Districts Reporting Kindergarten Transportation Policy Classified by Enrollment Groups.

Enrollment Group	No District Supported Kindergarten	No Transportation Provided	Transportation One Way	Transportation Both Ways	Considering Transportation for Kindergarten Next Year	Totals
1	3	1	6	3	(0)	13
2	27	17	56	2	(0)	102
3	7	7	15	3	(1)	33
4	3	4	2	3	(0)	12
5	0	4	1	1	(0)	6
Totals	40	33	80	12	(1)	166
Per Cent of Total	24.1	19.9	48.2	7.2	(.6)	100.0

BUS UTILIZATION

The capital cost of school buses makes it imperative that maximum use be made of them. This can be accomplished by planning routes and schedules to utilize the available seats more than one time morning and afternoon, and also by using the units freely for academic field trips and student activity events.

The practical aspects of how long a pupil should ride a bus to get to school should be considered along with many factors of the total educational experience of the pupil. Some communities would rather pay more for transportation, have more units and correspondingly have students spend less time on a bus. Featherston and Culp stated that many schools considered anything over one hour each morning and evening to be too long a time for a child to be on a bus.² Staggering the opening time of the various grade levels was the most common method reported to permit double or triple use of the bus fleet. This program will be most effective in heavily populated areas, where pupils can be picked up and delivered to their buildings in a relatively short time. When the student population is scattered over several miles, the problem becomes more difficult, and unless more than one unit would be required to serve the extreme areas with or without staggered schedules, the added cost might not be justified.

The Utilization Factor

Not many transportation reports have included a "utilization factor" in a fleet analysis. This factor considers the total number of pupils transported in the district as applied to the total number of seats

² Ibid., pp. 94-95.

available at rated capacity of the total fleet. A factor of 100 per cent would indicate that all seats in the fleet are filled one time on the morning schedule. If the factor is less than 100 per cent, some buses would be coming in with empty seats. A factor in excess of 100 per cent shows that seats in the fleet are being used more than one time on the morning route. If most buses are "double routed" and are almost filled each time, the fleet factor will be nearly 200 per cent. In densely populated areas, factors for some fleets may exceed 300 per cent on a given morning. Assuming that the total educational experience of the child has not suffered, this rating would seem to indicate efficient planning.

In Table 11, on page 18, a report is presented of the utilization of the buses in Indiana districts responding to this part of the study. A total of 167 districts reported their utilization factor. For the state, 57 districts indicated from 76 to 100 per cent utilization. The next most prominent grouping was the 101 to 125 per cent range with 49 districts reporting.

Table 12, on page 19, shows the distribution of the districts reporting the utilization factor for fleets as divided by enrollment groups.

The Indiana State Department of Public Instruction reported a state-wide utilization factor for the 1967-68 school year of 136 per cent. The total rated capacity of all buses was reported to be 409,297. It is interesting to note that for the 167 school corporations reporting in this survey, the utilization factor was found to be somewhat lower than that reported for the state as a whole. It may be noted that the majority

Table 11. Number and Per Cent of Districts Reporting Percentages of Bus Utilization Based on Rated Seat Capacity and Number of Pupils Transported, Classified by Tiers of Counties.

Tiers of Counties	Total of Districts Reporting	Per Cent of Utilization									
		Under 75	76-100	101-125	126-150	151-175	176-200	201-225	226-250	Over 250	
Northern Tier	64	1	22	17	10	5	3	1	0	5	
Central Tier	62	1	21	15	10	8	2	0	2	3	
Southern Tier	41	1	14	17	3	4	2	0	0	0	
Totals	167	3	57	49	23	17	7	1	2	8	
Per Cent of Total	100.0	1.8	34.2	29.4	13.8	10.2	4.2	.6	1.2	4.8	

Table 12. Number and Per Cent of Districts Reporting Percentages of Bus Utilization Based on Rated Seat Capacity and Number of Pupils Transported, Classified by Enrollment Groups.

Enrollment Groups	Total of Districts Reporting	Per Cent of Utilization									
		Under 75	76-100	101-125	126-150	151-175	176-200	201-225	226-250	Over 250	
1	15	1	7	6	1	0	0	0	0	0	
2	103	1	43	35	12	8	2	0	1	1	
3	33	1	6	6	6	5	3	1	0	5	
4	9	0	0	1	4	2	1	0	0	1	
5	7	0	1	1	0	2	1	0	1	1	
Totals	167	3	57	49	23	17	7	1	2	8	
Per Cent of Total	100.0	1.8	34.2	29.4	13.8	10.2	4.2	.6	1.2	4.8	

reporting in the survey listed a utilization factor of 90 to 140 per cent. This can be accounted for, in part, by the fact that the statewide figures include all of the larger school corporations, those in more populated areas running buses on double and triple routes.

Use of Fleet for Other Than School Routes

The expanding school programs brought on by reorganization of districts into larger units have caused additional demands to be made upon the transportation system in the community. Summer education, extra-curricular programs, regular classroom activities outside the classroom, and parochial school transportation are listed by Hill and Colmey as typical additions to the transportation programs over the past decades.³ Students are being taken to athletic contests, to and from area swimming pools and bowling establishments to supplement the physical education program, to business and manufacturing plants for instruction, and to various community affairs. This expanded use of the school bus has brought the school administrator new challenges and problems. So that the child may have the best educational opportunity the community can offer, the administrator's challenge is to solve these problems and create a smooth and economic operation.

Respondents to this portion of the study presented much the same picture in Indiana as outlined in previous studies for the nation. Use of buses for athletic teams and for academic trips for students was indicated by most districts. Buses were being used to transport student fans to athletic constests. Few districts replied that all extra trips were

³ Hill, F. W., and Colmey, J. W., School Business Administration in the Smaller Community, p. 226.

financed through the regular tax sources. Extra-curricular accounts and pupil payments were used to finance extra trips by most districts. Information concerning driver pay scales and bus costs is reported later in this study.

THE BUS DRIVER

Even though the bus driver is the key to a successful transportation system, bus driver training programs are almost nonexistent in many local districts. Training is important because driver habits determine the effectiveness of the safety program and influence costs.

Securing competent drivers becomes a serious problem in many districts. A few states rely on high school students to complete their rosters. Some authorities voice objection to this practice, claiming that the young driver lacks the judgment so necessary for safe bus operation. According to Featherston and Culp statistics did not support this contention since in states where students could be licensed, the selection process was carefully set up and training and supervision programs were very strict.⁴ Thirty-two states allowed licensing below 21 years of age.

Featherston and Culp indicated in the review of state practices that 16 states had set a maximum age for drivers.⁵ Of these states, 10 used the age of 65, two permitted drivers to be licensed until they were 70, and one state would not license a driver after age 60. Tennessee allowed bus drivers to sign contracts until they were 65, except that a new driver could not be hired who had reached age 55 by contract time. Georgia had a similar rule with a new driver maximum age of 49 years. West Virginia had followed this lead and established the age of 50 as the new driver maximum. Indiana had set no maximum age for bus drivers and would not permit a public passenger chauffeur's license to be issued until a person reached the age of 21 years.

⁴ Featherston and Culp, op. cit., p. 74.

⁵ Ibid., pp. 188-205.

Another common source of bus drivers is women. Again, Featherston and Culp pointed out that there was no common agreement as to the merits of this practice.⁶ However, a considerable number of districts had had great success with women drivers and claimed that their safety record at times exceeded that of the men on their staff.

A total of 105 districts responded to the questions regarding the organized safety programs and driver recruiting plans. Only 41 indicated that buses were inspected locally on a regular basis in addition to the police inspection in the fall. A total of 36 schools reported an effective driver training program. One district expressed the view that it would like to discontinue the state-sponsored inspection and hold its own due to its size.

Driver recruiting programs were reported by 27 districts, and 55 districts felt they had a well-defined substitute driver indoctrination program including some road training and observation. Regular meetings and newsletters were mentioned as training media.

Table 13 contains information concerning the assignments of bus drivers, their sex, and their duties in addition to driving a school bus. A total of 3,939 drivers were reported by the districts responding to this section. Of these drivers, 3,630, or 92.2 per cent, were men, and 309, or 7.8 per cent, were women. The highest concentration of women drivers came in the enrollment groups of 3,000 to 7,000 students in the northern tier of counties. Over 94 per cent of the drivers in the study were not assigned any other duties with the school district. The combination of custodian and bus driver was the assignment reported for approximately five per cent of the drivers.

⁶ Ibid., p. 74.

Table 13. Work Assignments Given Indiana Bus Drivers,
Classified by Tiers of Counties and By Sex.

Assignments	Classification								Totals	
	Northern		Central		Southern		Men	Women	Men	Women
	Men	Women	Men	Women	Men	Women				
Driving only	1,272	182	1,304	74	840	50		3,416	306	
Custodian	90	1	52	0	26	0		168	1	
Teacher	2	0	4	0	1	0		7	0	
Cafeteria	1	1	0	0	0	0		1	1	
Bus Maintenance	11	0	17	0	1	0		29	0	
Shipping Clerk	0	0	0	0	1	0		1	0	
Secretary	0	0	0	1	0	0		0	1	
School Mail	1	0	0	0	0	0		1	0	
General Maint.	1	0	0	0	0	0		1	0	
Transp. Director	1	0	0	0	0	0		1	0	
School Truck	1	0	0	0	0	0		1	0	
Mill Man	0	0	1	0	0	0		1	0	
Watchman	1	0	0	0	0	0		1	0	
General Labor	2	0	0	0	0	0		2	0	
Totals	1,383	184	1,378	75	869	50		3,630	309	
								(3,939)		

Table 14 contains information concerning the age and sex of school bus drivers for the state of Indiana. These data were furnished by the Indiana State Department of Public Instruction.

Table 14. School Bus Drivers Classified by Age and Sex, Statewide Totals, 1967-68.

Age Group	Male			Female		
	Number	Per Cent of Male Only	Per Cent of Total Drivers	Number	Per Cent of Female Only	Per Cent of Total Drivers
20-29 years	448	7.1	6.6	49	9.8	.7
30-39 years	1297	20.6	19.4	194	38.7	2.8
40-49 years	1997	31.8	29.4	168	33.5	2.5
50-59 years	1950	31.1	28.7	78	15.6	1.1
60-69 years	581	9.3	8.5	12	2.4	.2
70-99 years	7	.1	.1	0	0	0
Totals	6280	100.0		501	100.0	
Total Drivers	6781		(men)			(women)
	(100.0)		92.7			7.3

Driver Fringe Benefits

The school bus driver operating a school-owned vehicle is considered a school employee for most purposes; therefore, he is qualified for certain fringe benefits.

The northern tier of counties reported more activity in providing fringe

benefits for bus drivers. Fringe benefits were most prevalent in the school districts with enrollments of from 1,000 to 3,000 pupils.

Respondents indicated sick leave to be the most common fringe benefit. Leave of from six to ten days per year, cumulative to 30, was the most frequently mentioned limit. A trend toward allowing more immediate family death leave and personal leave was noted. Schools are not furnishing uniforms except in isolated cases. Since the 1965-66 report, additional health insurance participation by school districts was evident. An increased percentage was being paid by the schools, 60 per cent being the most mentioned figure. Life insurance in the amount of \$5,000 was an added benefit in two districts.

Driver Retirement Policy

Table 15 reviews the bus driver retirement policy for the 161 districts which responded to this question. The most widely used retirement age was 65 years; this age was the policy in 48 districts. Fifty-nine of the 78 districts reporting no policy came from the two smaller enrollment groups.

Table 15. Responses Regarding Bus Driver Retirement Policy
Classified by Tiers of Counties and Enrollment Groups.

Classification	District Responses						
	Have No Stated Policy	Retirement Depends on Licensing	Mandatory Age				
			70	66	65	63	60
TIERS OF COUNTIES							
Northern	30	5	1	7	21	0	1
Central	33	8	1	7	17	0	1
Southern	15	1	0	2	10	1	0
Entire State	78	14	2	16	48	1	2

ENROLLMENT GROUPS							
1	9	1	0	1	5	0	0
2	50	8	1	6	26	1	2
3	13	3	0	6	10	0	0
4	4	1	1	3	4	0	0
5	2	1	0	0	3	0	0
Entire State	78	14	2	16	48	1	2

Driver Pay

District-owned units. Several methods were being used by the school districts to pay drivers of school-owned units. Formulas using a base rate per day plus a set mileage fee were common. Some schools employed a combination of base pay plus an allowance for mileage with a specific rate based on the seating capacity of the bus. To give school transportation directors an idea of various methods utilized around the state, those reported by respondees are included in the Appendix.

Information in Table 16 shows that more drivers were paid a daily wage of from \$10 to \$12 per day for the driving of a school-owned unit. Only 10.4 per cent of the drivers drew a daily wage of \$17 per day or over. On the lower end of the scale, 16.4 per cent of the drivers had a wage of less than \$10 per day.

This status report does not purport to be a depth study of driver wage patterns; however, an obvious increase in daily pay is noted since the 1965-66 report when the most common daily pay was in the \$9 to \$10 range.

The Appendix contains a composite of 48 different methods of arriving at pay for drivers of school owned units.

Jointly owned units. In recent years, as the price of school buses increased, drivers have found it more and more difficult to finance the full value of a unit. The school district helped solve this by offering to purchase the body for use on the chassis of the prospective driver. Capital outlay costs to the district were reduced, and the driver was able to stay in the bus driving business. In resisting the efforts to take away what they consider "the last private enterprise venture for the individual," some districts have continued to operate jointly owned units.

Two methods of determining the pay of the driver of a jointly owned unit are available to the school district.⁷ In both types, legal advertising procedures must be observed. The district may choose to receive sealed bids on a specific route or may elect to negotiate with the drivers.

Figure 2 shows the relationship between the miles driven and the daily wages for the lowest paid driver of a jointly owned unit in the districts

⁷ Indiana General Assembly, Acts of 1965, Chapter 307, p. 11.

Table 16. Daily Wage Paid to Drivers of District-Owned Buses as Reported by 81 Indiana Schools Classified by Tiers of Counties and Enrollment Groups.

Classification	Total Drivers	Number of Drivers Classified by Pay Per Day												
		Under \$8.00	\$8.00-8.99	\$9.00-9.99	\$10.00-10.99	\$11.00-11.99	\$12.00-12.99	\$13.00-13.99	\$14.00-14.99	\$15.00-15.99	\$16.00-16.99	\$17.00-17.99	\$18.00 & Over	
TIERS OF COUNTIES														
Northern	1,229	38	48	148	249	248	146	84	58	64	59	37	50	
Central	803	20	46	30	121	146	113	84	43	54	44	66	36	
Southern	239	8	21	13	12	80	0	0	0	58	0	1	46	
ENROLLMENT GROUPS														
1	92	6	2	21	18	15	7	0	0	0	0	1	22	
2	1,020	28	94	139	255	201	105	70	36	21	15	24	32	
3	547	26	8	18	78	94	95	63	25	25	52	28	35	
4	442	4	11	13	24	94	51	35	33	55	31	51	40	
5	170	2	0	0	7	70	1	0	7	75	5	0	3	
Entire State	2,271	66	115	191	382	174	259	168	101	176	103	104	132	
Per Cent	100.0	2.9	5.1	8.4	16.8	20.9	11.4	7.4	4.4	7.8	4.5	4.6	5.8	

Note: See Appendix for methods of determining pay for drivers of school-owned units.

answering this question. Mileages from 20 to 40 and the wage range from \$15.00 to \$20.00 contained the majority of the responses.

Figure 3 contains data concerning the wages for the highest paid driver of a jointly owned unit in each of the districts responding to this part of the instrument. The pattern for the highest paid drivers, when charted for each district, presented a scattered picture. The only concentration was in the 40 to 55 mile range with the wages falling between \$20.00 and \$35.00 per day.

The scattergrams represent responses from both the 1965-66 study and the current one. It is evident that the "x" representing the 1967-68 study ranges higher and further to the right on the chart. This means higher mileage and higher pay. Several school reorganizations have been completed since the last study and also more schools are utilizing buses for more than one route, adding to mileage and pay.

Privately owned units. A privately owned unit is owned entirely by an individual. This person contracts to transport children as directed by the school district, and must furnish all repairs and other costs involved with the bus. The driver may obtain a contract by means of a sealed bid or by a negotiating process.⁸

Figure 4 shows the mileage driven by the lowest paid driver of a privately owned unit and his daily wage in the responding school districts. The concentration of reports falls in a slightly higher plane than the one shown for the jointly owned units on the previous figure. It is logical that the more capital outlay and expense the driver has, the higher wages he must be paid.

⁸ Ibid., p. 11.

By using Figure 5, the wage scale for the highest paid drivers of privately owned units in the 76 districts replying to the question can be traced. Most of the reports were accounted for in the 45 to 70 mileage bracket and the \$24.00 to \$42.00 daily pay range. The wage pattern was again higher than the range reported for the jointly owned units.

As was true with the jointly owned units, the mileages and daily rates have gone up considerably, no doubt for the same reasons previously noted. By comparing the "o" for 1965-66 and the "x" for 1967-68, the trend is easily noted.

Trips other than route. No consistent policy and procedure for driver wages was reported for the driver who was operating a school-owned unit for trips other than his regularly assigned route. Responses from 76 districts relating to the question of the driver's hourly wages for this type of driving indicated that 38 districts paid from \$2.00 to \$2.50; 17 districts from \$1.75 to \$2.00; and 9 schools paid less than \$1.75. Scattered reports ran as high as \$2.75 per hour, with four districts paying over \$3.00 per hour.

Of the 51 districts responding to the method of pay for extra driving by the trip, 13 paid less than \$8.00 per trip. Fifteen schools were paying from \$8.00 to \$10.00. One district reported 20¢ per mile with a maximum of \$25 per day. The pay in the balance of the districts ranged from \$11.00 to \$20.00.

Responses regarding the amount of reimbursement the school district expected from an organization using a school-owned bus for an activity indicated that a rate of 15 to 20 cents per mile would take care of the "out-of-pocket" expense. Only eight districts replied that their charge was more

than 20 cents per mile, and three of these listed the charge at less than 30 cents per mile. Two schools were charging as high as 50 cents per mile. One district reported charges based on size of bus: 60 passenger - 25¢; 66 passenger - 30¢; 72 passenger - 35¢.

Miles
Driven

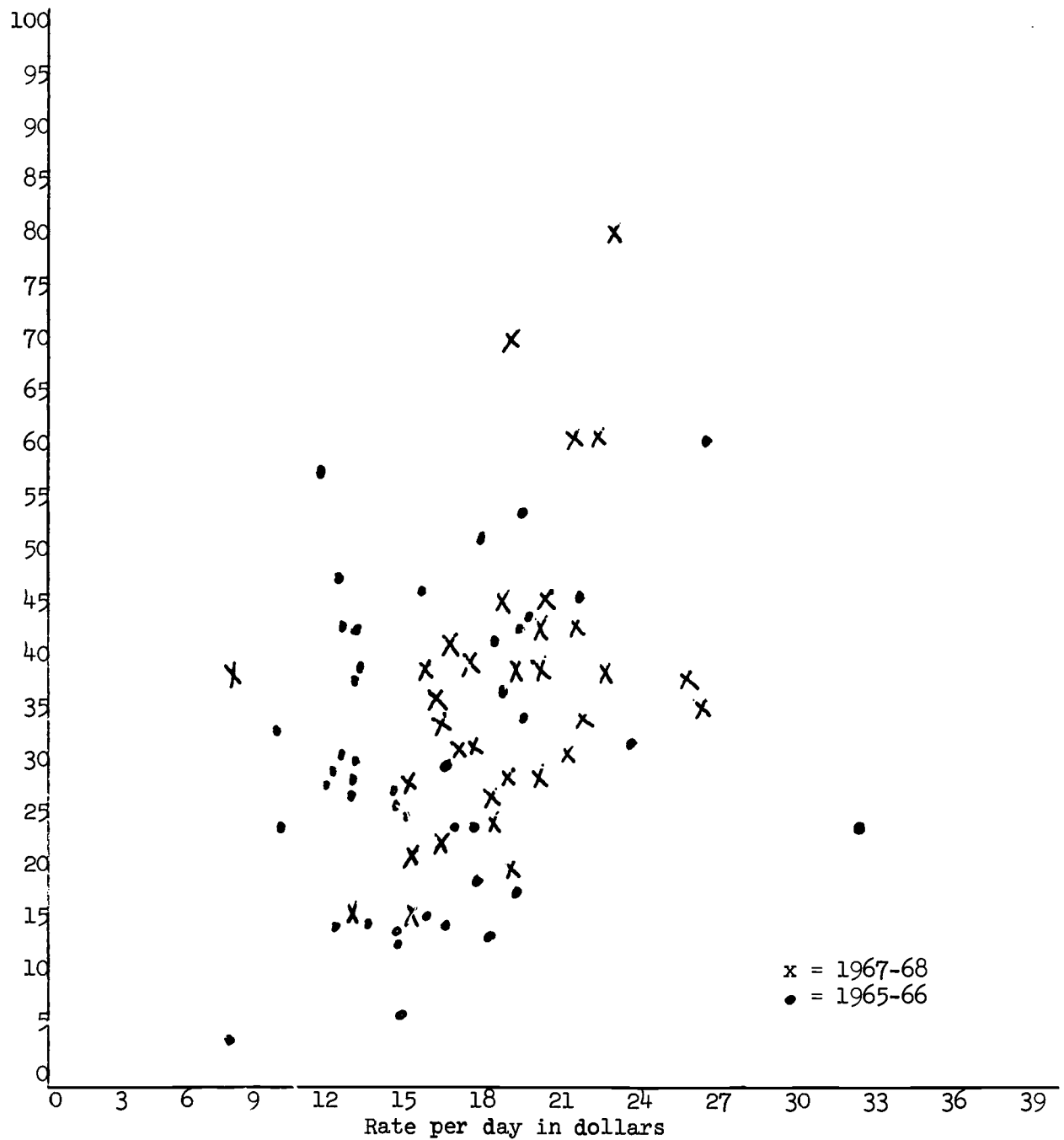


Figure 2. Report of the Lowest Paid Jointly Owned Unit Driver in the Fleet of Each District Responding, Indicated by Miles Driven for Daily Wage.

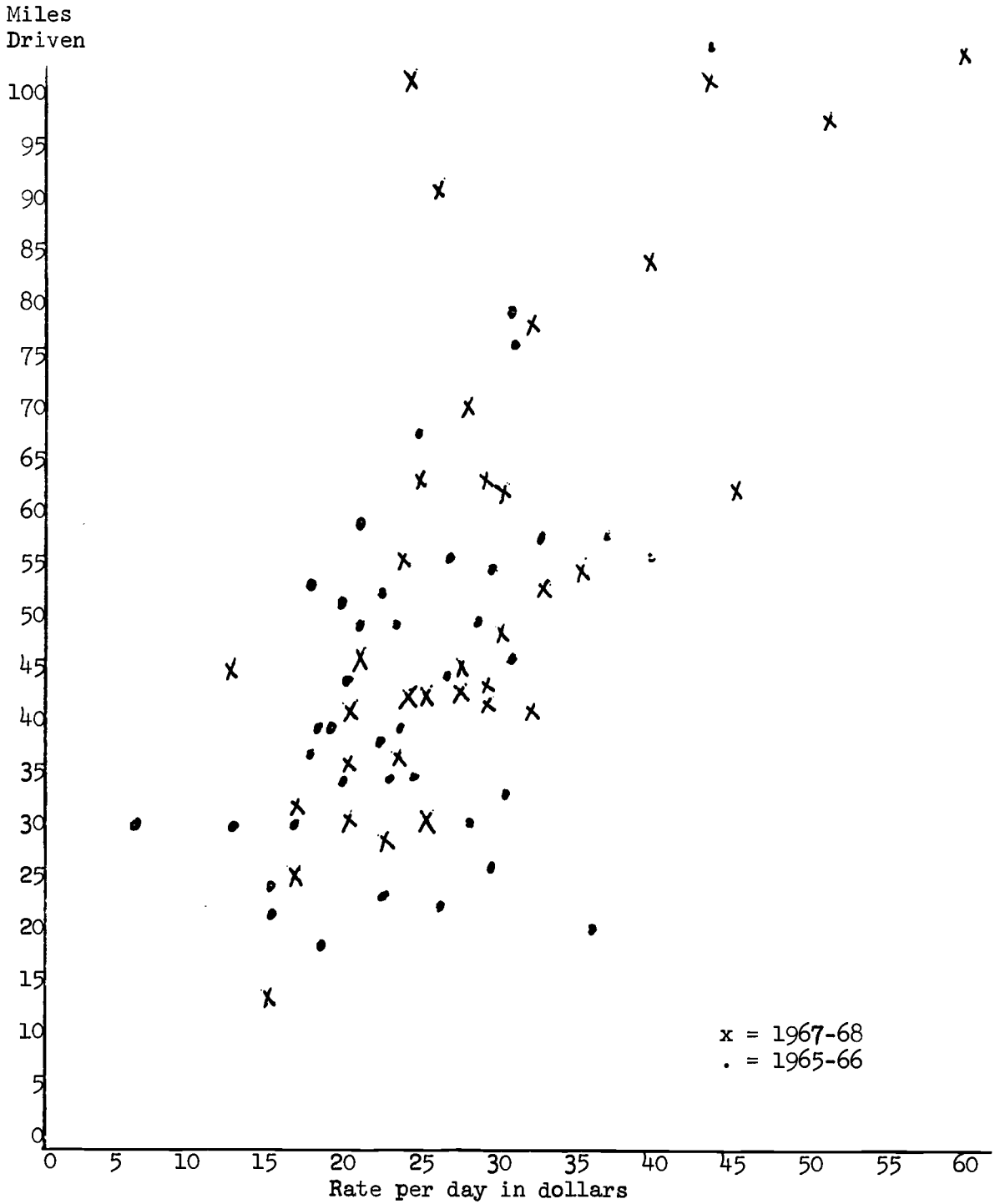


Figure 3. Report of the Highest Paid Jointly Owned Unit Driver in the Fleet of Each District Responding, Indicated by Miles Driven for Daily Wage.

Miles
Driven

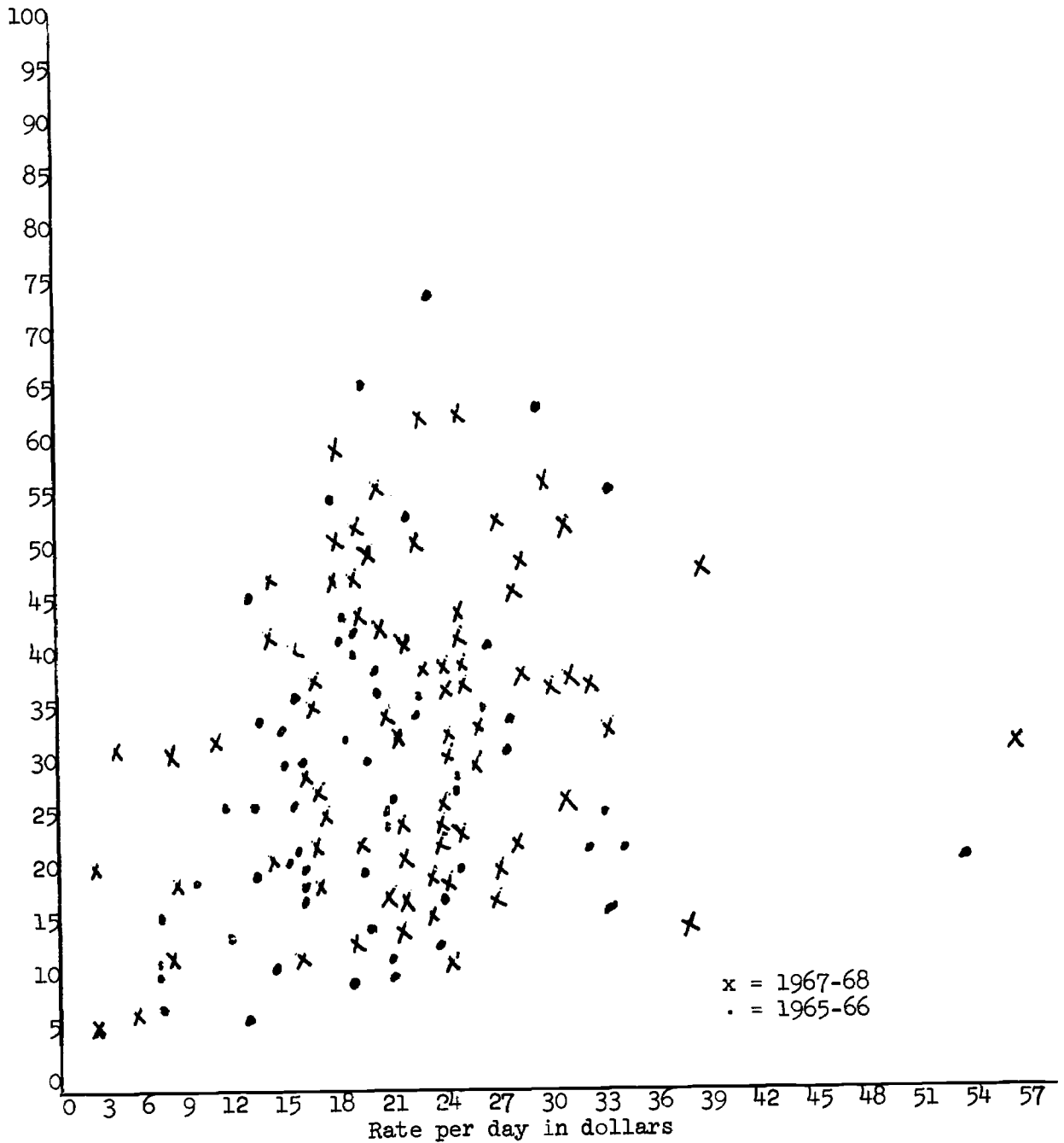
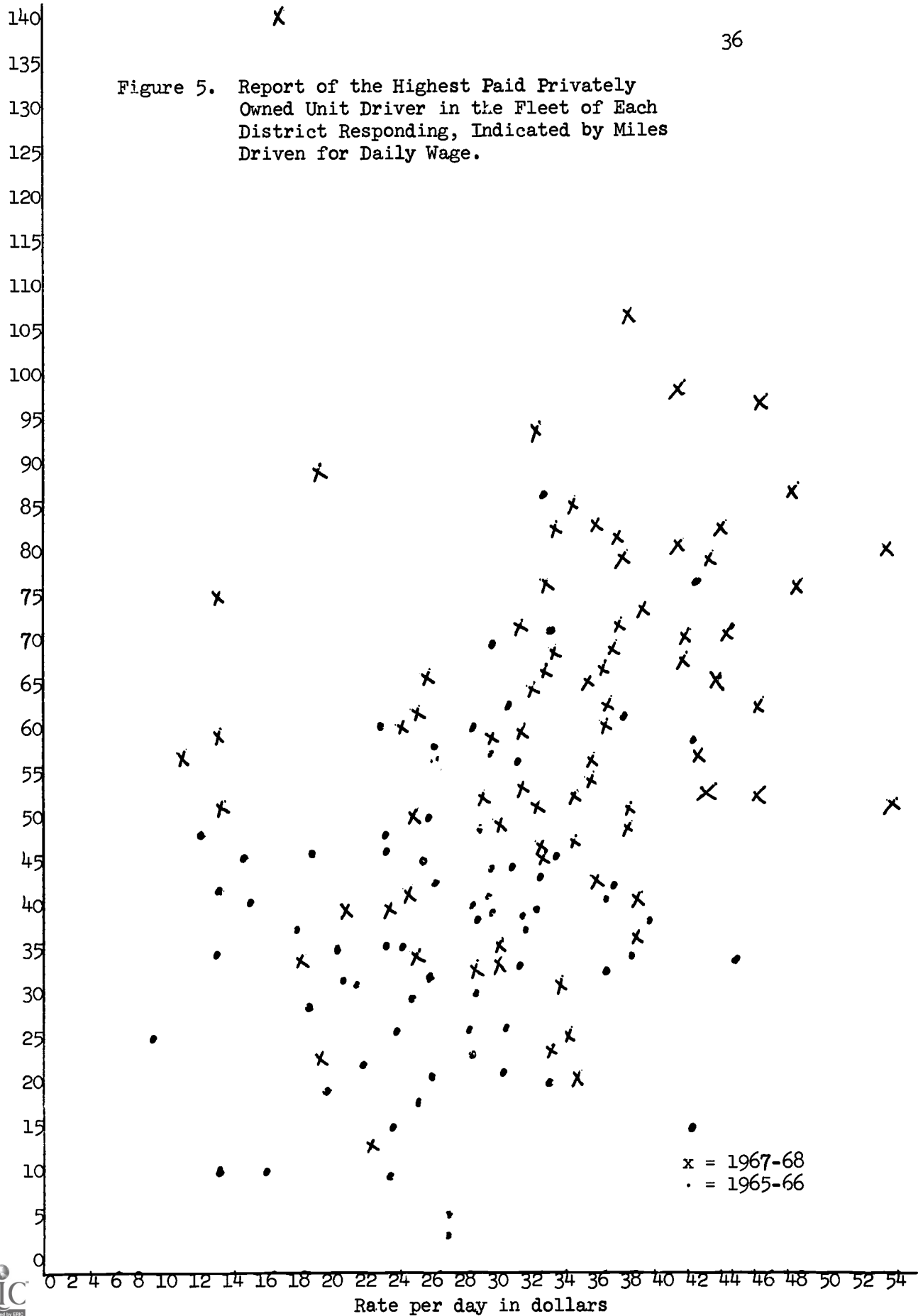


Figure 4. Report of the Lowest Paid Privately Owned Unit Driver in the Fleet of Each District Responding, Indicated by Miles Driven for Daily Wage.

Figure 5. Report of the Highest Paid Privately Owned Unit Driver in the Fleet of Each District Responding, Indicated by Miles Driven for Daily Wage.



BUS OWNERSHIP

Trends in Ownership Policy

Public ownership of buses has gained favor in the past 30 years. The trend has continued in this direction until, according to Featherston and Culp, more than 7 out of 10 buses in the United States now belong to the school district.⁹ During the period of years when the present trend was in its infancy, there were many debates over the best type of ownership for bus fleets. The arguments of cost, better equipment, better control, contribution to safety, greater use for instruction, and the ease of working the transportation system into the general pattern of educational program were all given as reasons for district ownership. Most arguments could be turned into arguments for private ownership under certain conditions and in specific examples of efficient operation. Featherston and Culp stated that it could be safely said that public ownership did offer advantages that could lower the costs, and they also contended that the same type of ownership could be too expensive if not properly managed. They stated that public ownership did not automatically eliminate waste or give immediate efficiency and also stated that management, training, and supervision were essential to a successful transportation program which provided adequate, safe, and economical service.

The 169 Indiana school districts responding to the "trend in ownership" question as summarized in Tables 17 and 18, indicated that 63.3 per cent preferred district ownership, 2.4 per cent preferred joint ownership, 21.9 per cent preferred private ownership, and 12.4 per cent were undecided.

⁹ Ibid., pp. 102-105.

The southern tier of counties showed the only tendency toward more driver owned units than district owned and also had more uncertain policy. Of the 67 districts reporting from the northern tier, 59, or 88.1 per cent, preferred district ownership. As the tabulations were made regarding the preferences of districts, comments were observed on the instrument, and some of them indicated indecision on the part of several administrators concerning the future of their bus ownership policy. Most of those indicating uncertainty operated fleets with multiple types of ownership. One district reported investigation of leased equipment.

The foregoing information and the accompanying tables refer to stated preferences of school districts, and the percentages do not necessarily reflect the status of school bus ownership.

Tables 19 and 20 provide statewide information furnished by the Indiana State Department of Public Instruction concerning vehicle ownership and capacity of school buses--district owned--for the state of Indiana for the 1967-68 school year.

Table 17. Trends in Indiana School Bus Ownership Policy
Classified by Tiers of Counties.

Ownership Policy	Tiers of Counties			Total	Per Cent
	Northern	Central	Southern		
Established as District Ownership	43	24	4	71	42.0
Moving to District Ownership	16	15	5	36	21.3
Established as Joint Ownership	0	3	0	3	1.8
Moving to Joint Ownership	0	0	1	1	.6
Established as Private Ownership	1	11	19	31	18.3
Moving to Private Ownership	1	3	2	6	3.6
District Uncertain As to Ownership Policy	6	5	10	21	12.4
Total Districts	67	61	41	169	
Per Cent	39.6	36.1	24.3		100.0

Table 18. Trends in Indiana School Bus Ownership Policy
Classified by Enrollment Groups.

Ownership Policy	Enrollment Groups					Total	Per Cent
	1	2	3	4	5		
Established as District Ownership	5	41	17	8	0	71	42.0
Moving to District Ownership	2	19	10	2	3	36	21.3
Established as Joint Ownership	0	1	1	1	0	3	1.8
Moving to Joint Ownership	0	1	0	0	0	1	.6
Established as Private Ownership	4	22	4	0	1	31	18.3
Moving to Private Ownership	2	4	0	0	0	6	3.6
District Uncertain As to Ownership Policy	2	15	2	0	2	21	12.4
Total Districts	15	103	34	11	6	169	
Per Cent	8.9	60.9	20.1	6.5	3.6		100.0

Table 19. Vehicle Ownership, Statewide Totals, 1967-68.

Classification of Vehicle	Number	Per Cent By Type	Per Cent of Total Vehicles
School Bus			
District Owned	3,333	49.3	
Jointly Owned	615	9.1	
Driver Owned	2,816	41.6	
Total	6,764	100.0	98.7
Station Wagon			
District Owned	3	5.8	
Driver Owned	49	94.2	
Total	52	100.0	.8
Automobile			
Driver Owned	23	100.0	.3
Other			
District Owned	6	54.5	
Driver Owned	5	45.5	
Total	11	100.0	.2
Statewide Totals	6,850		100.0

Table 20. Capacity and Ownership of Buses, Statewide Totals, 1967-68.

Rated Capacity	Type of Ownership					
	District Owned		Jointly Owned		Driver Owned	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
73 & up	112	3.4	3	.5	103	3.7
72	79	2.3	5	.8	39	1.4
70	0	0	0	0	1	.25
66	1325	39.7	142	22.1	775	27.5
60	1094	32.8	203	33.0	719	25.5
54	547	16.4	131	21.3	745	26.5
48	161	4.8	127	20.6	356	12.6
36	2	.08	0	0	44	1.2
24-35	0	0	0	0	0	0
11-23	1	.04	0	0	1	.25
10 & below	0	0	1	.14	0	0
Other	12	.48	4	.56	32	1.1
Totals By Classification	3333	100.0	615	100.0	2816	100.0
Per Cent of Total	49.3		9.1		41.6	

Statewide figures show that during the past four years, 1,357 new school buses were added to the Indiana district-owned fleet.

As of the state report time, December, 1967, models had been purchased as follows:

1965 models -	405
1966 models -	357
1967 models -	493
1968 models -	102 (represents 1968 models purchased late in 1967)
Total -	1,357

Districts showed their capacity preference in purchasing as follows:

73 and up -	5
72 -	25
66 -	904 (66.6 per cent)
60 -	346 (25.5 per cent)
54 -	61
48 -	13
36 -	1
Other -	2
Total -	1,357

It is interesting to note that the statewide figures above compare very favorably with the 170-district summary used in this study. In the sample under study, 65.1 per cent indicated a preference for the 66-passenger unit.

Bus Purchases

Although some states provide for statewide purchasing of school buses by a state agency, Indiana continues to leave this matter entirely in the hands of the local board. Purchase prices vary considerably because of several factors. Local specifications above the state minimum specifications will affect costs. The time of year, current status of the so-called "bus price war," and the general condition of the nation's economy are among the factors which have an influence on bus costs.

Type and capacity of new bus units purchased. Changes in the purchasing practices of school districts in the procurement of school buses were evident when the current specifications were examined. Regarding bus capacity, Indiana school districts responding to this study reported that they operated more 60- and 54 - passenger units than 66-passenger units. Yet, when districts were questioned regarding the current buying preference, the 66-passenger, conventional bus was the most popular response. Of the 139 districts responding to this phase of the study, 97.1 per cent preferred conventional units, and 65.1 per cent were buying 66-passenger buses. Tables 21 and 22 provide information regarding the purchase preference of the 139 districts.

Table 21. Current Preference on Type of New Bus Units Being Purchased by Indiana Districts Responding to the Study.

Type of Unit	Number of Districts Responding	Per Cent of Total Response
Transit	4	2.9
Conventional	135	97.1
Total state responses	139	100.0

Table 22. Current Preference on Capacity of New Bus Units Being Purchased by Indiana Districts Responding to the Study.

Capacity of Unit, Passengers Three to a Seat	Number of Districts Responding	Per Cent of Total Response
70 and up	3	1.6
66	121	65.1
60	41	22.0
54	15	8.1
48	5	2.7
36	1	.5
Total state response	186*	100.0

* Includes multiple responses from a few districts.

The 60-passenger unit was still a popular one, with 22.0 per cent of the districts preferring this size of bus. The difference in terrain and area to be covered, length of routes, density of student population, and types of turn-arounds have an influence on the decision concerning the size and type of unit to purchase.

Bus construction and standards. In recent years much progress has been made in establishing high national minimum standards for school bus specifications. A committee composed of educators and representatives of various chassis and body manufacturers has produced standards which most states accept as a minimum. The state school bus committee in Indiana

has developed a minimum set of specifications to provide assurances that a bus delivered to the district will have a good safety potential.¹⁰

Procedure reported on bus bid evaluation. The purchase of a school bus is an important matter of business for the local school board. Since much of the information relative to the purchase is of a technical nature, many boards have their administrator review the bids, secure the necessary facts to make comparisons justly, and present recommendations to the board. Porter discussed the importance of the transportation director being fully prepared to defend his recommendations on equipment purchases, indicating that the board should expect to be supplied with a complete analysis of the bids and support for the recommendations.¹¹ Emphasizing the importance of well written bus purchase specifications, Featherston pointed out that it was the duty of the transportation director to be sure there was no opportunity for the supplier to manipulate the bid on the basis of altering some of the features called for on vehicles.¹² Mann referred to the generally accepted practice of the school administrator tabulating bids after they have been officially opened in public and then making a recommendation for the award.¹³ While no references were found that directly applied to the purchasing procedure and school board policy regarding school buses, the implications were

-
- ¹⁰ Indiana State Department of Public Instruction, Minimum Standards and Specifications for School Buses in Indiana, 39 pp.
- ¹¹ Porter, J. D., "Preparation of Bidding Documents and Awarding of Contracts," in Proceedings, Association of School Business Officials of the United States and Canada, p. 248.
- ¹² Featherston, E. G., "Problems in the Field of Pupil Transportation," in Proceedings, Association of School Business Officials of the United States and Canada, p. 222.
- ¹³ Mann, H. V., "Bidding Procedures," in Proceedings, Association of School Business Officials of the United States and Canada, p. 342.

that the technical phase of the bid analysis should be made by the person hired to do this work and that the board should confine itself to the evaluation of the recommendations and the final award of the contract.

Cost Price of School Buses - District Owned

On a statewide basis, the purchase price of the buses purchased during the past four years can be classified for "quick estimate thumb rule" as follows:

	Capacity of Unit (Most popular models)				
	<u>73+</u>	<u>72</u>	<u>66</u>	<u>60</u>	<u>54</u>
\$10,000 and over	4	7	2		
8,000 - 9,999		7	83	4	
7,800 - 7,999			38	5	
7,600 - 7,799		1	58	8	
7,400 - 7,599		1	96	10	
7,200 - 7,399			121	27	
7,000 - 7,199			156	29	1
6,800 - 6,999			79	45	5
6,600 - 6,799			76	19	1

Note: No 1968 models of the capacities listed were reported at any lower price than \$6,600.

As a rule of thumb for budget estimating, it appears that the bulk of the 1968 model 66-passenger units were purchased in the range of \$7,000 to \$7,599.

1967 models and earlier ranged down to the \$6,200 to \$6,800 figures.

OTHER BUS OPERATION CONSIDERATIONS

Insurance

Probably no area of transportation management has been so confusing to the school administrator as that of insurance. District immunity has been shaken by court rulings. According to the statutes in some states, liability insurance must be carried on all school buses, both private and district owned.

Featherston and Culp reported that in 1965, 46 per cent of the states required public liability insurance.¹⁴ They also reported that this was three times the number in 1948, indicating the trend toward an insurance consciousness on the part of public institutions. The trend has also been toward providing some protection for both pupils and parents, in addition to the school district. As new policies on insurance are adopted by local school boards, consideration should be given to the type of coverage offered by the commercial firms and the current rates. Only after a few years of experience with a specific policy can an insurance company actually determine a fair and just rate. Meanwhile the public school administrator must make sure that money is not being wasted on excessive insurance premiums.

The types of coverage reported by the districts responding to this study are listed in Tables 23 and 24. All districts did not respond to all parts of the question. However, it should not be assumed that these districts do not carry the omitted types of coverage. A typical fleet insurance policy for the responding districts would include: \$300,000 top limit on

¹⁴ Featherston and Culp, op. cit., pp. 109-121.

public liability coverage; \$25,000 property damage; \$2,000 medical per person; \$100 deductible collision; and full coverage comprehensive.

A fleet insurance policy was being carried by the majority of the respondents to this portion of the instrument. Added blanket excess liability to a limit of \$2,000,000 was reported by four districts. Question as to the legality of including medical coverage was raised by one respondent.

Table 23. Fleet Insurance Coverage and Limits
Reported by Indiana Districts.

Type of Insurance	Top Limit	Number of Districts
Public liability bodily injury	\$ 100,000	14
	150,000	2
	250,000	1
	300,000	72
	500,000	26
	1,000,000	31
	1,500,000	1
	2,000,000 added excess liability blanket	4
Public liability property damage	\$ 500,000	3
	300,000	4
	250,000	5
	100,000	24
	50,000	31
	25,000	35
	20,000	2
	10,000	13
	5,000	1
	3,000	2
Medical, per person	Over \$5,000	9
	5,000	5
	3,000	2
	2,000	51
	1,000	25
	500	7
Under \$500	0	
Collision	Full Coverage	10
	\$ 1,000 deductible	1
	500 deductible	1
	250 deductible	13
	200 deductible	1
	100 deductible	61
	50 deductible	15
80-20	6	
Comprehensive	Full Coverage	102
	\$ 500 deductible	1
	250 deductible	2
	100 deductible	10
	50 deductible	8
80-20	1	

Table 24. Three Most Typical Types of Insurance Coverage Reported by Responding Districts, Listed by Top Limit in Classification.

Type of Coverage	Most Typical Coverage Top Limit	Second Most Typical Coverage Top Limit	Third Most Typical Coverage Top Limit
Bodily injury	\$300,000	\$1,000,000	\$500,000
Property damage	25,000	50,000	100,000
Medical per person	2,000	1,000	500
Collision	100 deductible	50 deductible	250 deductible
Comprehensive	Full coverage	100 deductible	50 deductible

Bus Storage

The modern advances in paint and metal preservatives have minimized the bus storage problem. Except in extremely severe weather conditions, buses can be stored outside without unreasonable problems of starting and extra warm-up periods. These latter problems can be further reduced by installing a very inexpensive motor heater in each bus so that starting is made relatively easy for the driver.

Of the 153 districts replying to the questions regarding school bus storage, 36 indicated that they stored all or a portion of their school-owned units. Only 11.1 per cent of the respondents paid extra to a driver for storing the school-owned unit. Of these, three districts paid 25 cents

per day, five between 26 and 50 cents per day, four districts between 51 and 75 cents, and two schools as high as 76 cents to \$1.00 per day. In addition, one school pays \$5 per month for summer months only. Another adds \$50 to the annual contract.

Maintenance and Service

Without a sound policy for bus maintenance followed by all drivers, waste and inefficiency will likely result in rising costs for repairs and replacements. Because of differences in local conditions, opinions vary concerning the number of buses a fleet should contain before facilities and personnel should be provided for maintenance. A long-range plan should be considered, as considerable capital outlay is involved in the initial stages. If local public garages cannot be retained on a "cost plus" basis, the school district with a limited number of units may find it profitable to establish its own maintenance facilities.

The policies of Indiana school districts reported in this study can be found in Table 25. The information reveals that relatively few of the responding districts made all of their bus repairs in a school-operated garage. The major portion of the group reported that the local mechanic was chosen by the district and that the driver of the school-owned unit then assumed the responsibility for following regular preventive maintenance procedures and for keeping the school transportation director and the mechanic informed as to the needs of the bus.

Table 25. Policies and Procedures on Bus Maintenance in Indiana School Districts.

Policy or Procedure	Number of Responses	
LOCAL REPAIR PROCEDURE		
All bus repairs made in school garage	19	
Minor work only done in school garage	8	
Local mechanic chosen by district	84	
 ANNUAL SALARY RANGE REPORTED FOR HEAD MECHANIC AND HELPERS HIRED FULL TIME TO MAINTAIN BUSES		
	<u>Head</u>	<u>Helper</u>
\$5,000 and under	2	3
5,001 to 6,000	6	3
6,001 to 7,000	11	5
7,001 to 8,000	6	1
Over 8,000	3	0
Misc. \$4 per hr. on call - 1		
\$2.75 per hr. - 1		

Cost may be a deterring factor in establishing a school garage. As shown in the table, three districts paid their full-time mechanics a salary of over \$8,000. The majority of the reporting districts indicated a salary of from \$6,001 to \$7,000. The next most popular grouping was the range of from \$5,001 to \$6,000.

Gasoline Purchasing Procedures and Costs

Table 26 contains information dealing with the current practices regarding the purchase of gasoline as reported by Indiana districts. Each district could check more than one choice in answering the question. Several districts utilized more than one method of purchasing gasoline since fleet

units were scattered over several square miles and it was not practical to service all buses from a central bulk storage tank. The respondents indicated almost an even split between purchases in bulk and purchases from a service station.

Table 26. Procedures Used by Responding Districts in the Purchase of Gasoline for Indiana School Buses.

Method Used in Gasoline Purchase	District Responses	
	Number	Per Cent
Bulk supply	71	51.4
Purchase from service station	67	48.6
Total	138	100.0

The price paid by the school district when gasoline is purchased is shown in Table 27. Districts were requested to report the price of gasoline per gallon exclusive of all taxes. Many more districts reported purchasing regular gasoline than premium. The most frequently mentioned bulk supply price for regular gasoline was from 19 to 20.9¢. The station prices of 23.0 to 24.9¢ and 27.0 to 28.9¢ were the most common charges.

Table 27. Cost of Gasoline Purchased by Responding Districts.

Gasoline Price Per Gallon	District Responses			
	Bulk Purchase		Station Purchase	
	Regular	Premium	Regular	Premium
35¢ and over				4
33.0-34.9¢			3	2
31.0-32.9¢			3	2
29.0-30.9¢			7	1
27.0-28.9¢			11	1
25.0-26.9¢	1		8	1
23.0-24.9¢	3		12	2
21.0-22.9¢	4	1	7	1
19.0-20.9¢	24	1		
17.0-18.9¢	12	2		
15.0-16.9¢	5			
13.0-14.9¢	10	2		
11.0-12.9¢	5	1		
Total	64	7	53	14

Since the cost of gasoline is a major factor in transportation budgeting, the fleet operator should know the approximate miles per gallon which the units of the fleet can expect for the school year. By far the most of the districts reported mileage rates for conventional units at between five and seven miles per gallon.

COSTS OF TRANSPORTATION

In comparing transportation costs among school districts, many variables have to be considered. Costs are affected by local conditions and policies. The driver's wage scale is normally a reflection of local wage levels. Road conditions in the community will also affect costs; narrow, winding roads slow the bus, and hilly terrain will add to the costs. The quality of service offered will have considerable effect on transportation costs. Some fleets are operated more efficiently than others, and policies on replacement and repair will add to the fleet costs if they are not properly studied and steps taken to correct weaknesses.

The number of buses assigned, the manner in which buses are routed, and the amount of double and triple seat utilization are among the factors which will have a great effect on fleet cost. The method used to meet capital outlay requirements and the specifications required on the new unit will influence the total amount being spent for transportation as this cost is compared with the general cost of education in the community.

According to Featherston and Culp, in 1933, 10 per cent of the pupils were transported at a cost of 3.5 per cent of the current expense of the district.¹⁵ By 1943, 19 per cent were transported for 4.7 per cent of the operating budget for the district.

Ten years later, in 1953, districts were transporting 32 per cent of the pupils, and an average of 5 per cent of the operating budget was needed. In 1961, 35.7 per cent of the enrollment was being transported with 3.6 per cent of the budget used. From 1933 to 1962 per pupil costs rose from \$19.00

¹⁵ Ibid., pp. 57-58.

to \$39.46. Since the \$19.00 of 1933 had inflated to \$44.30 by 1962, the actual costs of transportation per pupil can be considered to have lowered. Larger buses were being used, and the per pupil cost was more favorable. As reported earlier in this study, Indiana districts were transporting approximately 42 per cent of the public school enrollment.

In the 1965-66 study school districts were invited to respond to a question on the relationship between the total amount spent for transportation including capital outlay and the total budget for operation of the schools. The range of answers was from 1 per cent to over 20 per cent. The average response from 108 districts was 9.4 per cent. The figure reported when the total educational expense of the district was considered was an average of 6.9 per cent for 110 districts. The extreme ranges indicated by the reporting districts would tend to illustrate a common difficulty in obtaining cost information of comparable nature. Possibly, all districts did not follow directions in answering the question. However, with over 100 districts reporting, the inaccuracies should tend to balance one another and the average obtained could be a fairly accurate one.

Types of Ownership and Bus Costs

Statistics on the cost of operation of bus fleets contain so many variables that evidence concerning the most economical operation may be inconclusive. Even within a single district, the types of ownership may vary and, therefore, costs from year to year will also vary. To neutralize the variables as much as possible, several different approaches to costs have been used in this study. These are: cost per mile, cost per pupil,

cost per rated seat, cost per unit on route. In each case the average for the type of ownership has been figured. The responses have been grouped by region. The requested data included all costs reported on the original State Report Form 9-A, section II, except I-4, Capital Outlay. Schools were asked to include depreciation or to include replacement costs as reported in E-5 section of the state report, but not both.

Even if the districts failed to furnish comparable data, their records on the various types of ownership within their own district should be consistent for a given year. The majority of the districts entered costs for more than one type of ownership. One district in enrollment group 4 in the West Central region reported total costs of transportation with school-owned and privately owned units combined. Their costs were: per mile, \$1.03; per pupil, \$64.46; per rated seat, \$114.05; and per unit on route, \$7,466. These figures could not be included in the normal categories under study.

Table 28 summarizes the average costs in the four cost categories and for the types of ownership reported.

Table 28. Summary of Average Costs Reported in Four Categories Classified by Type of Ownership.*

Type of Cost Analysis	Type of Ownership					
	School Number Reporting	Cost	Jointly Reporting Number	Cost	Privately Reporting Number	Cost
Average cost per mile	116	\$.528	36	\$.593	84	\$.712
Average cost per pupil	114	45.38	34	58.56	67	68.26
Average cost per rated seat	114	53.41	63	66.62	83	74.26
Average operating cost per unit on route	106	34.62	29	3,741.00	73	4,201.00

* All costs reported in dollars and decimal parts.

When bus costs are being considered, the cost per mile is undoubtedly the most commonly used method of reporting. Yet this technique can be the most misleading of all the approaches made to school bus transportation cost. If a sufficient number of units and a wide span of types of routes are used as a base for calculation, mileage can be a good barometer of cost. However, if one route is pitted against another, or if a group of buses running on an express route from one outlying building to another where mileages are increased rapidly is compared to the normal route, a very biased report can result.

In Table 29, the school-owned unit showed a lower rate per mile for an average cost than other types of ownership. There were no jointly owned units reported in the southern tier of counties for the per mile category of cost study.

Table 30 considers the cost of operation per pupil transported. In making comparisons from one fleet to another or even from one bus to another, extreme caution should be exercised. The utilization of the bus comes into sharp focus in this type of cost accounting. A bus being used for a single load each morning and even then not completely filled will show a higher cost per student than the unit being filled two or three times which can be operated for approximately the same price. The size of the unit is the first indication as to the possible efficiency in terms of the per pupil cost. The 66-passenger bus has a much greater chance to show a lower cost in this type of computation than does the typical jointly or privately owned 48- or 54-passenger unit. As pointed out elsewhere in the study, the larger unit is favored by most districts buying new units. As highways improve even in the most rural areas, more and more large units will probably be used, and the per pupil costs should continue to be reduced. A significantly lower per pupil cost was reported for district-owned units.

Table 29. Average Annual Cost per Mile for Buses in Districts Responding, Classified by Type of Ownership and Tiers of Counties.

Cost per Mile	Type of Ownership		
	School Owned	Jointly Owned	Privately Owned
NORTHERN TIER			
.86 and over		2	5
.81-.85	1		
.76-.80	2		3
.71-.75	6	1	3
.66-.70	1		3
.61-.65	3	3	2
.56-.60	2	2	
.51-.55	7	1	
.46-.50	8	2	1
.41-.45	3	3	
.36-.40	10		
.31-.35	3	1	
.26-.30	2		
.25 and under	3		
Total	51	15	17
Average Cost Per Mile	\$.497	\$.576	\$.748
CENTRAL TIER			
.86 and over	3	4	7
.81-.85	1	1	2
.76-.80	1	1	2
.71-.75	5	2	0
.66-.70	3		2
.61-.65	4	1	4
.56-.60	3	2	7
.51-.55	6	3	3
.46-.50	5	2	1
.41-.45	6	1	

Table 29, Continued.

Cost per Mile	Type of Ownership		
	School Owned	Jointly Owned	Privately Owned
.36-.40	7	2	1
.31-.35	5	1	
.26-.30	1		
.25 and under		1	
Total	50	21	29
Average Cost Per Mile	\$.539	\$.604	\$.687
SOUTHERN TIER			
.86 and over	2		13
.81-.85			1
.76-.80			
.71-.75	2		5
.66-.70	1		3
.61-.65	2		7
.56-.60	1		4
.51-.55	3		4
.46-.50			
.41-.45	1		1
.36-.40	2		
.31-.35	1		
.26-.30			
.25 and under			
Total	15		38
Average Cost Per Mile	\$.596		\$.715
Total for State	116	36	84
Average Cost Per Mile for Entire State	\$.528	\$.593	\$.712

Table 30. Average Annual Cost Per Pupil Transported for Districts Responding, Classified by Type of Ownership and Tiers of Counties.

Cost per Pupil	Type of Ownership		
	School Owned	Jointly Owned	Privately Owned
NORTHERN TIER			
\$98.00 & over			2
92.00-97.99		1	
86.00-91.99			
80.00-85.99	1	2	3
74.00-79.99	2(1 leased)	1	2
68.00-73.99	3	1	2
62.00-67.99	7		3
56.00-61.99	6	1	
50.00-55.99	9	7	1
44.00-49.99	9	1	1
38.00-43.99	2		1
32.00-37.99	5		1
26.00-31.99	3		
25.99 & under	7		1
Total	54	14	17
Average Cost Per Pupil	\$48.83	\$62.78	\$66.62
CENTRAL TIER			
\$98.00 & over	1		
92.00-97.99			
86.00-91.99			2
80.00-85.99			1
74.00-79.99		3	1
68.00-73.99	1	2	3
62.00-67.99	2	2	1
56.00-61.99		6	2
50.00-55.99	9	1	1
44.00-49.99	5		

Table 30, Continued.

Cost per Pupil	Type of Ownership		
	School Owned	Jointly Owned	Privately Owned
\$38.00-43.99	10	2	
32.00-37.99	7		
26.00-31.99	3	3	
25.99 & under	6	1	1
Total	44	20	12
Average Cost Per Pupil	\$42.82	\$55.60	\$67.04
SOUTHERN TIER			
\$98.00 & over			5
92.00-97.99			4
86.00-91.99			2
80.00-85.99			2
74.00-79.99			3
68.00-73.99	1		4
62.00-67.99	1		4
56.00-61.99	1		3
50.00-55.99	1		3
44.00-49.99	2		2
38.00-43.99	2		3
32.00-37.99	3		2
26.00-31.99	3		1
25.99 & under	2		
Total	16		38
Average Cost Per Pupil	\$40.75		\$69.37
Total for State	114	34	67
Average Cost Per Pupil for Entire State	\$45.38	\$58.56	\$68.26

Another increasingly popular method of determining the cost of a fleet operation is based on the number of seats in the fleet at rated capacity of the various buses. This again favors the larger units and must be carefully evaluated when used either within a fleet or when comparing two fleets. In districts with a definite policy which restricts the use of the bus to not more than one trip in the morning, this cost will run very close to the per pupil cost. However, when the district utilizes a staggered schedule or in some manner permits two and three runs by a bus, the per pupil cost will show much more favorably against the rated seat cost, which is fixed.

Table 31 shows a decided advantage for the district-owned unit on a per-rated-seat basis. This can be accounted for by remembering that the district is now buying larger buses, and the private contractor and joint owner are operating more of the middle size units. In many instances the comparisons are made between the 60- and 66-passenger units owned by the district and 48- and 54-passenger units owned at least in part by the driver.

Table 31. Average Annual Cost Per Seat at Rated Capacity for Buses in Districts Responding, Classified by Type of Ownership and Tiers of Counties.

Cost Per Rated Seat	Type of Ownership		
	School Owned	Jointly Owned	Privately Owned
NORTHERN TIER			
\$98.00 & over	1		3
92.00-97.99	1	2	
86.00-91.99	1 (1 leased)		1
80.00-85.99	1	1	1
74.00-79.99	2	2	1
68.00-73.99	7	1	3
62.00-67.99	6	1	4
56.00-61.99	8	4	
50.00-55.99	7	2	1
44.00-49.99	7	1	
38.00-43.99	3		1
32.00-37.99	4		
26.00-31.99	2		1
25.99 & under	4		
Total	54	14	16
Average Cost Per Rated Seat	\$54.97	\$67.50	\$71.25
CENTRAL TIER			
\$98.00 & over	1	1	1
92.00-97.99	1		1
86.00-91.99		2	
80.00-85.99	3	1	6
74.00-79.99	1	1	10
68.00-73.99	2	3	4
62.00-67.99	6	3	3
56.00-61.99	3	4	
50.00-55.99	6	1	1
44.00-49.99	7	2	

Table 31, Continued.

Cost Per Rated Seat	Type of Ownership		
	School Owned	Jointly Owned	Privately Owned
\$38.00-43.99	5	1	
32.00-37.99	3		1
26.00-31.99	3	1	
25.99 & under	3		2
Total	44	20	29
Average Cost Per Rated Seat	\$52.77	\$66.00	\$71.14
SOUTHERN TIER			
\$98.00 & over	1		5
92.00-97.99			4
86.00-91.99			5
80.00-85.99	1		3
74.00-79.99			7
68.00-73.99			4
62.00-67.99	1		3
56.00-61.99	1		4
50.00-55.99	2		1
44.00-49.99	3		2
38.00-43.99	3		
32.00-37.99	2		
26.00-31.99	2		
25.99 & under			
Total	16		38
Average Cost Per Rated Seat	\$49.88		\$77.92
Total for State	114	63	83
Average Cost Per Rated Seat for Entire State	\$53.41	\$66.62	\$74.26

A quick and meaningful transportation cost figure can be secured by dividing the total cost of operation for each type of unit by the number of buses in that classification of ownership. As in the other types of costs under consideration, the larger the number of units in each class the more accurate will be the result. If one class of buses has several older units, probably smaller than the newer units, and also more likely to have been bid at a low figure in order to secure one more contract before retirement of the unit, the comparisons will be thrown out of balance. A careful look at the type, age, and method of determining the cost is very important as the "per bus" figure is attached.

Of the districts reporting costs in this type of measurement, as reported in Table 32, a decided advantage for the district-owned unit was noted. Considering district-owned units only, a school district could expect an average expense of \$3,300 to \$3,400 per unit and be within the cost ranges reported statewide. Data obtained in the study indicate that the average annual operating cost for jointly owned buses was approximately \$3,700 to \$3,800 and for the privately owned unit, about \$4,200 to \$4,300. If allowances are made for special local conditions which affect costs, these figures could be used as rules of thumb for quick budget estimates or as basic information to be used in computing additional costs incurred as a result of district boundary changes or the acquisition of additional units.

Table 32. Average Annual Operating Cost for Each Unit on Route for Districts Responding, Classified by Type of Ownership and Tiers of Counties.

Cost of Operating Each Unit	Type of Ownership		
	School Owned	Jointly Owned	Privately Owned
NORTHERN TIER			
\$4,400 & over	10 (1 leased)	2	13
4,200-4,399	7		
4,000-4,199	2	1	1
3,800-3,999	2	2	
3,600-3,799	7	2	
3,400-3,599	3	2	1
3,200-3,399	3	1	
3,000-3,199	3	3	
2,800-2,999	4	1	1
2,600-2,799	2		
2,400-2,599			
2,200-2,399	4		
2,000-2,199	2		
1,999 & under	4		
Total	53	14	16
Average Cost Per Unit	\$3,485.00	\$3,629.00	\$4,312.00
CENTRAL TIER			
\$4,400 & over	6	5	12
4,200-4,399	4	2	3
4,000-4,199	2		2
3,800-3,999	2		3
3,600-3,799	2	2	1
3,400-3,599	4	3	1
3,200-3,399	3		
3,000-3,199	1	1	
2,800-2,999	5	1	
2,600-2,799	1	1	

Table 32, Continued.

Cost of Operating Each Unit	Type of Ownership		
	School Owned	Jointly Owned	Privately Owned
\$2,400-2,599	4		
2,200-2,399	1		
2,000-2,199	2		
1,999 & under	2		
Total	39	15	22
Average Cost Per Unit	\$3,541.00	\$3,846.00	\$4,272.00
SOUTHERN TIER			
\$4,400 & over	2		20
4,200-4,399	1		1
4,000-4,199			2
3,800-3,999			3
3,600-3,799			2
3,400-3,599	1		3
3,200-3,399	2		1
3,000-3,199	3		2
2,800-2,999			
2,600-2,799	2		
2,400-2,599			
2,200-2,399			
2,000-2,199	2		1
1,999 & under	1		
Total	14		35
Average Cost Per Unit	\$3,157.00		\$4,106.00
Total for State	106	29	73
Average Operating Cost Per Unit for Entire State	\$3,462.00	\$3,741.00	\$4,201.00

An overview of Figures 6, 7, 8, and 9 will give a perspective of the relationship of the average costs as reported in the study for the various types of ownership and in the tiers of the state. By observing the location of the plain line symbol representing district ownership in relation to the position of the other lines it is quite apparent that district ownership was the least costly method in the districts responding to this study.

Figure 6 illustrates how the average cost per mile varies with the ownership and region.

The average cost per pupil transported is plotted in Figure 7. A wide margin existed between the plot for the district-owned unit and that for the privately owned bus. This situation can be explained in part by the district's tendency to purchase larger buses and haul more children per trip in recent years. The private contractor has not been so quick to make the larger investment and many of the 48- and 54-passenger units have been in use for several years. When the fleet can be outfitted with 60-, 66-, and even the 73-passenger buses, the cost per pupil should be lowered.

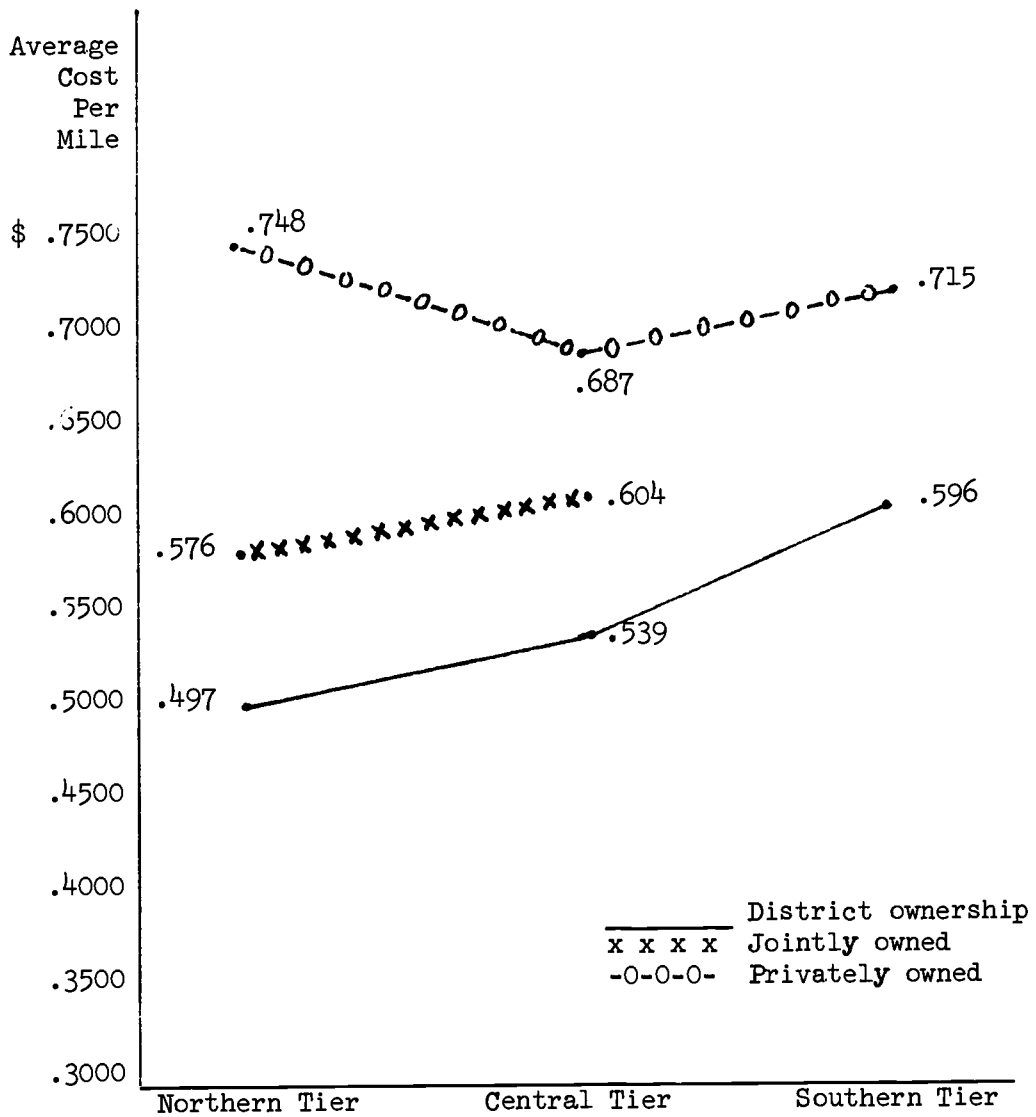


Figure 6. Average Cost Per Mile Reported by Types of Ownership and Tiers of the State.

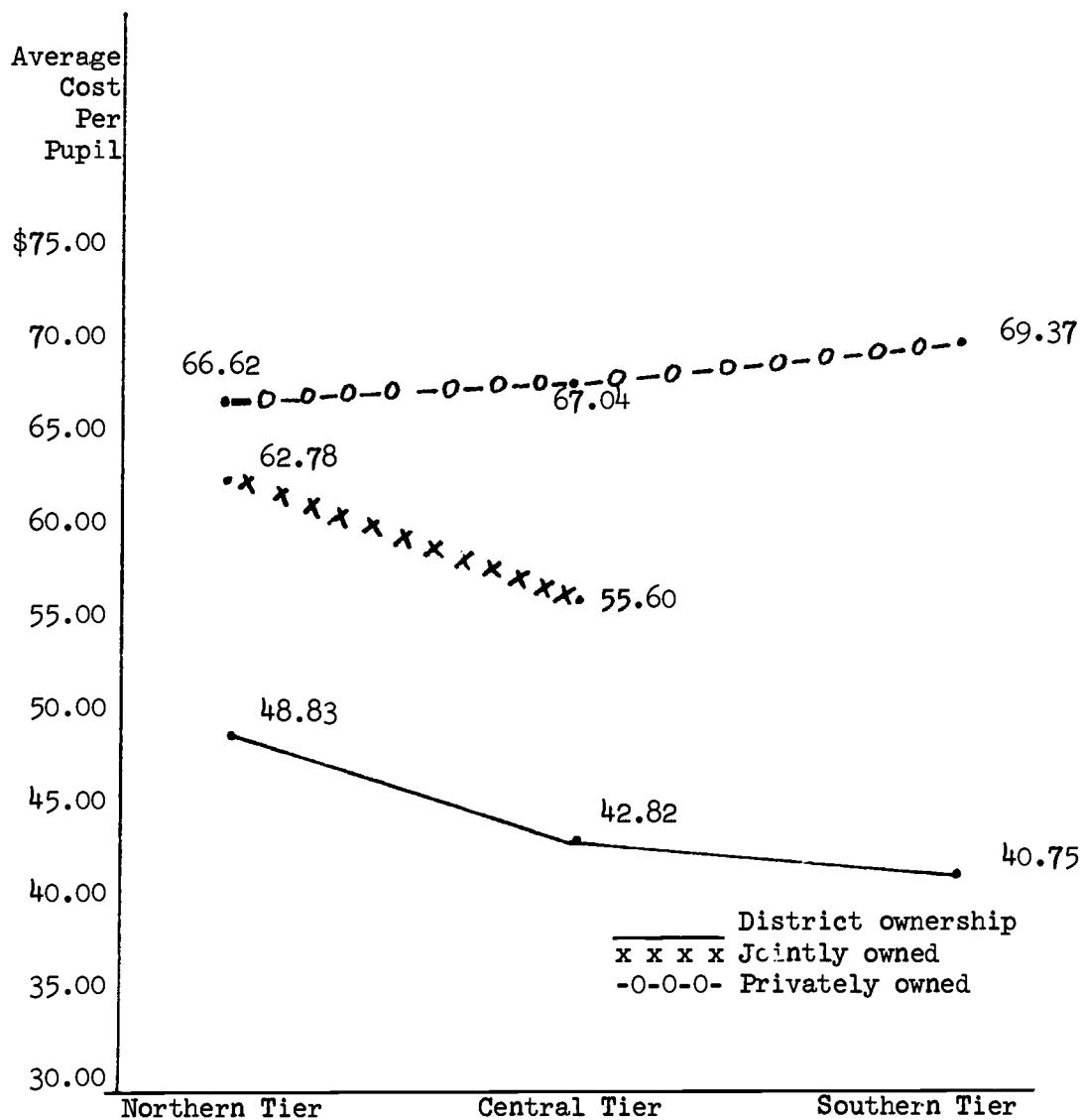


Figure 7. Average Cost Per Pupil Transported Reported by Types of Ownership and Tiers of the State.

In considering the cost per rated seat, the reference is to the rated capacity of the bus with three pupils to a seat. The cost per rated seat may be higher than the per pupil cost since the seats are quite often filled more than one time.

Figure 8 illustrates the plot for rated seat costs. Note that the district-owned unit displayed wide margins of savings over the jointly owned or privately owned unit. Of all the cost studies included in this report, only in this particular analysis did the jointly owned unit and the privately owned bus come to close proximity in cost average. This was a natural outgrowth of the same reasoning previously reported, since the jointly owned and privately owned buses tended to be grouped at the 48- and 54-passenger level on a statewide basis. In the northern region a preference was shown for the larger unit, even with jointly or privately owned buses.

Figure 9 shows the average annual cost of operation per unit, with the district-owned bus reported as the most economical to operate. In the northern tier, the privately owned unit was costing an average of over \$800 more to operate per year, while in the central tier the gap was narrowed only slightly. Again in the southern tier over \$600 separated the two types of ownership. As was the normal pattern, the jointly owned unit appeared between the district-owned and privately owned buses.

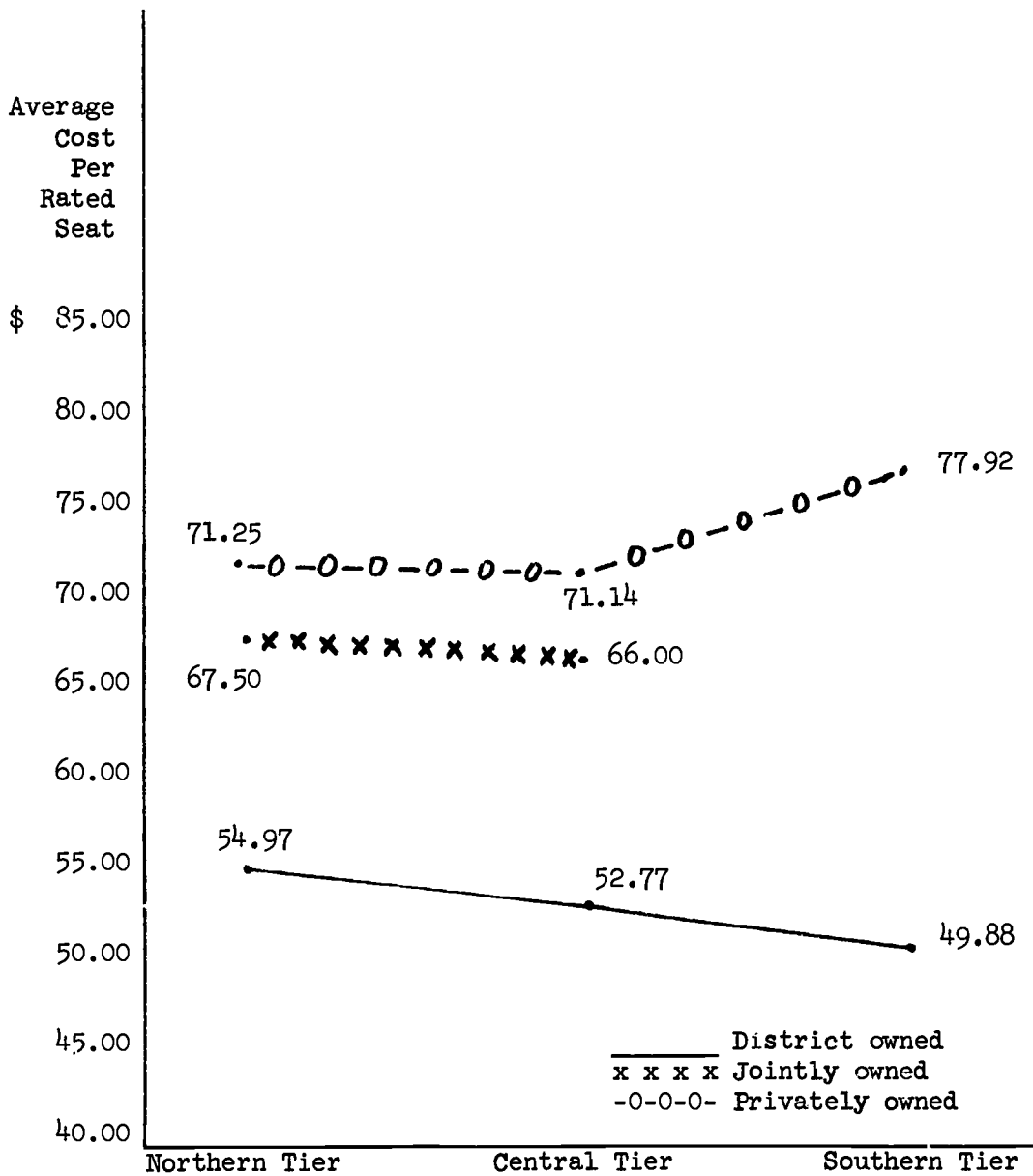


Figure 8. Average Cost Per Rated Seat Reported by Types of Ownership and Tiers of the State.

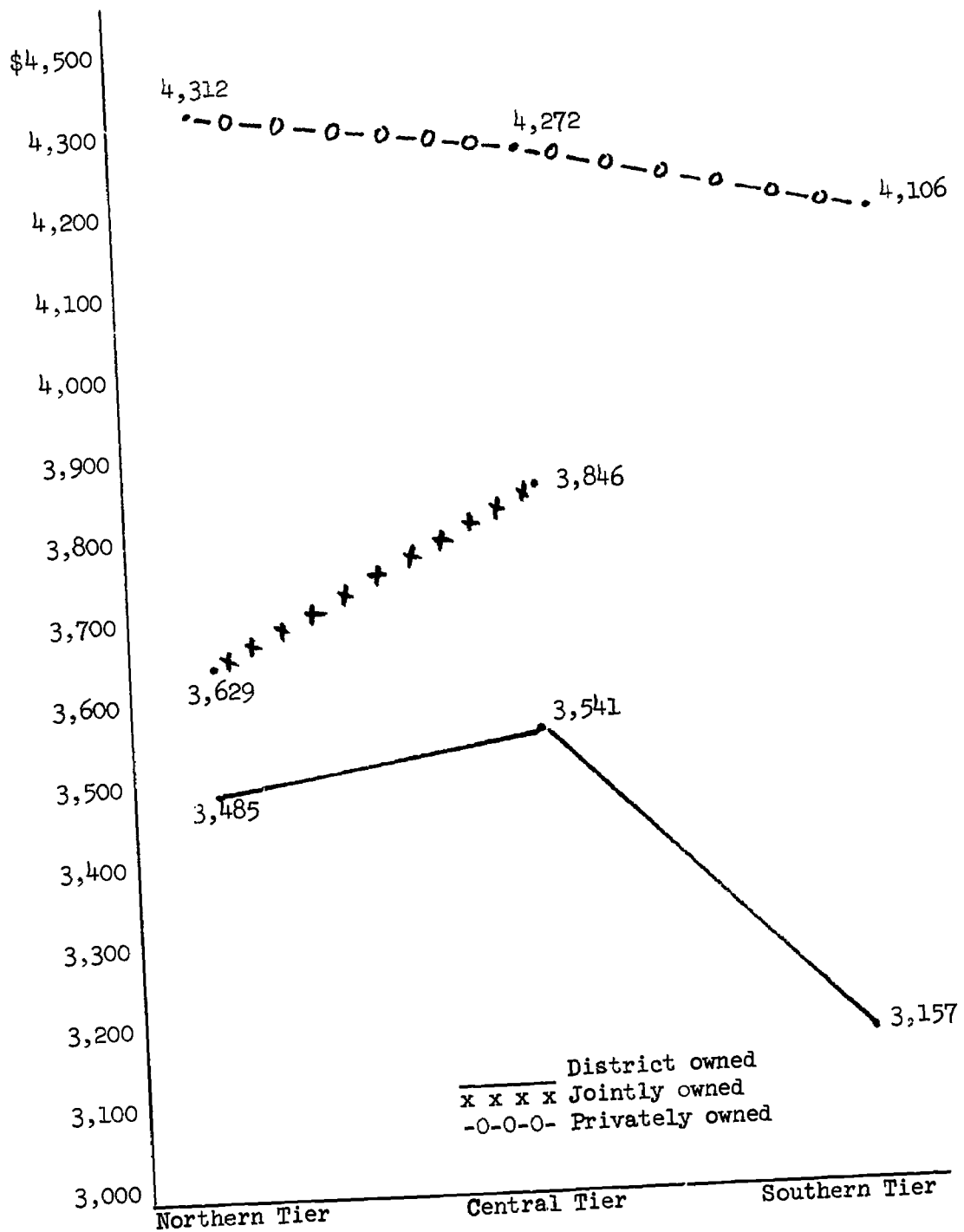


Figure 9. Average Cost of Operation for Each Unit on Route by Types of Ownership and Regions of the State.

THE TRANSPORTATION DIRECTOR

Title

Of the 170 districts responding to this portion of the study, 78, or 45.9 per cent, indicated that the superintendent was in charge of the transportation program, and that there were no other personnel assigned to carry out this function. In reply to the question regarding the title of the person responsible for transportation other than the superintendent, respondents answered: assistant superintendent, 20; administrative assistant, 14; business manager, 10; and director of transportation, transportation director, superintendent of buildings, grounds, and transportation, supervisor of transportation, assistant business manager, director of transportation and food service, visiting teacher, general assistant superintendent, assistant superintendent for special services, maintenance supervisor, director of business affairs, manager of buildings, grounds, and transportation.

A study closely related to the analysis of the position of transportation director in responding schools was conducted by Jordan and Richardson as they reported on the school business manager, his title, job description, training, and salary, and other aspects of the position.¹⁶ They indicated that the most common title used was that of "business manager"; that the second most used title was "assistant superintendent"; and that next came "administrative assistant." Since the study included all schools who

¹⁶ Jordan, K. F., and Richardson, Gail, "School Business Management Personnel in Indiana Public Schools -- 1966," Indiana School Boards Association Research Bulletin No. 20, 12 pp.

employed a person or persons working with the superintendent in an administrative capacity, no direct reference was made to a "transportation director." In the review of the duties performed by the "business manager," 72.0 per cent of the respondents to the Jordan and Richardson study listed transportation as one of their responsibilities.

Other Duties Assigned to the Transportation Director

In a report from 92 districts, seven areas of work ranked considerably above all others when considering the assignments made to the person directing the transportation program. In order, with the number of reports listed, they were: buildings and grounds, 54; purchasing agent, 43; federal programs, 27; general business duties, 21; budget administration, 21; food service, 20; new construction, 16. Other duties listed were: extra-curricular accounting, athletic manager, officer manager, book rentals, attendance, social service, insurance, audio visual, visiting teacher, safety and security, junior high school principal, data processing, and elementary principal. Only nine districts reported that the transportation director had no other duties. These reports were primarily from large school districts.

Estimate of Time Spent on Transportation

In most instances, the person in charge of transportation had been responsible for completing the instrument used in this study. Of the 93 districts responding to this section, there was a clear-cut line of decision in favor of 10 to 20 per cent of a day being spent on transportation administration. Next in line was the 25 per cent answer. It was evident that the problems of the bus fleet occupied an important portion of this administrator's

Salaries of Transportation Directors

The salary of the person in charge of transportation was analyzed in terms of the method used to determine it. Of the 92 districts responding that a person other than the superintendent handled transportation, 67 had salaries open to board negotiation, 20 indexed to teachers' schedules, and five reported direct relationship to the superintendent's salary.

CONCLUSIONS

The conclusions fall into two divisions: those relating to the reporting method and those relating to the conclusions drawn from the results of the status report.

Reporting Method and Use of the Instrument

The following conclusions were drawn:

1. The apparent lack of established policy in several areas can be attributed to insufficient administrative assistance and lack of time for planning. School districts with from 1,000 to 3,000 pupils tended to be administered by only one person, who had little time available for record keeping.
2. A continuing study of fleet operations could become an important help for directors in evaluating the local program. A regular reporting system is needed, with the director aware of the types of records needed to provide a sound reporting system.
3. Response indicated that a report based on the same policies, procedures, and costs would be a point from which to build a regular reporting procedure.
4. Indiana has an excellent opportunity to assume national leadership in developing a continuous transportation study and reporting system.

Status Report Resulting From Use of the Instrument

The findings resulting from the use of the instrument appear to justify the following conclusions:

1. Transportation has taken a prominent place in the school program.

2. Responding districts have not developed definitive policy positions on transportation of parochial children.

3. The distance used in determining eligibility for state transportation support had a direct bearing on the nature of the program provided for junior and senior high school pupils, since districts tended to follow the formula distance of one and one-half miles. However, at the elementary level, local funds were used to a greater extent because the minimum transportation distance was less for these pupils.

4. Local districts will consider giving more kindergarten transportation service when added state support is offered. School boards must weigh the added cost of bus service against the effect upon the non-kindergarten child as he enters a first grade composed mostly of kindergarten graduates.

5. Bus utilization figures indicated the need for local study of routes, starting times, and methods of increasing seat usage. For example, uniform starting times for all buildings impose restrictions on bus scheduling. Capital outlay costs might well be reduced by investigation of this policy.

6. Since men with no other school duty drive most of Indiana's school buses, more women may be utilized and more fringe benefits offered as the labor market tightens. Because men at age 65 are retired from driving in most districts, there is an excellent opportunity for these men to be placed in other transportation-related positions such as bus servicing and maintenance, crossing guards, route trouble shooter, substitute driver instructor, and driver safety supervisor.

7. Pay schedules which recognize the responsibility added to the

driver of a larger bus used for more than one route, as compared to the smaller single route unit, are becoming more prevalent.

8. Only in heavily populated areas can the cost of from 6 to 10 additional seats in the transit-type bus be justified; the study indicated that the 66-passenger unit was the most economical to operate.

9. Safety has been the prime objective of specification changes as districts tended to follow the lead of state committees.

10. As raises in insurance limits are considered, school boards should be aware of the practical limits of insurance coverage for their community, making certain that the transportation units, the students, and the people they represent are properly protected.

11. Even though definite opinions were expressed justifying a bus maintenance garage for 16 to 30 units, only a small percentage of respondents were putting this opinion into practice. A study of costs, based on a bus-by-bus record, should be the basis for a decision to establish a school garage.

12. Although bulk supply purchase of gasoline was found economical, local conditions regarding supply area, supervision, bus accessibility, and the difference between station price and bulk price must be considered.

13. In the very near future bus size will be predominantly 60 and 66 passenger, since units of that size were the most commonly specified at the time of this study.

14. District ownership of buses was gaining favor as judged by a comparison of stated preferences with actual practice.

15. Indiana fleets operate most economically with district-owned buses. Four categories of costs reported from 166 districts justified this conclusion.

16. Added administrative problems in transportation have created a need for specialists. The transportation director has earned a place on the "team" and should continue to exercise influence in policy determination for the total educational experience of the child.

RECOMMENDATIONS

The following recommendations are made regarding the reporting methods and further use of the instrument.

1. An expanded annual transportation report should be sponsored by an agency dealing directly with the school administrator on an official basis, such as the Indiana State Department of Public Instruction.

This annual cost analysis should be made immediately after the major year-end report of school income and expense is completed June 30, and the two reports should be constructed so that classifications on the year-end report become the starting point for the detailed analysis of fleet costs.

2. Further study should be made into the specific statistical items which would be most helpful to the transportation director.

3. In addition to cost reporting, a regular series of status reports should be utilized regarding policy on various aspects of transportation management.

4. The report of transportation policies, procedures, and costs in this study should be reviewed to evaluate the items and their usefulness to the transportation director.

5. The State Department of Public Instruction should be encouraged to conduct a continuing study as outlined.

6. The instrument used in this study should be used as a guide in preparing future questionnaires, and the design could be adapted to the use of data processing equipment. By using this technique, possible answer limitations can be predetermined and coded accordingly, thus making it

possible to construct a shorter instrument to cover more detail within the general areas recommended for study.

7. By comparing the study made in 1966 with the current 1968 phase, it becomes increasingly evident that schools are doing more record keeping and paying more attention to detail and policy. It is the considered opinion of the author that the effort expended to make information available to the transportation director by means of these reports has been appreciated by the men in the field. One example stands out, that of the number of reports on bus operating costs in 1968 compared to 1966. With the exception of two areas of privately owned unit costs, the number of cost reports in 1968 exceeded those in 1966. In several instances, 1968 replies doubled and tripled the 1966 cost responses even though 17 less instruments were returned.

It is urgently recommended that the transportation directors be provided this tool on a regular basis so that their programs may be evaluated.

BIBLIOGRAPHY

- Featherston, E. Glenn, "Problems in the Field of Pupil Transportation," Proceedings, Association of School Business Officials of the United States and Canada, October, 1960, p. 222.
- Featherston, E. Glenn, and Culp, D. P., Pupil Transportation, State and Local Programs, Harper and Row, New York, 1965, 263 pp.
- Hill, Frederick W., and Colmey, James W., School Business Administration in the Smaller Community, T. S. Denison and Co., Inc., Minneapolis, 1964, 324 pp.
- Indiana, Department of Public Instruction, Report of Statistical Information for Indiana School Corporations, 1964-65, The Department, Indianapolis, 1965, 125 pp.
- Indiana School Bus Standards and Specifications, The Department, Bulletin No. 260, Indianapolis, March, 1962, 39 pp.
- Indiana General Assembly, Acts of 1965, Chapter 260, House Enrolled Act, No. 1924, reproduced by the Indiana School Boards Association.
- Jordan, K. Forbis, and Richardson, Gail, "School Business Management Personnel in Indiana Public Schools -- 1966," Indiana School Boards Association Research Bulletin, No. 20, June, 1966, 12 pp.
- Mann, Herrold V., "Bidding Procedures," Proceedings, Association of School Business Officials of the United States and Canada, October, 1961, p. 342.
- Porter, John D., "Preparation of Bidding Documents and Awarding of Contracts," Proceedings, Association of School Business Officials of the United States and Canada, October, 1965, p. 248.

APPENDIX

**Methods of Computing Pay
for
Indiana Bus Drivers,
School-Owned Units,
1967-68 School Year**

Methods of Computing Pay of Drivers
for School-Owned Units:

1. \$6.75 per day and 12 $\frac{1}{2}$ ¢ per mile
2. \$8.00 per day and 10¢ per mile
3. \$9.50 per day plus 75¢ for shuttle; 2nd route - \$3.25
4. \$5.00 plus 10¢ per mile
5. \$8.75 regular route plus \$3.00 for shuttle
6. \$9.00 for elementary run plus \$1 for high school
7. \$7.00 per day for custodian also driving
8. \$7.50 for each driver
 - 7.75 if store bus
 - 8.00 if have to go over 1 mile to get bus
 - 10.50 for run and shuttle
9. \$11.25 plus \$4 for K run
10. \$7.50 per day
11. \$4.00 per hour
12. \$4.00 per day extra for custodian, 1 hour overtime
8.00 per day for 2 hours overtime
13. 1st 2 hours - \$4.35
Other hours - \$3.35
Allow 30 minutes for maintenance
14. \$11.50 per day for 3 hours maximum
3.66 for overtime
5.75 per day for K middle of day run
15. \$11.50 per day plus 50¢ extra for each year of driving
16. \$9.00 plus 6¢ plus \$2.50 for extra run
17. 50¢ less a day for beginner
18. Custodian - \$5.00 extra
19. 0 years - 12 x 10% extra
1 year - 13 x 10% extra
2 years - 14 x 10% extra

20. 0 years - \$10
 1 year - \$11
 2 years - \$12
21. 30 miles and up --- \$13.65
 25-29.9 --- 13.40
 20-24.9 --- 12.90
 15-19.9 --- 12.65
 10-14.9 --- 12.15
 7- 9.9 --- 10.90
 6.9 & under --- 10.00
22. 1 year - \$15
 2 years - 16
 3 years - 17
 4 years - 18
23. 0 years - \$15
 1 year - 16
 2 years or more - 17
24. \$7.50 base plus 10¢ mile plus 1¢ per student
25. \$10.00 per day for 3 hours; overtime at same rate
26. \$10.00 per day flat
27. \$ 9.00 per day, 1st 2 years
 12.00 per day, after 2 years
28. \$8.00 plus 50¢, less than 20 miles
 1.50, 20-40 miles
 2.50, 41-60 miles
 3.50, 61 & over miles
29. \$7.00 per day plus 6¢ per loaded mile - 1st route
 1.50 per day plus 8 $\frac{1}{2}$ ¢ per loaded mile for second route
30. \$7.00 base plus 3¢ per stop
 1¢ per student
 10¢ per mile one way
31. \$9.50 plus 10¢ per mile one way
32. \$10.00 plus 10¢ over 25 miles
 1.15 for express run
33. \$3.50 per hour
34. $\frac{1}{2}$ of custodian salary for driving

35. \$4.00 plus 12¢ per mile from 1st pick up
36. \$8.50 plus 5¢ over 15 miles, home to home
37. \$9.25 plus 10¢ over 40 miles
38. \$10.00 plus \$3.50 for shuttles
39. \$11.00 per day
40. \$10.00 base for 35 miles
8¢ - 36-55 miles
10¢ - over 55 miles
41. \$11.00 - 30 miles
10¢ mile over 30 miles
42. \$8.00 base plus 8¢ mile home to home
43. \$7.25 plus 8¢ mile, 1st route
3.50 plus 8¢ mile, 2nd route
5.25 plus 8¢ for combination route
3.00 plus 8¢ for K run
1.75 for shuttle run
44. \$3.50, 1st 4 hours
3.00 per hour over 4 hours
45. 1 hr - \$ 3.00
2 hr - 6.00
2½ hr - 7.50
¾-4 hr - 7.50
5 hr - 10.50
6 hr - 13.50
6½ hr - 15.00
6½ plus - 15.00
46. \$18.15 - single trip
19.65 - double trip
- | | | |
|-----|------------------------|-------------------------|
| 47. | 0-19.9 miles - \$ 9.00 | 45-49.9 miles - \$12.60 |
| | 20-24.9 " - 9.60 | 50-54.9 " - 13.20 |
| | 25-29.9 " - 10.20 | 55-59.9 " - 13.80 |
| | 30-34.9 " - 10.80 | 60-64.9 " - 14.40 |
| | 35-39.9 " - 11.40 | 65-69.9 " - 15.00 |
| | 40-44.9 " - 12.00 | |
48. Up to 35 miles --- \$ 9.50
35.1-40 miles --- 10.00
40.1-45 miles --- 10.50
45.1-50 miles --- 11.00
50.1 and up --- 11.50
49. \$6.50 base plus 7¢ per mile
5¢ per day for each year experience