SOME PRACTICES IN WESTERN KANSAS SCHOOL BUS TRANSPORTATION

by

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CHAPTER 1

INTRODUCTION AND RELATED MATERIAL

Noble gives three distinct periods of development in the process of pupil transportation. They are:

1. The era of private methods of transportation.
2. The era in which the concept of transportation as a public rather than a private responsibility had its beginning.
3. The era of motor bus transportation.

The era of private methods of transportation was a compromise between taking the school to the children and taking the children to school. It was the method used for the parents and grandparents of today's children. Because of the great distance encompassed by the frontier, many rural schools were built, but with the many small districts it was still necessary for children to travel as much as ten miles to get to school.

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Since 1920 the movement to consolidate the many rural school districts into a larger, centrally located school has gained momentum. The improvement in means of transportation and in roads has contributed to the gradual elimination of the one teacher rural school.

Noble gives 1869 as the date when the first transportation law was passed and the beginning of the second era. The legislature of Massachusetts passed an act which authorized local communities to tax themselves for the transportation of pupils. The act gained its importance from the fact that it established pupil transportation as a legitimate part of the community's taxation program. Thus 1869 became the year in which pupil transportation began to be regarded as a public rather than a private responsibility. As time has gone by, every state has assumed the responsibility to transport rural children to school at public expense.

Prior to 1900 school transportation was in an experimental stage. "Kid hacks" were drawn by horses and used in some localities. Slowness of travel, inclement weather, and poor roads made any extensive program of such pupil transportation difficult.

Noble, op. cit., p. 2
After 1900, the automobile and the school bus contributed to the phenomenal growth in pupil transportation at public expense. The era of motor bus transportation had arrived by 1920.

The development of transportation in Kansas was made possible the law of 1897 which provided for the consolidation of rural schools. The Twenty-first Biennial report of the State Superintendent of Public Instruction of Kansas for the years 1917 and 1918 contains a statement that more adequate provision had been made for transportation of pupils living at a distance from school. The report contains a picture of the Garfield, Kansas consolidated school with conveyances for transportation of pupils. The photograph contains five or six open cars and one very crudely enclosed box-like structure on wheels. The next biennial report of the State Superintendent contains a section on the consolidation of Kansas schools in 1920. The report states that at the time of the 1918 biennial report, there were one hundred and nine such schools which had combined a total of three hundred smaller schools. The report states that consolidation received such impetus as had been heretofore unknown.

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3 Kansas Twenty-First Biennial Report of the State Superintendent of Public Instruction for years 1917-1918, Topeka, Kansas, 1918, p. 15

The reason given was better roads, easier and more comfortable transportation, shortage of efficient teachers, small enrollments in the rural schools and lack of interest in such schools. The report has a number of pictures of various consolidated schools showing the very early type school bus that was used in Kansas. The Twenty-fourth Biennial Report of the State Superintendent of Public Instruction of Kansas contains a summary report of all schools reporting transportation in Kansas for September, 1924. Sixteen schools were reported. They were: Brewster, Brownville, Bucklin, Colby, Gem, Holcomb, Menlo, Monument, Oakley, Palco, Plains, Protection, Quinter, Rexford, Weskan, and Winona. Eighty one buses were reported in use and they traveled 60,978 miles during the month.

The evidence of the above reports points to the year of 1920 as the turning point in the History of bus transportation for Kansas school children. In 1924, the state had sixteen schools using 81 buses as a means for transportation of school children.

The United States Office of Education Biennial Survey of Education for 1946-1948 shows that Kansas transported 40,000 children in 1765 school vehicles at a public expenditure of

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$2,990,000 and an average cost of $75.22 per pupil transported for 1947-1948.\textsuperscript{6} The yearly expenditure did not include capital outlay. A mimeographed form published by the Office of Education for 1949-1950 shows that Kansas transported 48,977 pupils in 2,097 publicly owned vehicles at a public expenditure of $3,740,423.\textsuperscript{7} This was an increase of about 9,000 pupils, 300 vehicles and $750,000 over a period of two years.

The United States Office of Education Biennial Survey for 1946-1948 shows a rapid national increase in consolidation of schools since 1929-1930.\textsuperscript{8} In the school year 1929-1930, the report shows 1,48,000 one teacher schools in the United States. By 1947-1948 this number had fallen to 75,000. This was a decrease of fifty percent. Transportation increased from nearly 2,000,000 pupils transported at public expense in 1929-1930 to nearly 6,000,000 in 1947-1948. During the same period the annual expenditures for pupil transportation in the nation increased from $55,000,000 to $176,265,000. A total of


\textsuperscript{8}United States Office of Education, op. cit., p. 2
104,835 publicly operated school vehicles was reported for 1947-1948. The report states that public school pupils transported at public expenditure could be expected to increase in the future. This prophecy is fulfilled in the 1949-1950 mimeographed form published by the United States Office of Education which shows 6,980,689 children transported in 115,205 vehicles at an annual public expenditure of $204,611,283.9 This is an increase of a million students, 10,000 vehicles and $28,000,000.

The growth of transportation of school pupils within the last fifteen years is little less than phenomenal. Transportation of school children at public expense is now a major activity of school districts.

Reeder gives the following reason for the rapid growth of pupil transportation at public expense.10

1. The accumulating evidence that consolidated schools with better trained staff provide better educational opportunities than one teacher schools.

2. Widespread migration of population from rural districts to cities, leaving thousands of rural schools with small enrollments and the necessity to close some of them because of high pupil costs.

3. Enlarging school districts, thus making better and easier the consolidation of schools. Thousands of districts have been merged during the last few years.

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9United States Office of Educ. op. cit., page 1

4. The advent of the automobile and good highways thus making it possible to bring pupils together quickly and safely over distances which were before in accessible to travel.

5. The enactment of state laws which permit or require the consolidation and transportation and which some times give state aid for this consolidation and transportation.

6. The granting of millions of dollars by the federal government during recent years for the construction of consolidated schools.

The philosophy back of this vast enterprise is based in the American belief in the inherent value of the individual. Democratic government grants each individual equality of freedom opportunity to participate in making decisions on matters of group or individual concern, and equality of obligation or responsibility to abide by such decisions and carry them out. 

Sovereignty rests in the people, therefore the welfare of the state depends on the intelligent solution of political problems. To achieve this end, the pioneers established schools. The belief in education is one of the fundamental principles upon which this country has been established. The Federal Constitution in the first amendment guarantees freedom of speech, press, and the right of the people to peaceably assemble. Freedom and encouragement of education and research are assumed from this guarantee.

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The State of Kansas in Article VI, Section 2 of the Constitution has the following mandate:

The legislature shall encourage the promotion of intellectual, moral, scientific and agricultural improvements by establishing a uniform system of common schools, and schools of higher grade, embracing normal, preparatory, collegiate, and university departments.

Believing in the necessity of education as a cornerstone of successful democratic government, and individual welfare, the men responsible for the success of this venture were faced with the question of getting the children to school. The Missouri handbook for pupil transportation gives a logical approach to the cause for and the reasoning behind our thinking on pupil transportation. 12

The transportation of school children has played an important role in the development of the American philosophy of universal education. More than a century ago, educational leaders recognized that adequate schools could not be provided within walking distance of all children. To meet this situation school transportation was begun. Today the primary purposes of school transportation at public expense include the following: to equalize the educational opportunities for all children, provide means by which children can reach school under safe and healthful conditions, provide education of children in the most economical manner, and to develop satisfactory school centers which will afford attendance units large enough to justify broader educational facilities.

12 Missouri, Pupil Transportation Laws, Regulations and Standards, Publication No. 73, State Department of Instruction, Columbia, Missouri, 1951, p. 5
School transportation has become a part of the day to day experience of a large and increasing number of children. The administration should be aware of the social aspects of transportation, and the many valuable opportunities afforded by the daily experiences to relate classroom instruction to life situations. Through the provision of better education for children, the best interests of society are also being served.

Following the national pattern, the trend is definitely toward enlarged school districts. With the adoption of reorganized school districts, the transportation of children becomes imperative. Transportation is an auxiliary service only in the sense that it helps make actual instruction available to children. From the administrators viewpoint, it is an essential part of the overall school program that requires constant supervision and direction. Perhaps no other phase of the school program is more closely observed by the lay public or has greater tendency to mold public opinion toward the schools than the transportation facilities provided for the children. One of the objectives in the planning for a greater equality in the educational opportunities for all children must be an effective transportation program.

Tate says that the government has an obligation to furnish transportation and lists it as a proper function of the state.\(^{13}\)

Improvement of pupil transportation will be based on carefully collected facts as Butterworth points out in his book.\(^{14}\)

The administration of pupil transportation is both an art and a science. It is an art in so far as the

\(^{13}\) Tate, N.G., *The Administration of Pupil Transportation in the Public Schools in New Mexico*, (Unpublished Doctor's dissertation, University of Southern California, Los Angeles, 1951.)

administrator in meeting his various problems depends upon general observation and judgment. It is a science in so far as pertinent facts are carefully collected, sifted, and organized as a means of establishing principles of action and perfecting techniques for applying these principles to the development and execution of transportation policies. Although art is commonly the only basis for action in the early stages of dealing with any problem, its complete elimination will seldom take place no matter how fully the science may be developed.

The art of pupil transportation is important and pertinent in an organization, but to depend on art alone as has too often been done in this field leads to a situation described by Theodore L. Reller, editor of the Guide to Action Series, in his introductory note for Butterworth's book. 15

The problem of safety in the transportation service is of greatest importance. In many school districts, conveyances are old, without adequate safeguards, checked poorly and irregularly, and operated by men with too little understanding of the weighty responsibility which is theirs. Able manipulators of conveyances frequently fail to understand and are unable to utilize the educational opportunities connected with transportation.

Authorities have long urged the collection of statistics on pupil transportation in order that a better approach could be made toward the solution of the problem of safe, economical, efficient, comfortable,

15Ibid., Editor's note
pupil transportation. Butterworth's plea in an example.16

During these years especially when we seem to be making so much progress in transportation, it would be useful if some large governmental unit, the state or preferable the United States Office of Education were to present standards of practice in regard to such matters as length of haul, time on road, size of vehicle, type of vehicle, distance pupils walk to meet the vehicle, methods for protecting the pupil until the vehicle arrives, salaries, amount of insurance carried, frequency of inspection of buses, and numerous other practices. The data should be so organized as to show averages, deviations, and ranges for the several states or groups of states where conditions are more or less similar. Such data with interpretative comments would act as stimulators to thought and guides to action; they could not be accepted as standards to be slavishly followed. Unfortunately, few data of this type are at present available.

Since the above was written, there has been a move to establish national standards. The most notable effort was the meeting held in Jackson's Mill, West Virginia in October 1948, under the sponsorship of the National Education Association, and the United States Office of Education. This meeting according to Roy K. Wilson, stressed the necessity for standards for school bus construction and driver training programs.17

The Eighteenth Yearbook of the American Association of School Administrators reports that the authors collected the following information from unpublished data in 1938. Thirty six states had thirty six school buses

16 Ibid., p. 4

involved in fatal accidents. There were 493 buses involved in non-fatal accidents, and the total accidents reported for the school session amounted to 850 including 42 fatalities. This is an average of four accidents a day. 18

The National Safety Council reports the number of accidents in twenty-four states in 1950, but says that twenty-four other states do not have sufficient nor adequate reports to permit tabulation of accidents to be made. 19

The above reference shows twenty-seven bus passengers killed and 864 injured in 1950. There were 63,399 buses involved in 2,105 accidents. If pupils are to travel safely in school buses, according to the National Safety Council, close attention must be given to the following:

1. The type of vehicle in school service.
2. A sufficient number of standard vehicles.
3. Trained and supervised bus drivers.
4. Safety educated pupil passengers.
5. Standard, well publicized and continuously enforced legislation governing the actions of motorists approaching school buses stopped to load or discharge pupil passengers.

The assistant engineer of safety for the Kansas State Highway Commission furnished the following information from the office files.

18 American Association of School Administrators, Safety Education, Eighteenth Yearbook, Washington, D. C., 1940
Drivers of Kansas school buses had seventeen accidents last year. All accidents were motor vehicle-motor vehicle except one in which brakes failed to work. There was one head-on, one sideswipe and the rest were right angle accidents.

If all pertinent facts relating to school bus transportation were collected, analyzed, interpreted and then placed in the hands of responsible school authorities and state legislators, the authorities would have data to guide them in setting up a more efficient, safe, economical and comfortable transportation system.

Some of the southern and eastern states have realized that careful treatment and consideration of facts relating to transportation of school children will pay good dividends. Glenn Featherston reports that North Carolina saves approximately $1000 on the purchase of a $3600 bus, one half the price of gasoline and from twenty five to forty five percent on other repairs and equipment by centralized purchasing.20

Nininger describes the Virginia program in which the state has recognized the necessity for financial assistance and supervision in the training of drivers and establishment of bus routes and schedules. The result of this carefully studied and planned program has been 1,000,000 miles of school bus transportation without a fatal accident.21

20 Featherston, Glenn, "Transportation of Pupils, a Growing Problem," School Life, Vol. 31:4-6, Jan. 1949
21 Nininger, R.D., "1,000,000 Miles of School Bus Transportation Without a Fatal Accident," School Management, Vol. 19:4-5, May 1950
Brown reports the North Carolina training program for high school drivers who drive 4,400 of the 5,200 buses used in the transportation of school children. The State Department of Education gives the applicants for the bus driving jobs a rigid training program and then the drivers are selected by examination. The result has been the total absence of fatalities and an almost total elimination of accidents. 22

Neyhart cites straws in the wind which should prove the need for state and national action in assembling statistics and acting on them. In Massachusetts bus accidents and allegedly drinking drivers stirred such a series of complaints among parents that the state took action. The article lists the driver as the chief factor in safety. Evidence is cited to prove that practical training programs result in accident free operation, lowered maintenance costs, and more favorable public opinion with fewer gray hairs for school officials. 23

The administration of the school bus transportation is a responsibility which has not been too definitely fixed.

22 Brown, C. C., "In Good Hands," Safety Education Vol. 27, 2-3, F. 1948

23 Neyhard, A. E., "5,000,000 Lives in His Hands," Safety Education, Vol. 27: 4-6, May 1948
This situation has probably resulted because of the rapid growth of transportation of school children. Also, there have been many variations in ownership of the buses. When schools take over the ownership and operation of the transportation equipment, the responsibility for administration and supervision is not always definitely fixed. Bolton makes the statement that the superintendent must have complete authority over transportation if it is to be efficient. Drivers and pupils must be under the direction of the superintendent and responsible to him.

The Florida State Department of Education places responsibility on the State Departments of Education to provide measures within their respective states to promote, establish, and maintain higher standards in pupil transportation. The report goes on to say:

Transportation can no longer be left entirely to local management and control. Studies show that all too often local school units have been entirely too slow to provide adequate equipment, to take advantage of possible economies, and to safeguard the welfare of pupils. States need not only to furnish suggestions relating to the improvement of transportation program for the consideration of local school units, but also to establish minimum standards for the benefit of the pupils and the program.

State colleges and universities should be encouraged to carry on extensive research studies in


\[25\] Florida Department of Education, Pupil Transportation for Southern States, Tallahassee, Florida, 1940
this field. Where practical and feasible, courses in the organization, administration, and operation of transportation should be established in teachers colleges and schools of education.

The functions of the state in regard to pupil transportation may be defined as advisory, regulatory, interpretive, prescriptive, and coordinative.

The state has both an opportunity and an obligation to assist local school administrative units in the organization for pupil transportation, in planning routes and schedules, and in the development of school bus purchase procedures. Another important prerogative and function of the state is the exercise of rule making authority. Prescription by the state of uniform records and reports, contracts, accounting procedures, plans and specifications, safety measures in personnel administration, and in the operation and maintenance of physical equipment is important to an efficient transportation service.

Responsibilities of the local administrative unit may be defined as organizational, supervisory, and managerial. Among the important duties of the local school administrative agencies carried out through executive officers are; employment of personnel, direction and training of employees, planning and preparation of bus routes and schedules, keeping accurate records of census, cost, and inventory, promotion of safety, convenience, comfort, and economy in transportation service, direction of operation and maintenance principles and procedures, and purchase of equipment, gasoline, oil, parts, and accessories.

Responsibilities of the local school administrative unit are three fold in character. One of the three phases of responsibility in pupil transportation may be defined as business management. A second phase of responsibility may be considered under the head of public relationships. Another phase of responsibility in administration of pupil transportation which the local school administration unit must accept is that of educating pupils, employed personnel, and the general public in matters of transit safety for school buses and school bus passengers.

The responsibilities resting on the shoulders of any school superintendent are many. Years of college training are required for his professional preparation, yet often this official must
administer and supervise a bus transportation system about which he knows nothing nor has he had any advance training or preparation. The rather surprising thought about the entire situation is the fact that children's welfare and safety are subject to many more hazards while in the buses than when in a school room. Also, children are under the supervision of bus drivers as much as two hours a day. This is one fourth as much time as they spend in the school room. Few bus drivers are professionally trained, yet teachers must be certified by the state in order to qualify to instruct children. Teachers should not have less training but administrative officials and bus drivers responsible for efficient transportation should have more. If proper action were taken by those in authority to give these facts publicity as suggested by the National Safety Council, state legislators and state boards of education would have standard practices to guide in the correction of deficiencies.

Adequate criteria to judge a school transportation system are difficult to determine. However, Bolton gives the following criteria which should prove helpful to judge the efficiency of any school bus transportation system.  

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\[26\] Bolton, op. cit., p. 557
1. Routes should always be established with the idea of the accommodation, comfort, and safety of the pupils rather than expense.
2. Only drivers who are of the highest character, perfectly reliable, and thoroughly competent should be employed.
3. Good drivers are as important as good teachers.
4. Generally teachers or high school pupils should not be employed. Exceptions may occasionally be made for reasons of economy.
5. District ownership of buses and employment of drivers have been found preferable to contract service.
6. Districts should generally own and operate their own garages and purchase supplies at wholesale rates.
7. Each child should be given the shortest haul possible.
8. Children living farthest from school should be picked up first. The unloading should be in reverse order.
9. Conveyances should be kept at the farthest out point over-night whenever routes permit.
10. The superintendent should have full authority to arrange routes, control trips, suspend drivers or pupils or to give emergency orders to protect the safety of the pupils.
11. The superintendent should always cooperate with the board of education in establishing routes and policies. These should be authorized by regular action of the board.
12. The advice and cooperation of the county superintendent should always be sought in all matters of general policy and legal points involved.
13. In a system with a large number of vehicles the district should employ a competent, full time mechanic.
14. In districts operating only a few buses, if possible, one of the drivers should be a competent mechanic and should operate the garage.
15. The district should own a commodious garage.
16. The district should own and operate completely equipped repair shop, gasoline pumps, and oil pumps.

17. Gasoline, oil, tires, replacement parts should be purchased in quantity and at wholesale prices.

18. All buses in a given district should be of the same make to facilitate economy in repair work.

19. The auto-mechanic should be a specialists in the particular make of machine owned by the district.

The ownership of school buses has been an issue which has received much study and discussion in the past. The two major plans are private ownership of buses was the leading method of transportation of school children. By this method, a school district would enter into a contract with a private individual to furnish transportation for the children.

The other major plan requires the school district to raise money and purchase the equipment. The maintenance of this equipment, employment of personnel, and general administration and supervision then becomes the responsibility of the school.

Reeder has studied the question extensively and offers arguments for both plans. The arguments for the contract plan are:

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

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

27 Reeder, op. cit., chapt. 10
3. There are no arguments under this system as to where the buses are after school hours nor as to what use is made of them off schedule.

4. No unnecessary mileage is paid for.

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

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

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

8. Large depreciation costs incident to long summer vacation under the district owned plan can be avoided by the contract plan.

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

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

Arguments for school ownership are:

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

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

3. With reasonable equal competence in management transportation is generally cheaper under the school control.

4. School owned buses are generally kept in better repair since they can be regularly and uniformly inspected and maintained, often in the auto shops owned by the district.

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

6. There is a tendency throughout the country to change from private to public ownership.
7. The method of competitive bidding does not insure either the best drivers or the best equipment.
8. Buses belonging to the school district can be used for all school purposes such as athletic trips, field trips, programs, excursions, and etc., schedules under such arrangements can be made to serve the pupils needs better.
9. Experience of school systems in contracting other auxiliary services like janitorial services has not always been satisfactory, or economical.
10. Under the contract system the district does not escape the capital outlay costs incident to the purchase of buses and equipment; they are charged in by one method or another. The escape of the district from depreciation and overhead costs in the contract system is more apparent than real.
11. The school district should not permit the superintendent to escape his legitimate opportunity to assume full responsibility for training himself and his staff to administer the transportation system with competence equal to that with which he now administers older and well established functions like janitorial and maintenance services, attendance and supervision.
12. School ownership retains the opportunity for close and adequate supervision of the transportation service at all time and thus insures adequate attention to the vital factors of adequacy, comfort, convenience, flexibility, and safety in the transportation system.

Reeder surveyed studies of costs of operation for both plans in Alabama, Arkansas, California, New York, North Carolina, Ohio, Oklahoma, Texas, Utah, Colorado, Idaho, Michigan, and South Carolina. With very exceptions, the studies showed school owned bused to be more efficient and economical than contracted buses.
The trend in the United States is toward public ownership according to Featherston, who reported 110,000 publicly owned buses today compared to 92,000 before the last war. Approximately one-third of the school buses were publicly owned before the war as compared with three fourths which are publicly owned today.  

Featherston makes a statement in his pamphlet on bus maintenance that there was very little objective evidence related to specific plans for school bus maintenance and storage. Buses housed in the country at the end of the line seldom are in garages that are heated. Some schools have completely given up the more economical plan of keeping buses in the country but bring them back to the central garage each evening.  

There are districts which operate the bus systems on a large unit plan and a central garage is built. Then the buses are assigned to various schools over the unit and kept in auxiliary garages or sit out at the school which they serve. If trouble develops the chief mechanic is called to the school which is having bus

28 Featherston, E. G., "Recent Developments in Pupil Transportation," American School and University, 1951-1952, 368-70

trouble and does the repair work or service there. If the trouble is serious the bus can be taken to the central garage. When the transportation system gets this large and centralized the storage, repair, and maintenance of the buses assume an efficiency seldom found in smaller schools. Kansas does not have any plan now whereby several schools combine or a county assumes responsibility for the over all transportation of the children. Each school is an entity and operates its own transportation.

Featherston studied personnel, garage facilities and garage equipment. Practices varied widely, and there seemed to be an almost complete lack of pattern on size type, location, and equipment of the school bus garage. The pamphlet gives the specifications and principles to guide school officials who are planning to build or purchase a garage for bus housing.\textsuperscript{30}

The service, repair and maintenance of the buses should be considered or planned at the same time that a garage is built or purchased. The general over-all plan should be formulated and written. If the criteria for an efficient transportation system given by Bolton are to be followed, a capable mechanic will be employed, the school will own an

\textsuperscript{30}\textit{Ibid.}, p. 9
adequate garage and the service, repair and maintenance of
the buses will be done by the school mechanic.\textsuperscript{31}

Commercial transportation companies cannot afford
breakdowns of vehicles on the road, therefore they give their
vehicles thorough checks at close intervals in an effort to
hold breakdowns to a minimum. By this plan a defect can be
found, repaired and trouble avoided. The success of these
preventive maintenance programs is clearly evident in the
field of commercial bus, railway, and aviation industries.
The schools should study these programs and apply the same
techniques where possible.

Various methods are used to keep the school buses in
good repair. Where only a few buses are operated, a rather
common custom is to have service, repair and maintenance
cared for by private service stations and garages. As was
stated, this is a very expensive method and many schools save
up to fifty percent by using centralized purchasing and doing
their own mechanical work.\textsuperscript{32}

The United States Office of Education recommends that a
school which operates three to ten buses employ a full time
mechanic.

\textsuperscript{31}Bolton, \textit{op. cit.}, p. 557

\textsuperscript{32}Featherston, \textit{op. cit.}, (School Life)
Some schools have tried to employ a mechanic who would work part time on buses and spend the other part of the time working for himself. This plan has not worked too well. 33

Where the driver mechanic plan is used, some schools require the mechanic to do all the repair work, but plan that most of it can be done in the summer vacation period. In case of emergency, the work may be taken to a private garage. Other schools find it impossible to secure the type mechanic required, therefore employ a reliable man to supervise the service and maintenance of the buses, but have the repair work done at private garages. This work is done during the summer as far as possible. When emergencies occur, transportation service is disrupted until repairs can be made. Extra or spare engines are kept by some schools as a guarantee against long periods of disuse of equipment. Extra or spare units work nicely when emergencies occur, but this practice makes operation expensive and proper administration of repairs and maintenance should make spare buses unnecessary, especially in small systems.

The replacement of buses is another field in which there seems to be lack of objective study.

Hutchins\textsuperscript{34} and Noble\textsuperscript{35} agree that old buses are more expensive to operate than new buses. The median age of old buses was 5.21 years. However, both writers agree that age is a difficult and unsatisfactory criterion on which to judge the efficiency of a bus. Buses operate over such a variety of different circumstances that one may be in better shape after ten years of use than another would be after three. Operation on paved roads with careful service and maintenance combined with low mileage compared with operation over frozen, muddy dirt roads, poor service and maintenance and high mileage would make a difference in the number of years a bus would last and the time for replacement.

Some States purchase buses centrally and furnish them to the schools. Kansas schools must finance and purchase buses locally. Too often there is no plan of purchase other than the whim of circumstance.

Butterworth sums the matter of bus replacement:\textsuperscript{36}

> The determining factors are so varied as to prohibit any general statement regarding life of the chassis and bodies other than that in most instances buses are replaced in from five to eight years. In summary, it is advisable to develop a reserve fund or to establish a

\textsuperscript{34}Hutchins, C. D., The Distribution of State Funds for Pupil Transportation, (Unpublished Doctor's dissertation Ohio State University, 1948)

\textsuperscript{35}Noble, M. C. S., Public School Bus Transportation in North Carolina, State Dept. of Public Instruction, Raleigh, North Carolina, 1930-31

\textsuperscript{36}Butterworth, op. cit., p. 28
practice of annual fleet replacement on a pay-as-you-go plan. In any event, avoid extending indebtedness for vehicles for a period as long as their expected years of service.

The important thing, in addition to the above, is for a school district to have an established written policy for the replacement of buses when they become too old to be safe, and at the same time it might avoid the purchase of new equipment for various unwise reasons when there might be years of good service in the vehicles.

In a service which involves the lives, health and safety of so many children, the operation and maintenance of so much capital equipment, and the expenditure of so many millions of dollars, it is important that a complete and adequate system of records be installed and maintained by each administrative unit. Reeder offers reasons for and purposes for keeping adequate records on pupil transportation.37

Every school system which would administer efficiently its transportation service must systematically collect, organize, file and use information which will show the efficiency of every transportation employee, every bus, and every procedure. The test of an efficient system combines simplicity with adequacy.

37Reeder, op. cit., chapter 10.
The crying needs for school financial accounting today are, first a modern system of records, and second, a better qualified clerk to keep the records.

An adequate accounting system for transportation is one which assists in realizing the purposes of such accounting. Those purposes are: to assist in formulating transportation policies, to help in determining the efficiency of the transportation personnel, equipment, materials and procedures. In other words to help to measure results, and to guarantee the fidelity of individuals who have been intrusted with the custody of public property, or funds. Only the third of the purposes has been given more than passing attention in most school systems.

Much of the criticism of transportation accounting systems in use today is directed at the lack of standardization.

Reeder’s criticism of record keeping by school officials on their transportation system and lack of standardization is shocking. Such failure to give account of a public responsibility is almost unbelievable until one tries to find statistics on the subject. Then the number of buses a school operates is found to be an approximation. Such lackadaisical accounting should be corrected and the responsibility seems to fall on the shoulders of the state department of education. Only central authority can inaugurate and maintain adequate standardization of accounting. The United States Office of Education has recommended a system of records and reports of sufficient uniformity to yield data on which valid comparisons can be based.
The National Conference on pupil transportation held at Jackson's Mill, West Virginia in October, 1948 approved the system and any state which desires to standardize its reports may secure the help from the United States Office of Education.38

Reeder gives the forms considered necessary for adequate information. They are the bus driver's monthly report, the monthly summary of operations and repairs, the annual summary of bus operations and repairs, the permanent chassis and body record, the garage invoice, and the special trip of school bus report.39

If desired, a record can be kept for tires and batteries. However some authorities believe that these are not necessary.

The information considered necessary which these reports should obtain is listed by the Florida Department of Education in their pamphlet on pupil transportation. While forms should be standardized, the information is really the important thing desired even if the state secures the information on various forms. The information desired is as follows:40

38 Featherston, E. Glenn, "Records and Reports for Pupil Transportation," School Life, 32:76, F. 1950

39 Reeder, op. cit., p. 181

40 Florida State Dept. Educ., op. cit., p. 30
Personnel

A. Pupils
1. The optimum number of pupils to be transported on a given bus route.
2. Average daily transportation load as shown by the bus driver's daily report.
3. In lieu of transportation pupils
Pupils for which special transportation or reimbursement is made for room and board. Reports to be made to local authorities daily or at stated periods by special arrangement.
4. Irregular students. Students who have no legal status for being transported, but are to be shown on the records as such

B. Drivers
1. Regular—a person responsible for the operation of a school bus throughout the school term.
2. Substitute—a person employed to operate a bus in the absence of the regular driver.
3. Contract—a person employed to transport pupils, furnish all or a part of a transporting unit, and is responsible for its maintenance and operation.

C. Mechanics and helpers—persons employed in school owned garages and shops. A helper who is also a driver should also be accounted for as a driver.

D. Administrators and assistants—persons charged with the supervision and transportation.

Expenditures and Disbursements

A. Salaries
1. Administrators and assistants. Allocate salary on basis of item spent in transportation service daily.
2. Drivers—if a mechanic helper is used as a driver, his salary should be allocated.
3. Mechanics and helpers—see drivers' salaries.

B. Operation of buses—expenditures and quantity used of fuel, oil, grease, lube, anti-freeze, brake fluid, and shock-absorber fluid are to be reported separately.
C. Repair and Parts Replacement
   1. Chassis
      a. Tires and tubes.
      b. Chains.
      c. Battery.
      d. Other parts including accessories.
   2. Body
      a. Parts and accessories.

D. Garages and shops
   1. Operation
      a. Supplies; materials used in the process of operation.
      b. Heat, light, water, and power.
      c. Hand tools and minor devices.
   2. Maintenance
      a. Building.
      b. Equipment.
      c. Tools.

E. Fixed charges
   1. Insurance
      a. Property-on buildings, buses and equipment.
      b. Liability-on students and employees.
      c. Compensation.
   2. Rent and storage.
   3. Taxes.

F. Capital outlay
   1. Vehicles-if a deferred plan of purchase is used, account only for funds expended during the fiscal year.
   2. Buildings
      a. Garages.
      b. Shelters.
      c. Loading docks.
   3. Equipment and tools used in repair shops and garages.

G. Debt service
   1. Interest on bonds, notes and warrants.

H. Depreciation
   1. Buses.
   2. Buildings.
   3. Equipment and tools.

Auxiliary data
A. Number of buses used
B. Number of other vehicles
C. Number of bus routes
D. Length of bus routes
   1. From starting point of bus to terminal school.
   2. From point of first pick-up to terminal school.
E. Distance pupil walks to bus.
F. Distance pupil rides.
G. Number of schools served, each bus.
H. Number bus stops, each bus.
I. Types of roads.
   1. Hard surface
   2. Improved
   3. Unimproved
J. Bus trips in miles.
   1. Regular—the transporting of pupils to and from school
   2. Other—the transporting of pupils on projects in conjunction with school work or trips to relieve other buses in cases of emergency.
   3. Special—the transporting of patrons or students on trips not of a strictly educational nature.
K. Pupil shelters.
L. Inventories.
   1. Bus
   2. Shop
M. Inspection.
   1. Monthly
   2. Annually
N. Ownership of buses.
   1. Public—complete unit purchased from public funds
   2. Joint—body owned by school, chassis by an individual or vice versa
   3. Private—complete unit owned by individual

Contract
A. Bus hire—transporting unit is property of individual who is responsible for its maintenance and operation.
B. Public carriers.
C. In lieu of transportation—transportation of small number of pupils in private vehicles or compensation in lieu of transportation.
D. Insurance—when paid from public funds.
E. Auxiliary data—as listed above under Section III.
The administration of bus routes does not appear to be a complicated duty. Children that live in the country are spotted on a map, and the buses are then sent after them. However, there are many elements to be considered to provide economical, safe, comfortable transportation for the children.

Among the many factors to be considered, some of more important are pointed out by Lambert:

1. The school organization factor.
2. The limits fixed for a reasonable maximum walking distance for pupils of various ages and grades.
3. The number of pupils in towns, villages, or county who live beyond the accepted maximum walking distances.
4. The time factor as it operates with respect to the actual number of minutes expended in travel and the earliest hour in the morning at which pupils who are picked up on the first delivery can be expected to leave their dwellings.
5. The amounts, quality, and configuration of the roads and highways in the region considered.
6. The various capacities of the vehicles that can be used.
7. The mean and maximum running speed of the vehicles.
8. The pattern in which dwellings are scattered over the land surface.
9. The natural barriers and civil boundaries that are often changed inadequately and independently of educational considerations.

An important question to be determined is the matter of who has the responsibility for establishing the routes over which the buses operate.

Lambert, Asael C., School Transportation, Stanford University Press, Stanford University Calif., 1938
At the present time the responsibility rests with the local districts in Kansas. Some states exercise supervision over routes and schedules. As state aid for transportation increases, centralized supervision becomes more necessary to insure and secure maximum economy. Supervision without control is a desired practice and one which is recommended by most writers. Hixon, in his recommended code, provides for state supervision of routes and schedules by the state superintendent of public instruction.\textsuperscript{42} Taylor recommends a state commissioner of transportation in the state educational department.\textsuperscript{43} Tate, in his New Mexico study, reports that transportation was haphazard when controlled by local boards. In 1937 the legislature created a state director of transportation with extensive powers. Since then pupil transportation has made rapid strides until New Mexico now ranks favorable in the nation. The state director is delegated authority to regulate bus routes, drivers, bus standards, budgets for transportation, purchases and driver training programs.\textsuperscript{44}

\textsuperscript{42}Hixon, Lawrence B., A Proposed Code of State School Laws for the Transportation of Pupils, St. Lawrence Uni., Canton, N. Y., 1947, p. 12

\textsuperscript{43}Taylor, Burtis E., A Proposed Pupil Transportation Program for the State of Colorado, (Unpublished Doctor's dissertation, Uni. of Denver, Denver, Colo. 1951)

\textsuperscript{44}Tate, op. cit.
The superintendent of schools should be responsible to recommend to the local board of education such policies, rules and regulations, plans and procedures as he shall deem desirable or necessary for the provision of satisfactory transportation facilities in the unit and as executive officer of the board, to administer the transportation program and to make sure that all policies and actions approved by the board are properly executed. Often school boards fail to grant the superintendent authority and then, even if and when granted, fail to hold the executive officer responsible for faithful execution of the adopted policies. Such a policy can only result in inefficient supervision and transportation. This is especially true in Kansas since the state department of public instruction does not exercise supervision over transportation of school children. State supervision in Kansas is administered by the State Highway Commission of Kansas which has been authorized by law to establish laws and regulations governing school pupil transportation in the state.

After the map of the district is made, the following suggestions for laying out the routes are made by Reeder:

45 Kansas State Highway Commission of Kansas, The Laws and Regulations Governing School Pupil Transportation in Kansas, State Highway Commission, Topeka, Kansas, 1951

46 Reeder, op. cit., p. 17
1. Outline the boundaries of the school district on the map. Locate the school on the map.
2. Draw in streams, railroads, and similar barriers.
3. Draw in to scale the roads in the district, designating the condition by appropriate color or lines.
4. Mark bridges, fords, grade crossings, and other hazards with appropriate symbols.
5. Locate the home of each family with appropriate symbols. Show where homes have children to be transported, and number of children.
6. Total the number of pupils to be transported.
7. Lay out routes on the trial map. Avoid retraces where ever possible.
8. Total the number of pupils on each route. This total will show the capacities of the buses needed. Compare it with the capacities of the buses on hand. If necessary make adjustments to avoid over-crowding or consider the advisability of getting buses of larger capacity. Although it is not ideal, an unused seat is more to be condoned than standing or sitting on laps.
9. Check each route, adjusting if necessary to keep its length within the time limit permissible.
10. Check the proposed routes carefully by going over them, preferably with the driver, then lay out the routes on a new map, this master map to be placed in the superintendent’s office for reference.
11. From the master map lay out separate route cards for each driver, marking the exact route to be followed both morning and evening and all stops in the order in which they are to be made.
12. Revise the routes during the year to take account of any shift in population, changes in condition of roads, bridges, etc. In other words keep the routes up to date.

There are districts that use buses which cover two or more routes each day. The bus will load on one route, bring the children to school and then load on another route. This system has the advantage that it is economical.
One bus can serve in place of two or three. However, the disadvantage is that the school will have to construct a very flexible schedule of classes, or the children who arrive first will have a long wait for school to start. Good administration will demand that the transportation system serve the children and the school to improve instruction. Long waits and confusing schedules are not considered good administration, according to Bolton.\(^{47}\)

If the district employs drivers who live at the end of the routes, it is possible to conserve half the travel of the bus. The vehicles can be kept at the end of the routes in the country. The chief advantage to this practice will be the economy in mileage. The disadvantage will be securing drivers who live at the appropriate places, proper housing of buses, mechanical supervision of vehicles, and the lack of administrative control over the route in case of emergency such as a storm or bad weather, and the use of the bus for extra-curricular activity after school hours.

There are two general types of bus routes. The circular

\(^{47}\) Bolton, op. cit., p. 557
route starts from the school and loads or unloads all the way around the route. When the last child is loaded or unloaded the bus returns to the central garage. On this type of route, the children who get on first must ride a long distance, sometimes several times the distance they live from school. The last child on the bus rides a shorter distance. This disadvantage is reduced in the evening as the child that was first on in the morning will be the first off in the evening. If it is desired by the parents and school officials, the route can be reversed at regular intervals, thus equalizing the advantages and disadvantages.

The other type of bus route is the double-back or shoestring route. On this type route, the bus goes to the far end and loads back, and in the evening unloads on the way out from school. The child on the far end of the route is forced to ride all the side trips both in the morning and at night. If there aren't too many side trips, this type route is ideal, but if the side trips add up too many miles, the situation can become intolerable.

Many schools will find it necessary to use both type routes. The important factor in the practice of route making is to give as much service and comfort to the children being transported as possible.
After the routes are laid out, it is always well to visit parents on the routes to get responses to the proposed schedules and to explain the process of establishing each. Such process may be the difference between good and bad public relations from the first day of school.

School officials may meet the problem of transporting children who live in homes which are inaccessible or too distant to allow the bus to make the trip in the time allowed. Feeder lines may be set to solve this difficulty. Instances have been known where districts consolidate but distances are so great that feeder lines are necessary. In such cases the outlying districts or families must meet the buses on the established route. This is not a convenient condition but one which may be necessary.

The distance that a bus can travel will be determined by the maximum time allowed for a child to ride, the speed at which the bus operates, and the condition of the roads, also, the distance which children must walk to meet the bus must be taken into consideration.

The Kansas Highway Commission regulations have this to say about the above: 48

The bus routes should be so planned that no pupil will be required to ride in the bus more than one

48 Kansas Highway Commission, op. cit., p. 6
hour each trip, or be compelled to walk more than one and one half miles to board the bus. Where no special hazard exists the following speeds shall be lawful, but any speed in excess of said limit shall be prima facie evidence that the speed is not reasonable or prudent and that it is unlawful:

School buses, at not time over 45 miles per hour.

With maximum speed set by law and the time a child should ride on the bus determined by regulation, the distance a bus travels or the length of route can be determined by simple calculation, and routes established accordingly. The school officials must determine a policy to govern how far children should walk to meet the bus. One school may have the buses pick up all children at the child's dwelling while another may require children living off the road to walk distances up to two miles. Where children must meet the buses, waiting stations are required by law in some states to protect the children from the weather.

Walking to meet the buses or redundant transportation by the parents to the bus stop is a cause of much dissatisfaction to parents, according to Reeder.49

The Florida State Department recommends that children and parents should not expect buses to stop at every door step as such procedure consumes too much time and routes

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49Reeder, op. cit., p. 20
are thus shortened. Where buses are used in areas which have long periods of wet weather, the routes will have to be set up or confined to hard surfaced or improved roads. Children who live off these roads will of necessity have to meet the bus to get to school. Conditions are so varied even within one state that no hard and fast rules or regulations other than those already cited can be made.

Western Kansas is noted for its long periods of dry weather and its open winters. Western Kansas also has many miles of graded roads and a minimum of hard surfaced roads. For buses to operate only on hard surfaced roads would deprive transportation to many children. Operation over all kinds of roads brings extreme difficulty in periods of wet weather or heavy snowfall. Not only do conditions become difficult, but at times dangerous. There are cases on record where children have perished in school buses stalled in snow drifts and every community possesses a dread of the blizzards which sweep the Kansas plains. Many schools dismiss on days when roads are muddy or are blocked with snow. Other districts try to get part of their country children to school by running to buses on abbreviated routes. Others have school for children who can get there but do not send the buses over the routes.

50 Florida State Manual, op. cit., p. 44.
There seems to be no good single solution to this problem, and during periods when roads are blocked by extremely heavy snowfall for long periods of time the difficulties increase. When the state of Kansas passed the financial assistance measures in 1947, the State Department became more urgent that each school be in session 175 days a year.\textsuperscript{51} This was followed by the recommendation that school missed on account of bad weather be made up by extending the term in the spring.\textsuperscript{52} This extension of the term may cause a problem for boys who plan to do early spring farm work. However, this may be the price which must be paid for transportation convenience.

Establishing a schedule is not a particularly difficult procedure, but maintaining that schedule often becomes exceedingly trying to a school official's patience. Tentative schedules should be carefully established by the school administrator, the bus mechanic and the driver. The bus route should be inspected by driving over it. After road conditions,

\textsuperscript{51}Kansas State Dept. of Public Instruction, Kansas Secondary School Handbook, Topeka, Kansas 1952, p. 17

\textsuperscript{52}Throckmorton, Adel F., Monthly Bulletin, State Dept. of Public Instruction, Topeka, Kansas, Dec. 1951, p. 7
number of stops, distance to travel, and any other pertinent factors are considered, the final schedule can be made. Reeder suggests that a rigid time schedule be established to facilitate service to children that meet the bus. There seems to be no excuse for poorly administered schedules unless emergencies arise, then the bus should never operate ahead of schedule, nor should a bus endeavor to make up time by driving beyond the established speed. The time schedule should conform to the program of the school which the bus serves. It should not permit the delivery of pupils at school before the teachers are on duty, nor should it permit them to remain in the evening after the teachers have left. Teachers should help a driver maintain the schedule by not keeping pupils after school. Buses should operate on as regular a schedule as does the school. Parents should have the schedule for reference and any deviation from this plan should be published and made known to all persons interested.

The personnel of the school transportation system was given special attention at the Jackson's Mill, West Virginia National Conference on School Transportation. This conference devoted the major part of its time to a consideration of problems related to standards
and training programs for school bus drivers. However, very little has been written or said regarding the school bus mechanic. This is a position of importance in the success of an efficient, economical transportation system. The position is new in the school personnel roster and has not been generally recognized by writers.

The Florida Transportation Handbook has the following to say about the mechanic's part in the efficiency of the organization:54

It is essential that some competent person be in charge of school bus maintenance where public ownership exists. This person may be a chief mechanic or supervisor of transportation.

It is essential that all employees be efficient, loyal, and progressive.

The head mechanic must be competent to determine what repairs or adjustments need to be made and to see that they are made. No one else can assume the responsibility.

The combination driver mechanic who has a short route and works as a mechanic on minor repairs during school hours has proved to be an acceptable substitute for the full time mechanic in a number of locations.

The Office of Education Bulletin on school bus maintenance lists as an essential for efficient school bus operation and maintenance a driver mechanic for schools maintaining from three to ten buses, and a full time mechanic for schools maintaining over ten buses.55

54 Florida State Bulletin, op. cit., p. 50
Kansas laws and regulations do not recognize the existence of this position. However, the position does exist and the responsibility carried by the man increases every year. The work and responsibility of the head mechanic is similar in importance to the work and responsibility of a principal of a school who works under the superintendent.

Neyhart says: 56

The bus driver is the chief factor in safety. Most old buses are as safe as the driver provided the driver does the following:

1. Always recognize his direct responsibility for safety of his passengers.
2. Drives in accordance with established laws, rules, and regulations.
3. Maintains his vehicle systematically and checks safety equipment methodically before each trip.
4. Has a sympathetic understanding of the normal behavior of children and knows how to manage them so he can concentrate on his driving.

 Featherston reports in his U. S. Office of Education pamphlet on the training of school bus drivers that: 57

The school bus driver is the most important single factor in achieving safety, economy, and efficiency in pupil transportation. Plans involving every other factor may be carefully formulated but unless a competent bus driver is selected and given certain training, much of this planning may come to naught.

56 Neyhart, A. E., op. cit., (Safety Education)
A school bus may be constructed according to rigid scientific specifications which were designed by engineers to insure safety, but it can be wrecked by a careless driver and children may be injured or killed in the wreck. A carefully planned program for the maintenance of the bus fleet may be set up, but maximum efficiency will not be achieved unless a trained driver is carrying his part of the responsibility for the program. Even the most carefully planned bus schedule will serve no useful purpose if the driver makes no attempt to operate on this schedule. The smooth operation of the machinery set up for transporting pupils can be achieved only when a carefully selected and well trained driver is one of the cogs in the machine.

The school bus driver is important to the school in ways other than the routine phases of the program which involves safety, economy, and efficiency in pupil transportation. The driver himself is a teacher by example. It is difficult to over estimate the extent of the influence of a bus driver in shaping the character of pupils who are in close association with him for considerable periods of time each school day during one or more years. The relations between parents and school administrator, in-so-far as they relate to pupil transportation, may be made more pleasant by a tactful and diplomatic bus driver. As a public relations agent the school bus driver may be as important as one of the teachers. The remarks made by a bus driver concerning happenings at school may carry more weight than publicity releases planned by school authorities.

Since the school bus driver must carry many important responsibilities in the operation of a school system, every effort should be made to see that he is a capable and responsible person who is aware of his responsibilities and qualified and trained to carry them. Progress toward this ideal may be made by establishing standards designed to weed out those unfit for the work by defining the qualifications, duties, and responsibilities of school bus drivers; giving the training necessary to make the drivers aware of the desired qualifications and capable of performing the duties and meeting the responsibilities; and by making
the work sufficiently attractive to retain adult drivers for longer periods of time than most of them now remain in service. Since duties and responsibilities may vary from state to state because of the plan of school administration or other factors, it is not possible to develop any one plan for achieving these objectives. Information or current practices of states with respect to the selection and training of school bus drivers will be of value to those states or school units which may find it desirable to set up a program for the upgrading of school bus drivers.

Practice in selecting school bus drivers varies from state to state. The board of education may select the driver upon recommendation of the school superintendent. This procedure according to Featherston, is not only based on sound educational administration but it also serves the useful purpose at the particular stage in the development of pupil transportation of bringing the program more completely under the supervision of the local school administrator.58

Much has been written concerning the selection and training of school bus drivers. Featherston gives the generally accepted standards for the selection for school bus drivers. They are:59

1. Minimum age of 21 years.
2. Maximum age determined by physical examination.
3. Character reference from three responsible persons.
4. One or more years driving experience with a thorough performance test in a school bus.
5. An annual physical examination.
6. Training in first aid to the injured.

58 Ibid., p. 3
59 Ibid., p. 33
7. A written, oral, and a performance test.
8. A one year special license.
9. A continuing state department school bus driver training program.

Bloom offers justifiable criticism of many school officials because careless, often diseased, shiftless drivers are employed. The article cites cases of drivers who molested girls who lived near the end of the routes. Low salaries and poor methods of driver selection were blamed for the serious danger to children from immoral or careless drivers. Bloom pointed to North Carolina as an example of a state which eliminated much school bus driver trouble by employing high school students who are given a rigorous training program. Featherston reports that North Carolina organized the first state wide driver training program in 1937, and since that time the movement has grown gradually until states over the nation reported that 15,000 to 17,000 or close to 20 per cent of the drivers received some kind of driver training during the war years. One state reported a drop of more than 30 percent in insurance costs over a five year period as a result of the training program and the diminished accident rate. According to Featherston's study, all the state transportation supervisors in states which had had experience in the operation of

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60 Featherston, op. cit., p. 19
training programs were so strongly convinced of the need for them that they plan to continue the work. The opinions were based primarily on reports by local superintendents that the training had improved morale of both drivers and pupils, decreased disciplinary problems and increased efficiency of service. 61

Most authorities recommend that only adults who are twenty-one years of age or over be used to drive school buses. However Bloom reports that North Carolina has used high school students since 1933, and that today 85 per cent of their buses are driven by students. 62 Brown reports that North Carolina had 44,000 teen-agers driving school buses with a record of no fatalities in 1917 and a minimum of accidents. 63 Helms comments highly on North Carolina's student training program. 64 He says that the classroom procedure for the school bus driver is based on an outline in a handbook for school bus drivers prepared by the North Carolina department of motor vehicles and the North Carolina School Commission. The four general topics dealt with in this training program are:

1. Physical and mental qualification of school bus drivers.

61 Featherston, _op. cit._, p. 19
62 Bloom, _op. cit._, p. 120
63 Brown, C. C., "In Good Hands," _Safety Education_, 27:2-3 F. 1948
2. Personal qualifications and attitude; their relation to safe school bus operation.
4. Driver responsibility; handling of pupil loads.
5. Safe driving habits.

The safety division of the department of motor vehicles in North Carolina maintains a staff of ten safety specialists, each of whom is assigned a territory or a section of the state. This safety representative works in close cooperation with the county superintendents, high school principals, and school bus mechanics. Near the end of the school year contacts are made with all principals in the district. Through these contacts, dates for school bus driving instruction are made. All eligible students desiring to take instruction assemble on the date arranged. At least five hours of classroom instruction follow. Every phase of school bus driving is stressed, according to the report by Helms.

The National Conference on School Transportation which was held at Jackson's Mill, West Virginia, in 1948, issued a pamphlet containing recommendations for standards and training programs for school bus drivers. In this pamphlet the standards for school bus drivers are set forth. These standards for school bus drivers are very similar to those which Featherston lists in the office of education pamphlet and which were referred to above. The training program proposed by the Conference should
serve to guide any school or state official who contemplates establishing a school bus driver training program. The first step to be taken in the formulation of a training program, according to the recommendations of this conference, is to develop an awareness of the need for the program. The state department should lead in this movement, and should make the plans, secure publicity, and try to arouse in the public an awareness of the need for such a program. Many school boards and administrators will have to be aroused to the need also. The police organizations, the motor vehicle department, and the state highway department should assist with the program. It is suggested that the program be financed by the state department, assisted by local schools. Areas to be served should, if possible, be the same as the unit of administration and supervision of the schools for which the training program is conducted. Ten to twenty drivers is the maximum number that can be instructed at one time.

The length of the program varies from a few hours to the full school term, and will depend on the conditions within the state. Pretesting the candidates will

\[\text{Ibid.}, \ p. \ 12\]
help determine the amount of training needed and the program can be set up accordingly. Inexperienced drivers should be encouraged to complete the entire course.

The ultimate objective of the state department of education and local boards should be to require all drivers to attend such basic and refresher training programs as may be prescribed. School boards should specify when employing the drivers concerning attendance at the training programs. Otherwise attendance will be voluntary.

Qualified instructors should be secured within the state. State departments of education, health, motor vehicle, highways, police, and colleges and universities, should be the sources for the instructors. The instructional program which is suggested by the pamphlet on standards and training programs for school bus drivers is as follows:67

1. The instructional program should be developed from a careful job analysis of the essential duties and activities involved in school bus driving.

2. Instructional content should be planned to meet the needs for individual drivers as determined by diagnostic checks and from facts known by school officials.

3. Despite the need for adequate training to equip all drivers fully for their jobs, a controlling factor in the selection and arrangement of instructional content is the amount of time drivers are available to receive training.

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67Ibid., p. 18
Under given conditions, therefore, an adjustment or compromise between the practical and the ideal must be made in order to arrive at the instructional content to be used.

4. If time is limited, the beginning program in a state should be restricted to a few well-selected topics that will meet the most pressing instructional needs of the majority of drivers.

5. The introductory session in every training program should be devoted at least in part to developing among drivers an awareness of their personal need for training.

6. The program should be expanded as rapidly as recognition of the need for additional training can be developed among school administrators and drivers, and as rapidly as adequate facilities and qualified staff can be made available. As it expands, the program should include more topics of instructional nature and deal with each topic in greater detail.

7. Instructional topics in a training program should be selected in the order of need as previously determined by job analysis of school bus drivers, diagnostic checks of drivers, and from facts known by school officials, and in accordance with limitations on time available for drivers to receive training. Since no two training programs will be identical, it is possible here only to list general topics of instruction in such order as will suggest an applicable pattern.
   a. Understanding and appreciating the need for training.
   b. State traffic laws and other rules and regulations of controlling governmental agencies governing the operation of school buses including drivers conduct following an accident; application of first aid; and legal liabilities in case of negligence.
   c. Personal qualifications necessary for driving a school bus including physical, mental, and emotional characteristics; maintenance of general health; and knowledge, habits and attitudes.
   d. Personal relationships and responsibilities of the school bus driver including those to school officials, to pupils, to parents, and to other drivers and mechanics; contractual obligations; financial liabilities; and
duties with respect to records and reports.
e. Operational procedures based on state and local board of education rulings including loading and unloading operations; pupil management and discipline; and problems of routes and schedules.
f. Good driving practices and skills on the open road; in limited areas such as at school or garage; in traffic and under adverse road and weather conditions.
g. Preventive maintenance of the bus including economical driving practices; daily inspection and cleaning of bus; submitting bus to garage and to official inspection station; and extent of driver's responsibility for diagnosis and follow up in case of trouble or breakdown.
h. Training in administration of first aid. It is recommended that all school bus drivers qualify for a first aid certificate.

The State of Kansas has begun a training program under supervision of the Traffic Department of the State Highway Commission. In 1949, a two-day clinic was held in Topeka with an attendance of sixty-six drivers and bus mechanics. In 1950, the two day clinic was held in Wichita with an attendance of one-hundred and sixty. In 1951, the clinic was held for one day at each of three different cities and the attendance rose to eight hundred.

According to a letter from the Kansas State Traffic Department, the topics which have been covered in these clinics are:

1. The laws and regulations as they relate to the school bus.
2. Personal relationships and responsibilities of the school bus driver to the student.
3. School bus drivers license.
4. School bus inspection.
5. First Aid.
7. Driver's knowledge test which covers the material given during the day.

In the Kansas State Highway Commission pamphlet which contains the laws and regulations governing school pupil transportation, driver meetings are recommended every two weeks to discuss hazards and to study safe driving techniques. Driver qualifications, instruction to officials, pupils and drivers and school bus standards are well presented and covered. 68

Pupil transportation cannot be judged satisfactory, according to the criteria, until the State Department of Public Instruction is given power and responsibility by the State Legislature to supervise the local school transportation systems.

The question of transportation of private school children has proved somewhat vexing to school officials where districts have parochial schools. For the present the question has been settled for school officials by the five to four Supreme Court decision which upheld a New Jersey statute authorizing school districts to
transport to public and private schools. There was a strong minority report, however, according to Rosenfield.

Kansas law entitles private school children to transportation to and from school provided they meet the bus on the regularly established route. School officials often find it very difficult to carry out the provisions of this act. Parents of the private school children pay taxes for Public Schools and cases have been known where they sought transportation for their children on an equal basis with public school children. This issue may be the subject of further court litigation.

Insurance of publicly owned school buses is a study within itself. The legal aspects of insurance will not be considered in this study. The United States Office of Education has issued a pamphlet to guide school officials in the consideration of this issue. The confused status of school bus insurance is pointed out with recommendations that further study be made on the topic.

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71 Kansas General Statutes, 72-619, State Printer, Topeka

Joyner recommends that all states have statutory provisions for school transportation insurance. Each state should work out an insurance formula based on its own needs and insure according to that formula. One of the basic needs for the nation is a clarification of school and state positions on insurance and liability with more uniformity concerning insurance regulations according to this study. 73

Traditional immunity of governmental agencies including school districts, clouds the issue. Districts providing liability insurance for district owned vehicles should see to it that the insurance policy contains a rider or endorsement so worded that the insurer will guarantee the protection of the public even though judgment cannot be obtained against the school district. 74

The Kansas Highway Commission pamphlet on laws and regulations has this to say about liability insurance. 75

Individuals operating their own school buses or automobiles should provide adequate liability insurance.

73Joyner, S. C., School Automobile Liability Insurance, (Unpublished Doctor's Dissertation, University of Southern California, Los Angeles, 1941)
74U. S. Office of Education, Pamphlet 101, op. cit., p. 4
75Kansas Highway Commission, op. cit., p. 6
and property damage insurance. All school districts should seriously consider providing liability and property damage insurance covering all school transportation equipment.

The School Transportation Pamphlet on insurance lists four major types of school bus insurance:

1. Liability; for compensation to pupils who may be injured in school bus accidents.
2. Property damage; for the reimbursement or any one whose car or other property is damaged.
3. Fire, theft, storm, damage, etc.; for specified losses.
4. Collision; for the repair of damage to school buses.

The entire picture of school bus insurance needs extensive study. Legal restrictions and obligations should be analyzed by the state departments and published for the benefit of local school officials.

76U. S. Office of Education, Pamphlet 101, op. cit., p. 2
CHAPTER 11

THE PROBLEM AND THE METHOD OF PROCEDURE

The problem of this study is to ascertain the school bus transportation practices of a group of schools in a selected area in Western Kansas. After this has been done, an effort will be made to compare them with criteria which are recognized by authorities in the field. In light of the evidence collected, good practices will be pointed out and some recommendations will be made to modify those which are not in harmony with the criteria.

The first step taken in the procedure was to list the administrative problems of pupil transportation which were deemed worthy for consideration. This list was studied, revised, and with the help of the Kansas University Department of Education personnel, made into an inquiry blank to be used to collect the desired information. This blank with the accompanying letter can be found in the appendix.

One hundred and twenty school are used in the investigation. These schools are located in the western half of the state of Kansas and comprise the majority of the districts which maintain an elementary and a high school.
First and second class city schools and a few schools in the northwest corner of the state were omitted. The study was limited to the western half of the state on the assumption that the practices and problems of this particular section might be somewhat different from the eastern half. Also there was a desire to compare Western Kansas practices with established criteria.

The inquiry blanks were mailed to ninety one schools and twenty nine were visited. The twenty nine schools visited are located in Central and Southwest Kansas. The number was limited by the time necessary to do the visitation. About ten days were required for this part of the study.

Seventy one schools or 78 per cent returned the mailed inquiries. This made a total, with the twenty nine visited, of one hundred schools. However, twenty eight of the replies and two of the visited schools said that they did not use pupil bus transportation. This fact limited the investigation to a total of seventy schools. The list is included in the appendix. Districts which operate buses are indicated as well as the twenty nine which were visited.

Personal visits were made to the schools to interview the administrator, fill out the inquiry blank, and inspect
the equipment and housing facilities. By interviewing the school official, a much better overview was gained of the bus transportation problems and practices. Also the official's opinion of the problems confronting the district added to the information for the study. When possible, mechanics and drivers were interviewed regarding the present situation and possibility for improvement. Several board of education members were visited and three county superintendents were contacted to get desired information. Two visits were made with the State Superintendent of Public Instruction and one visit was made to interview the Kansas State Highway Engineer.

Much of the related material was secured from the United States Office of Education, State Departments of Education, borrowed theses, library books and magazine articles.

A tabulation of responses received on the returned inquiry blanks was made after visitations were completed. The summary of these findings is contained in Chapter III. Chapter IV includes the conclusions and a few recommendations or implications of the study.
CHAPTER 111

SOME PRACTICES IN SCHOOL BUS TRANSPORTATION

This investigation of the practices in school bus transportation covers one hundred Western Kansas schools. Seventy of the schools report that buses are used to transport children to school and thirty report that buses are not used. According to this information 70 percent of the schools used buses and 30 percent do not.

Date buses first used in district: The growth of the school bus as a method of pupil transportation is an interesting phase of this paper. Fifty one of the seventy schools in the study reported a date when bus transportation was started. Four schools reported that buses were used in the district in 1917. Before this date there was some evidence that horse drawn vehicles had been used, but no proof could be established that the district had operated the bus. Twenty one of the fifty one schools began bus transportation in the 1920's. This was 41 percent. During the 1930's, only four schools introduced the plan. Evidence points to the fact that the depression slowed the growth of pupil transportation in school buses. During the 1940's, eighteen schools or 35 percent inaugurated pupil bus transportation, and in 1950 and 1951, three schools reported the
beginning of the plan. The growth of bus service in Kansas has been gradual and continuing. The data show that during the 1920's and 1940's one or more schools each year began the use of buses. Of the fifty one schools, four started in 1917, five in 1920, five in 1922, three in 1946, four in 1947, and two in 1951.

The growth of bus transportation in Western Kansas schools comprising this study appears to be in harmony with the reports of the State Department of Education and the United States Office of Education. The Twenty-first Biennial Report of the State Superintendent of Public Instruction for 1917-1918 gives these years as the date when pupil bus transportation first appeared in Kansas.¹ The Twenty-second Biennial Report of the Kansas State Superintendent of Public Instruction for 1919-1920 shows the transportation of children in school buses was receiving increased impetus and growing rapidly.² The United States Office of Education statistical summary for 1949-1950 shows a rapid increase in bus transportation over the entire nation for these two years.³

¹Kansas Twenty-first Biennial Report, op. cit., p. 15
Administrative experience of school officials.
The training, experience, and tenure of a school administrator are important factors in the successful operation of the school. The state sets the requirements which one must meet to become an administrator but experience and tenure are left to chance factors. This investigation endeavors to ascertain the number of years experience and the tenure in the present position of the school men heading the schools of this study.

The median number of years experience of the seventy officials heading the schools is eleven years. The range is from one to thirty years. Figure 1 shows the years experience and Figure 11 shows the tenure of school administrators. The median tenure is two and two-thirds years with a range from one to twenty three years.

Naylor found in his study of Kansas schools, a median experience of nine years for administrators and a median tenure of two and three-tenths years. Both the median experience and tenure are slightly higher in this study. A few elementary principals head bus systems and the use of these may explain this difference.

\footnote{Naylor, Kirk E., The Administrative Activity and Deterrents Operating there in 236 Kansas School Districts, (Unpublished Doctor's Dissertation, University of Kansas, Lawrence, Kansas, 1952)}
ADMINISTRATIVE EXPERIENCE IN YEARS OF OFFICIAL IN CHARGE OF PUPIL TRANSPORTATION IN SEVENTY SCHOOLS

FIGURE 1
FIGURE 11

NUMBER OF YEARS ADMINISTRATOR HAS SERVED IN PRESENT POSITION
The operation of a school bus transportation system is a responsibility for which there should be some collegiate training, but as far as could be learned there are no courses offered in Kansas Colleges or Universities to prepare one to do this work. This lack of preparation along with the short tenure of school officials is evidence of a need for improvement.

**Number of buses operated.** The number of buses operated by each district is four or five vehicles per school. The range goes from two schools with one bus per school to one school with a total of thirteen. Figure III shows the distribution of buses in the seventy schools of the study.

There is no evidence in Western Kansas that districts are combining their transportation systems into county or large centrally located bus centers as has been done in the South as reported in the pamphlet on pupil transportation for Southern states. The many small, independently operated bus systems may explain the high cost of pupil transportation and poor pupil accounting in Western Kansas.

**Enrollment of schools in the study.** Sixty four schools report an enrollment ranging from sixty students to four hundred and over. The largest enrollment for any school in the study was six hundred and twenty six.

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5Florida State Department of Education, op. cit.
The median enrollment is one hundred sixty nine students in twelve grades. Figure IV illustrates the distribution as determined by the investigation.

**Number of children transported.** Figure V is a graphic illustration of the data regarding the number of children transported in buses in the sixty seven schools in this investigation. The range covers the number of children which each school transports to and from school. It starts with two schools that carry from twenty to twenty nine children and extends upward to two schools that transport over two hundred and ten students. The largest number reported is two hundred sixty seven. The median number of pupils carried by each school is eighty five children. The median number of students coming to school on buses amounts to fifty percent of the median enrollment.

**Length of routes.** How long are bus routes? To answer this question for the schools comprising this study, the length of the longest, shortest and average routes has been found. State regulation suggests that a route should not be so long that a child will have to ride over an hour. In actual practice schools have set up routes that range in length from five to sixty seven miles. Only six schools of the sixty eight reporting have routes over fifty miles in length. The median longest route is thirty three and three fourths miles.
Figure V

Number of children transported in 67 schools.
FIGURE IV

ENROLLMENT IN GRADES 1 to 12 IN 64 SCHOOLS
The shortest routes range from five to forty miles in length with a median of twenty one miles. The average length of bus routes ranges from eighteen to forty miles with an average median length of twenty five miles. Figure VI illustrates the average of the long, short and average bus routes.

Ownership of buses. Bus service is contracted for pupil transportation by some districts, but in Western Kansas district ownership is more common. Seventy schools reported on this practice and sixty three or 91 percent have full and complete ownership. Three contract all their bus service and three have public ownership and contract from one to five cars or small buses to meet the requirements for pupil transportation to school.

Bolton recommends public ownership of buses and Featherston reports that three fourths of the school buses are publicly owned today. According to this criteria, Western Kansas schools are exceeding the national average.

Housing of buses. Where are buses kept at night and during summer vacation and what are the common practices? Table 1 shows that 52 percent of the schools have

6Bolton, *op. cit.*, p. 557
7Featherston, *op. cit.*, p. 368
LENGTH OF LONGEST, SHORTEST, AND AVERAGE ROUTE

FIGURE VI
# Table 1

**Method of Housing Buses in 69 Schools**

<table>
<thead>
<tr>
<th>Type of Storage</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. School owned garage</td>
<td>36</td>
<td>52.1</td>
</tr>
<tr>
<td>2. Private business garage</td>
<td>5</td>
<td>7.2</td>
</tr>
<tr>
<td>3. Buses kept in town but not housed</td>
<td>5</td>
<td>7.2</td>
</tr>
<tr>
<td>4. Buses housed and kept in country garage</td>
<td>4</td>
<td>5.8</td>
</tr>
<tr>
<td>5. Part of buses housed in school garage and part kept in country and not housed</td>
<td>8</td>
<td>11.6</td>
</tr>
<tr>
<td>6. Buses housed in town and in country</td>
<td>5</td>
<td>7.2</td>
</tr>
<tr>
<td>7. Buses housed in private garages and those in country not housed</td>
<td>2</td>
<td>2.9</td>
</tr>
<tr>
<td>8. Buses sit out in town and country</td>
<td>2</td>
<td>2.9</td>
</tr>
<tr>
<td>9. Buses housed in private garage or housed in country</td>
<td>2</td>
<td>2.9</td>
</tr>
</tbody>
</table>
their own garage for the housing of their equipment and keep the entire fleet in this building. Seventy one percent of the schools own a garage for the service and storage of the equipment but thirteen of the sixty nine schools reporting do not store all their equipment in the central garage.

Seven percent of the districts rent storage from local garage owners, and 7 percent do not have any storage space but let the equipment sit outside.

A small number of schools house the buses in the country. If possible a driver is secured who lives near the end of the route. If the driver's farm has suitable and available storage, it is used for the bus, if not, the district provides a small portable garage. When drivers change, the building is moved to the home where the new driver lives. This practice is followed by 6 percent of the districts.

Another common plan is the use of a school owned garage for most of the buses and placement of as many of the fleet as possible at the end of the routes. No attempt is made to house those left in the country. The number of buses left at the end of the route depends on the availability of drivers who live at convenient locations. During summer vacation all the fleet is stored in the school garage.
This plan is used by 11 percent of the schools.

Some districts endeavor to house the equipment in both town and country while others use a variety of the methods listed above.

**Service, repair, and maintenance of buses.**

The success, efficiency, and safety of the transportation system depend on the care and upkeep of the buses. One of the criteria for an efficient system is the employment of a driver mechanic for schools operating ten or less and a full time mechanic for schools operating more than ten buses.

Table 2 shows twenty three or approximately 32 percent of the seventy schools report a full time driver mechanic who has supervisory duties over the transportation of the children. Thirty six or 51 percent of the districts employ a mechanic at a local garage to do the service and repair work. Five schools depend on drivers to do this work and six schools use a combination of school mechanic, local garage mechanic or driver to do the service, repair and maintenance work on their fleet.

Visitation conferences with school men found a growing opinion that much of the heavy mechanical work should be done by local garages where factory trained mechanics are employed.
TABLE 2

METHOD OF SERVICING, REPAIRING AND MAINTAINING EQUIPMENT IN 70 SCHOOLS

<table>
<thead>
<tr>
<th>METHOD USED</th>
<th>NUMBER</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. School mechanic</td>
<td>23</td>
<td>32.8</td>
</tr>
<tr>
<td>2. Private mechanic employed to do the work</td>
<td>36</td>
<td>51.4</td>
</tr>
<tr>
<td>3. Drivers do work</td>
<td>5</td>
<td>7.1</td>
</tr>
<tr>
<td>4. Combination of School mechanic and private mechanic</td>
<td>2</td>
<td>2.8</td>
</tr>
<tr>
<td>5. Combination of driver and private mechanic</td>
<td>4</td>
<td>5.7</td>
</tr>
</tbody>
</table>
When major repair work is done during the summer vacation, the fleet should operate during the school year with a minimum amount of required service and repair. This plan makes possible the selection of a good bus supervisor who need not be a highly trained mechanic. For the salary paid for the position, this method makes easier the employment of a suitable man.

**Bus replacement policy.** How often do schools replace the buses and what plan is used? Butterworth recommends a practice of annual fleet replacement on a pay as-you-go basis with no bus over five to eight years of age.8

Of the seventy districts reporting, one school replaced all buses at one time, but did not say how often this was done. Forty eight or 68 per cent of the districts had no replacement plan. Buses were replaced when the board of education had the finances or a good bus salesman arrived in town, according to information given by some school officials.

Eighteen schools plan to replace one bus each year. This is 25 percent of the number reporting. Two districts report a replacement of two buses each year and one school replaces by rotation.

Analysis of the data shows that the twenty six schools that have had buses in operation since before 1930 have a

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8Butterworth, *op. cit.*, p. 28
better replacement policy than the entire group. There is a definite replacement policy in 42 percent of the districts, however, 58 percent of the schools that have had the longest experience in bus operation still have no plan for replacing the equipment.

Twenty nine of the seventy schools operate five or more buses. Fourteen or 48 percent have a replacement plan, while 52 percent have no such plan.

From the above data, it is evident that the majority of the schools have no plan for bus replacement and the general practice for the minority is to replace one bus a year or by rotation.

**Records.** Table 3 shows a survey of the type of records kept and the number of schools that keep each type. The number of schools that do not keep records is somewhat astonishing. Only forty six or about 66 percent of the schools keep an account of the children who ride on buses. One school had no information on how many or who rode. To determine the number, the writer counted the children as they loaded in the evening.

Only 57 percent or a little over one half of the schools keep a record of the miles traveled by the fleet.
<table>
<thead>
<tr>
<th>Type of Record</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Account of children transported</td>
<td>46</td>
<td>65.7</td>
</tr>
<tr>
<td>2. Record of miles traveled</td>
<td>40</td>
<td>57.1</td>
</tr>
<tr>
<td>3. Yearly cost of fuel</td>
<td>52</td>
<td>74.2</td>
</tr>
<tr>
<td>4. Yearly operational fleet cost</td>
<td>62</td>
<td>88.5</td>
</tr>
<tr>
<td>5. Yearly operational cost for each bus</td>
<td>26</td>
<td>37.1</td>
</tr>
</tbody>
</table>
The purposes for record keeping given by Reeder are not being realized by the schools of this study. This investigation has found transportation accounting inadequate and inefficient.

The operational budget requires that the yearly cost of transportation be estimated and the board's yearly report to the county superintendent requires that the cost be reported. But only 88½ percent report that they keep any record of this cost. Thirty seven percent endeavor to keep a record of the yearly operational cost of each bus.

The records are kept in fifty or 71 percent of the schools by the superintendent or in schools which do not have a superintendent, by the principal. In four districts, the mechanic is responsible for record keeping, in nine the board does this work and in seven the mechanic and the school official in charge cooperate in record keeping.

Twenty eight of the seventy schools have a report made to the board of education each year on pupil transportation. Forty two or 60 per cent make no effort to make such a report.

The lack of fixation of responsibility for pupil transportation accounting is a definite weakness as well as the lack of standardized accounting. Bolton would have the
superintendent responsible for keeping the transportation records. 9

Establishment of routes. Table 4 gives the graphic information regarding the official that is responsible for establishing the bus routes. It appears that the largest percentage of the seventy schools have the school official cooperate with the board of education in the establishment of routes. Thirty one percent follow this plan. Twenty one percent of the districts disregard the school official and the board of education assumes the responsibility. In turn about 23 percent of the school officials disregard the board of education in establishing routes. Four schools allow the mechanic complete authority to do this work.

According to Bolton's criterion, the superintendent should have full authority as the agent of the board of education to arrange routes. 10 This practice is not being followed by a majority of the seventy schools.

Operation of buses over two routes. Operation of buses over more than one route is not common practice in Western Kansas according to evidence collected from sixty one schools reporting on this inquiry.
### Table 4

OFFICIAL RESPONSIBLE FOR ESTABLISHMENT OF ROUTES IN 70 SCHOOLS

<table>
<thead>
<tr>
<th>Official</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. School board</td>
<td>21</td>
<td>30.0</td>
</tr>
<tr>
<td>2. Superintendent or principal</td>
<td>16</td>
<td>22.8</td>
</tr>
<tr>
<td>3. Bus Mechanic</td>
<td>4</td>
<td>5.7</td>
</tr>
<tr>
<td>4. School board and supt.</td>
<td>22</td>
<td>31.4</td>
</tr>
<tr>
<td>5. Superintendent and mechanic</td>
<td>2</td>
<td>2.8</td>
</tr>
<tr>
<td>6. School board and mechanic</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>7. School board, Supt. and mechanic</td>
<td>4</td>
<td>5.7</td>
</tr>
</tbody>
</table>
Fifty two schools or 7\(\frac{1}{4}\) percent do not use their buses for more than one route. The reason for this practice according to the opinion of the school men who were visited, seems to be the fact that most of the route are dirt roads. In wet weather and during the winter season few districts feel that a bus could efficiently cover two routes. However, nine schools report that they do use some buses on two routes each day.

**Type of routes.** The most popular type of bus route is the circle. This is used by thirty six of the seventy schools or 51 percent. The wide development of the road system in Western Kansas makes this type route possible and practical. While roads aren't always good, practically every square section has a road on all four sides. Farm homes can be reached from any direction, and the circle route has developed.

The cut-back type route is used by 18\(\frac{1}{2}\) percent of the districts. These are applicable to territory which has one accessible road. Nineteen or 27 percent of the schools use both type routes and two schools did not report.

Very few schools use feeder routes. Three districts found that they had territory at such a distance that
feeder lines are used. However, fifty three of the fifty six reporting districts do not use feeder routes.

**Time children spend on bus.** The time children spend on a bus is an item that must be taken into account in establishing bus routes. The Kansas regulations urge that no child be required to ride more than an hour on one trip. Of the sixty five reporting schools, thirty seven percent have children that must ride an hour or more. One school has children riding over ninety minutes. Figure V11 shows the time children must ride the bus to get to school. Twenty schools have children riding forty to forty nine minutes and twenty have children riding sixty to sixty nine minutes. The median time spent on the bus is fifty two minutes. Evidence shows the average riding time to be near the maximum riding time allowed by state regulation.

**Distances children walk to board a bus.** The distance which children are required to walk to meet the bus varies widely in other states. Where roads are not accessible children are required to walk as much as two and one half miles, and in Kansas the law does not require a district to pay transportation to a parent of children living less than two and one half miles from school.
FIGURE V11

TIME CHILDREN SPEND ON BUS TO MAKE ONE TRIP TO OR FROM SCHOOL IN 65 SCHOOLS
In the sixty five Western Kansas schools reporting on this practice, 89 percent furnish pupil transportation from the child's home. Table 5 shows that about 28 percent allow the driver to determine where children load. This practice amounts to the same as the policy of sending the bus to each child's home. Sixty one and one half percent of the districts have a policy that the bus must go to the child's home to load and unload. Only six schools or 9 percent require children to walk from one fourth to one mile to meet the bus.

**Assignment of buses to routes.** The assignment of buses to routes is routine procedure, yet careful attention and adherence to established policy may save complications later. There should be reasons for the assignment of each bus to particular routes, and these reasons should be a matter of record after the board of education and superintendent have agreed on the plan as suggested by Bolton in his criteria for pupil transportation. 11

Table 6 illustrates the practices used by sixty seven schools. Twenty schools or about 30 percent place the responsibility in the hands of the chief school officer. In an equal number, the board of education retains this function.

11Bolton, op. cit., p. 557
### TABLE 5

**DISTANCE A CHILD MUST WALK TO MEET THE BUS IN 65 SCHOOLS**

<table>
<thead>
<tr>
<th>Distance</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Walking distance left to drivers discretion</td>
<td>18</td>
<td>27.7</td>
</tr>
<tr>
<td>2. Bus loads in child's yard</td>
<td>40</td>
<td>61.5</td>
</tr>
<tr>
<td>3. Children required to walk up to one fourth mile</td>
<td>5</td>
<td>7.7</td>
</tr>
<tr>
<td>4. Children required to walk one mile or less</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>5. School board determines policy</td>
<td>1</td>
<td>1.5</td>
</tr>
</tbody>
</table>
## Table 6

**Official Responsible for Assignment of Buses to Routes in 67 Schools**

<table>
<thead>
<tr>
<th>Official</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Superintendent or principal</td>
<td>20</td>
<td>29.8</td>
</tr>
<tr>
<td>2. Board of education</td>
<td>20</td>
<td>29.8</td>
</tr>
<tr>
<td>3. Mechanic</td>
<td>5</td>
<td>7.4</td>
</tr>
<tr>
<td>4. Supt. and board of education</td>
<td>18</td>
<td>26.8</td>
</tr>
<tr>
<td>5. Supt. and mechanic</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>6. Board of education, Supt. and mechanic</td>
<td>3</td>
<td>4.4</td>
</tr>
</tbody>
</table>
The ideal plan is practiced by about 27 percent of the districts. This method as suggested by Bolton, makes the assignment of buses a cooperative endeavor between the school official and the school board. Seven percent of the districts allow the mechanic to perform this duty.

**Schedule for routes.** Sixty eight districts report a bus fleet that operates on schedule. Thirty two schools or 47 percent endeavor to maintain a strict schedule, but 53 percent run the routes on a flexible schedule. Muddy roads and winter weather make a strict schedule difficult to keep, but there is evidence that schools are trying to establish definite time schedules for the convenience of the children who must ride the buses. There is room for much improvement if the schools are to maintain the strict time schedule suggested by Reeder for the convenience of the children who ride over the routes. 12

**Responsibility for daily operation of buses.** Definite responsibility must be fixed with someone who decides whether buses operate on days when roads are muddy or blizzards are forecast or raging. There should be no indecision relative to the person bearing this responsibility as the lives of the children may depend on this official's order.

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12Reeder, op. cit., p. 29
Table 7 shows that forty six or 75 percent of the sixty one reporting schools place this responsibility on the shoulders of the chief school official. The board of education retains this authority in about 10 percent of the districts, and one school allows the drivers to decide what should be done. Bolton would give the school superintendent complete authority for the administration and supervision of all pupil transportation.13 Twenty five percent of the schools are failing to meet this criterion.

Method of making up lost school time. The school that operates a pupil transportation system often has a majority of its enrollment who ride to school on the buses. This study found that one half of the enrollment of the schools studied rode to school in buses. When bad roads or weather make bus operation impossible the officials must determine whether to dismiss school or conduct classes for a minority of the students. Either procedure will cause problems but 80 percent of Western Kansas schools do not conduct classes if buses do not operate. Nine schools or about 13 percent endeavor to meet classes if buses do not operate and five schools did not indicate any plan.

13Bolton, op. cit., p. 557
TABLE 7

LOCATION OF RESPONSIBILITY FOR BUS OPERATION IN 61 SCHOOLS

<table>
<thead>
<tr>
<th>Responsible official</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Supt. or principal</td>
<td>46</td>
<td>75.1%</td>
</tr>
<tr>
<td>2. Board of education</td>
<td>6</td>
<td>9.8%</td>
</tr>
<tr>
<td>3. Mechanic</td>
<td>1</td>
<td>1.6%</td>
</tr>
<tr>
<td>4. Board of education and Supt.</td>
<td>4</td>
<td>6.5%</td>
</tr>
<tr>
<td>5. Mechanic and Supt.</td>
<td>3</td>
<td>4.9%</td>
</tr>
<tr>
<td>6. Drivers</td>
<td>1</td>
<td>1.6%</td>
</tr>
</tbody>
</table>
When conditions are such that the fleet is not operated, 37 percent of the school systems inform the public by telephone, 21 percent use radio, 39 percent use both telephone and radio and 3 percent do not inform the people that buses will not operate.

Table 8 shows methods used by various districts to make up school time that is missed because buses did not operate. The State Department of Education made a suggestion this year that missed time be made up in the spring. This suggestion has clarified the formerly confused practice. Several schools, 23 percent, still plan to make up time on Saturday, but 47 percent are using the state suggestion. Seven percent do not plan to make up time at all.

The pamphlet on Pupil Transportation for Southern States makes the suggestion that transportation can no longer be left entirely to local management and control but the state should offer plans and practices for improvement. The truth of this statement is illustrated in the example above.

Speed. Table 9 tells an interesting story. The 1951 session of the Kansas State Legislature raised the maximum speed limit for school buses from thirty five to forty five miles per hour. Sixty percent of
TABLE 8

METHOD USED TO MAKE UP LOST DAYS IN 70 SCHOOLS

<table>
<thead>
<tr>
<th>Method</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Saturday</td>
<td>16</td>
<td>22.8</td>
</tr>
<tr>
<td>2. Longer hours each day</td>
<td>4</td>
<td>5.7</td>
</tr>
<tr>
<td>3. Spring</td>
<td>33</td>
<td>47.1</td>
</tr>
<tr>
<td>4. Saturday and spring</td>
<td>5</td>
<td>7.1</td>
</tr>
<tr>
<td>5. Time not made up</td>
<td>5</td>
<td>7.1</td>
</tr>
<tr>
<td>6. No answer</td>
<td>7</td>
<td>10.0</td>
</tr>
</tbody>
</table>
TABLE 9

MAXIMUM SPEED OF BUS OPERATION IN 65 SCHOOLS

<table>
<thead>
<tr>
<th>Miles per hour</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Thirty five miles per hour</td>
<td>14</td>
<td>21.5</td>
</tr>
<tr>
<td>2. Forty miles per hour</td>
<td>11</td>
<td>16.8</td>
</tr>
<tr>
<td>3. Forty five miles per hour</td>
<td>39</td>
<td>60.0</td>
</tr>
<tr>
<td>4. Fifty miles per hour</td>
<td>1</td>
<td>1.5</td>
</tr>
</tbody>
</table>
the schools use this speed as the maximum but 38 percent set the maximum at a lower rate. Approximately 17 percent use forty and 21 percent still operate their fleet at thirty five or less miles per hour. Twenty seven percent of the schools have installed governors on the equipment to control excess speed, but 73 percent do not use them.

Eleven percent of the reports say that speed is a serious problem in the administration of transportation. Eighty nine percent report that excess speed is not a troublesome problem.

The school bus mechanic. Of sixty six schools, forty two employ a mechanic and 57 percent do not. The U. S. Office of Education lists the bus mechanic as a definite factor in the success of good fleet operation.\textsuperscript{14}\textsuperscript{14} A visit to a school that has a good mechanic will substantiate this fact.

Figure VIII illustrates the salary which districts pay their mechanics. The salary ranges from \$1000 to \$3600. The median salary is \$2409. Three schools report that they pay the mechanic on an hourly basis.

No district reports that special training is required.

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\textsuperscript{14}U. S. Office of Education, Bulletin 1948, op. cit., p. 40
SALARY

FIGURE VIII

SALARY OF BUS MECHANIC IN 24 SCHOOLS
of the mechanic. Thirty two percent require no training, 64 percent endeavor to employ men that have some mechanical experience, and one school reports that this official must attend the bus driver's training school. Of the twenty eight schools reporting, 57 percent grant the mechanic supervisory authority subject to the superintendent of school. Fourteen percent of the districts grant the mechanic supervisory authority subject to the board of education. One school grants no authority to the mechanic.

Bus drivers are employed in 59 percent of the sixty nine schools reporting, by the board of education. In 32 percent of the cases, the superintendent and board of education cooperate in the selection of drivers. The superintendent selected drivers in one school, the mechanic in three, and the superintendent, board of education and mechanic in two districts.

The bus driver is held responsible to the superintendent in 45 percent of the districts, to the superintendent and board of education in 29 percent of the schools and to the board of education in 14 percent. In four schools the drivers are responsible to the mechanic and in four others to the superintendent and mechanic. The state regulations suggest that all drivers be contracted and have medical examinations.
However 68 percent of the districts do not use a written contract for the drivers. Sixty percent require a medical examination before a man is employed as a driver, but 40 percent disregard this important requirement.

Table 10 shows the type of drivers which districts employ. Forty five schools report the employment of a definite policy as to type of driver chosen. Of this number, four use students, two janitors, and thirty nine or 86 percent use adult men. All reports show that the driving is satisfactory.

Many combinations of students, teachers, janitors, adult men, and adult women are being used as Table 10 shows. A few reports rate the drivers as average or unsatisfactory where a combination is used. There is some dissatisfaction with teachers driving. Interviews with school officials find administrators using teachers as drivers only in emergencies. Driving takes the teacher away from the school room immediately before and after school and the superintendents want the teachers in the rooms then.

Of the twelve schools that report the use of student drivers, all give a satisfactory report on the driving but one. This report rated the student an average driver.
### TABLE 10

**TYPE OF DRIVER EMPLOYED BY 69 SCHOOLS**

<table>
<thead>
<tr>
<th>Type of Driver</th>
<th>Number</th>
<th>Sat.</th>
<th>Ave.</th>
<th>Unsat.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Student</td>
<td>4</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Janitor</td>
<td>2</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Adult men</td>
<td>39</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>4. Combination of:</td>
<td>2</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Combination of:</td>
<td>6</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>adult men</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>teachers</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Combination of:</td>
<td>12</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>adult men</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>teachers</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>7. Combination of:</td>
<td>1</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>janitor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>student</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Combination of:</td>
<td>2</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>janitor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adult men</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Combination of:</td>
<td>1</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>adult men</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adult women</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

100
Only one school uses adult women drivers. This fleet is operated by adult men and adult women. The women are rated satisfactory and the men average.

Table 11 shows the median salary which the school reports. Students are paid the lowest salaries. Where students are used to do all the driving, the salaries range as low as $25.00 a month. If students are used in combination with other type drivers, salaries range upward. The median student salary of $41.10 is evidence that districts save money by employing pupil drivers.

It is interesting to note that median salary for teachers is $62.00, while janitors get a median salary of $74.50.

When adult men other than teachers or janitors are employed, salaries immediately range upward. The highest salary paid is $175.00 for an adult man driver. The median salary for the men drivers is $91.10.

Bolton in criteria for pupil transportation recommends that students and teachers not be employed as drivers unless for reasons of economy. Brown's study of student drivers in North Carolina found high school pupils when carefully trained and selected to be efficient drivers.

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15Bolton, op. cit., p. 557
16Brown, op. cit., p. 122
### TABLE 11

**MEDIAN SALARY PAID VARIOUS TYPES BUS DRIVERS**

<table>
<thead>
<tr>
<th>Type driver</th>
<th>Median salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Student</td>
<td>$41.10</td>
</tr>
<tr>
<td>2. Teacher</td>
<td>62.00</td>
</tr>
<tr>
<td>3. Janitor</td>
<td>74.50</td>
</tr>
<tr>
<td>4. Adult men</td>
<td>91.10</td>
</tr>
<tr>
<td>5. Adult women</td>
<td>55.00</td>
</tr>
</tbody>
</table>
A majority of the districts comprising this study use adult men as drivers, but the few schools that do use students are satisfied with the service. Administrative opinion on the merits of using pupil drivers was secured by visitation in eight schools. All officials reported that high school students when carefully selected are cooperative efficient, and more easily supervised than adults who had formerly driven. More care was exercised in selecting, there were more applications for the position, students were willing to drive for lower salaries and pupils were easier to control, and followed orders better, where arguments given in favor of student drivers.

While the above advantages of students over adults as drivers are recognized by some, a majority of the districts use adult men because, as several officials report, a man is more capable to handle emergencies and discipline.

The bus driver is more directly responsible for the safety of the pupil than a teacher. Therefore this study makes an effort to determine the requirements and training of drivers.
Two schools of the sixty seven reporting have no requirements for bus drivers. Fifty five or 82 percent try to employ men who have drivers licenses and are known in the community as men of good repute and character. Only ten districts or 15 percent have written character requirements.

As important as training programs are recognized to be, fifty schools or 78 percent of the sixty four that report say that they have no training program of any kind. Fourteen require drivers to attend the one day school conducted by the Kansas State Highway Commission. One of the above schools requires that drivers who are students must take the school sponsored driver education course and the Highway School in addition before they are qualified for consideration to be a bus driver.

If a trained bus driver is as important for the safety and efficiency of pupil transportation as Featherston points out, then the schools of Western Kansas are failing in their responsibility. 17

17 Featherston, op. cit., p. 2
Discipline on the bus. Fifty five schools or 82 percent do not find discipline to be a serious problem on the buses. Twelve schools or about 18 percent report that they are troubled by discipline and that it is a serious problem. One school man feels that this is one of his most serious administrative responsibilities.

While 82 percent say that discipline is not a serious problem, 82 percent also say that they think a good driver training program for drivers would improve discipline on the buses.

State supervision of bus routes, schedules, and drivers. Sixty seven schools replied to the inquiry regarding opinion relative to a desire for state supervision of bus routes and schedules. Forty four school men or 65 percent did not want state supervision. Thirty four percent thought state supervision would be desirable and beneficial. Fifty officials or 76 percent of the sixty six reports say that they would favor state adopted standards for bus drivers. Twenty four percent of the reports did not want the state to set up bus driver standards.

Some of the responses are very emphatic in the expression of an opinion against state supervision. Rugged individualism still exists in Western Kansas.
Butterworth, Tate, Neyhard, Featherston, and the Florida State Department of Education recommend state supervision and most of the references used by this study are reports of work done in states which have centralized supervision. From the information collected, it appears logical to assume that more progress is made in states which have state supervision.

Private School Children. Only nine schools of the seventy in the study transport private school children in buses. Of these nine, four carry them on the same basis that public school children are transported, four require the children to meet the bus on its regularly established route and one school did not answer.

To obey the letter of the law and require private school children to meet the buses on the regular route is a dangerous procedure to follow, according to the

18Butterworth, op. cit., p. 10
19Tate, op. cit.
20Neyhard, op. cit., p. 4
21Featherston, op. cit., p. 4
22Florida State Dept. of Education, op. cit., p. 6
opinion of three school officials. This controversial issue will require further legislation and judicial action before the schools can be sure what the correct practice is.

**Cost of bus transportation.** The cost of bus transportation for Western Kansas pupils is high. The average cost per pupil as reported by the United States Office of Education is around $30.00 a year in the nation and $75.22 in Kansas. The cost in the fifty six schools that report ranges from a low of $30.00 per pupil per year to a high of $199.00. The median cost is $75.50 per child per year. This figure is just a few cents higher than the report by the United States Office of Education.²³

Poor cost accounting and lack of proper information destroy some of the value of the above figures. Two men report a cost of $4.00 to $10.00 per child per year for transportation. A careful check of the reports show that driver's cost alone would be double the transportation cost which the two men report. It is also feared that some of the higher ranges of per pupil cost figures include capital investments in equipment, although exclusion of this item was requested.

²³U. S. Office of Education, *op. cit.*, (Mimeographed Sheet.)
FIGURE 1X

COST OF BUS TRANSPORTATION PER CHILD PER YEAR
One county superintendent criticised school officials for making no division in capital and operational cost in reports to the county office.

Tate reported transportation in New Mexico high in 1947-1948 at $53.00 per pupil. The state uses the contract system in all but 22 school districts. The state system was haphazard when controlled by local board, until 1937 when the legislature created a state director of transportation. Since then transportation has made rapid strides until New Mexico ranks high in pupil transportation in the nation, according to the study.\textsuperscript{24}

Whether state supervision in Kansas would cut the transportation costs remains to be seen, but Tate says it increased efficiency and put New Mexico on a sound economical basis.

**Insurance.** The legal aspects of school bus insurance is not a part of this investigation. Only the practices of the schools being studied are sought. Sixty four districts or 97 percent purchase full insurance coverage. This includes property damage and personal liability.

\textsuperscript{24}Tate, op. cit.
These data show that Kansas Schools are meeting the criterion for the protection of children who ride the buses as suggested by both Tate\textsuperscript{25} and Joyner\textsuperscript{26}.

**Kindergarten.** Fifty four schools or 82 percent of the sixty five reporting districts do not have a kindergarten. Eleven schools or about 17 percent do. Where it is customary to conduct kindergarten classes for half day sessions, the problem of getting children to school or home at noon arises. Eight of the schools depend on the parents to transport the children one way, two districts report that the children are kept a full day and one school uses the buses to make the extra trip during the noon hour.

From the evidence collected it appears that the extension of kindergarten services to districts using school buses entails additional transportation facilities. Parents of children attending the kindergarten are now furnishing the extra service. Bus transportation has not encouraged the introduction of kindergarten in Western Kansas schools.

**Accidents.** Ten schools report a serious accident within the past five years. There are fatalities reported.

\textsuperscript{25}Tate, op. cit.
\textsuperscript{26}Joyner, op. cit.
All accidents were property damage as shown in Table 11. Adults are reported to have been the drivers of six of the buses involved in accidents and students of three. There is no report in one case.

Most of the accidents are reported to have been the result of carelessness.

Other problems. The inquiry blank requested the school official list other problems or practices which were not covered by the study. Table 12 gives this information. Some of the remarks are partially covered but the school official seemed anxious to add emphasis to the previous statements.
TABLE 12

NATURE OF SCHOOL BUS ACCIDENTS AS REPORTED BY SCHOOL OFFICIAL

1. Upset bus.
2. Ran into a car.
3. Slid into a bridge.
4. Turned over in the mud.
5. Turned over in loose gravel.
7. Bus sitting on a hill while driver went after eggs, and it ran down the hill and hit a barn.
8. Turned bus over.
10. No explanation except carelessness.
TABLE 13

OTHER PROBLEMS LISTED BY SCHOOL MEN

1. Department of transportation needed.
3. Roads need improving.
4. Speeding, pulling off routes, purchasing.
5. A plan for meeting increased costs of transportation.
7. Schools should operate even if weather and road conditions, are such that buses cannot run.
8. Need driver training program.
9. Speed, distance, expense.
10. Bad roads.
12. Buses are one of biggest problems.
14. Laying out routes.
15. How to buy buses on devalued dollar.
16. Hauling other than school groups.
17. Punctuality on routes.
CHAPTER IV

CONCLUSIONS AND IMPLICATIONS

In consideration of the information assembled from authorities in the field of pupil bus transportation and practices in schools in Western Kansas, the following conclusions and implications are offered.

The two to three-year tenure of school administrators is not adequate for inauguration or development of efficient pupil transportation systems. Under such short tenure, the school program is likely to be static and many administrative responsibilities retained by the board of education as is shown in this study.

With half the median enrollment now riding the buses in the schools comprising this study, and the maximum time children spend on the bus near the limit set by the state regulation, one can conclude that bus routes cannot be much longer. The implication of this conclusion is that Western Kansas schools are likely to remain small. Distance is a factor which will keep down enrollments and any program for the improvement of instruction will have to be based on the small school system with an enrollment under 300.

The study of recommended standardized records with benefits as pointed out by Butterworth compared with the records kept by the seventy schools establishes reasons to
conclude that pupil transportation accounting is inefficient and inadequate in the Western Kansas schools comprising this study.

In light of the evidence, one could imply that transportation statistics are inaccurate and of little benefit in the present condition.

A study of transportation in other states leads one to the conclusion that state supervision by the State Department of Education is a necessity if organization and efficiency are to emerge from the variety of present practices. Tate found that the creation of a State Director of Transportation in New Mexico with broad powers of supervision over local districts brought order out of haphazard practice.¹

It is recommended that a State Director of Transportation be appointed to head the State Department of Transportation and that this official be granted broad supervisory powers over local districts. A uniform accounting system for pupil transportation should be introduced in all schools by this department.

This study found many school officials who object to state supervision, however the experience of officials in other states and recommendations of authorities is considered more important than the objections of individual school men.

While districts reported general satisfaction with bus drivers, the majority of the reporting officials, authorities, Tate, op. cit.
officials in other states and the United States Office of Education all favor training programs for personnel.

It is recommended that the State Director of Transportation in the State Department of Education be vested with authority to conduct schools to train school bus transportation supervisors and bus drivers as rapidly as possible and that this training be required for certification to drive a school bus.

A comparison of pupil bus transportation costs in Kansas with national costs shows that Kansas spends two and one half times the national average per child. This fact implies that Kansas schools may be wasting money on some practices which might be corrected by good administration and supervision.

The implication of these conclusions is that the creation of a State Director of Transportation in the State Department of Education could establish standardized accounting, create a state driver training program with certification of drivers, standardize practices with suggestions for better procedures, and yet secure a more efficient, comfortable, safe system of pupil bus transportation for Kansas children at a lower cost than the state is now paying.

Tate found these benefits came in New Mexico with the creation of centralized supervision.²

²Tate, op. cit.
ABSTRACT

This thesis is a study of the practices in Western Kansas school bus transportation. Chapter 1 introduces the subject of pupil transportation in the United States and Kansas, and then proceeds to collect data and statistics on the practices, which are chosen for consideration from Publications from the United States Office of Education, state departments of education, books, magazines, unpublished thesis, and other documents.

Pupil transportation began in Massachusetts in 1869 when the legislature of that state passed a law authorizing local communities to tax themselves for the transportation of pupils. In 1920 there were few Western Kansas schools transporting students, and by 1924 there were sixteen schools furnishing pupil bus transportation.

The United States Office of Education reports a rapid growth of pupil transportation by bus with 6,980,689 children transported in 115,205 vehicles at an expenditure of $204,611,283 in 1949 and 1950.

The reason for this rapid growth seems to be the belief that consolidated schools provide better educational opportunities than one teacher schools, migration of population from rural areas to cities, and the advent of the automobile and good highways. Also, it is pointed out that the government has an obligation to furnish transportation, and it is a proper function of the state.
The necessity for the collection, analysis and publication of data and statistics on pupil bus transportation is pointed out, and the responsibility for this service is fixed in the centralized office in the state department of education. The responsibility for the administration and supervision of pupil bus transportation is fixed in the school superintendent. Also, the importance of state supervision is pointed out if a state is to have an efficient, economical bus transportation system for its pupils.

Criteria are offered for the efficient operation of bus systems. Among the more important of these are: routes should be established to accommodate the children rather than to save expenses, drivers should be carefully selected and trained, districts should own their vehicles and housing facilities, responsibility for pupil transportation should be fixed in the superintendent, a competent mechanic should be employed, and the district should achieve economy by careful purchase of gasoline, oil, and supplies.

An effort is made to point out good pupil bus administration practices which authorities have tested and published. Some of the practices which are given consideration are: the use of records to give publicity on economical practices, type of records necessary, the circle route compared with the cutback route, map making as an essential to routing, maximum riding time of one hour on a bus, maximum vehicle speed of 45 miles per hour, walking distances of not more than two miles,
necessity for strict time schedules, importance of and necessity for good bus mechanics, the need for careful training and selection of bus drivers by the state department of education, the Kansas Highway Commission's training plan, transportation of parochial children, and school bus insurance.

Chapter II is a statement of the problem and the method of procedure. The problem as stated is an effort to ascertain school bus transportation practices in a selected area in Western Kansas, compare them with recognized criteria, point out good practices and recommend modification of action which is not in harmony with the criteria. The method of procedure was as follows: selection of practices to be studied, construction of an inquiry blank which was sent to the schools in the selected area, visitation to approximately one third of the schools to interview superintendents and inspect transportation equipment, analysis of returned inquiry blanks, and the writing of the manuscript.

Chapter III is the presentation of the practices as the school officials listed them on the inquiry blanks or gave them when interviewed.

Kansas schools began transporting pupils in 1917 and the service has grown gradually and continuously since that time.

The study shows school officials have a median of eleven years experience with a median of two and three tenths years tenure at each position.
The districts average four plus vehicles per school. The average enrollment is one hundred sixty nine students, with average of eighty five students riding the buses. Long routes average thirty three miles, short routes average twenty one miles, and the median average route is twenty five miles.

A majority of the districts own their buses and own or rent a garage. Leaving buses at the end of the route is a common practice. One third of the schools have a school mechanic, and one half hire mechanical work done. There is no general replacement policy other than replacement when needed.

Record keeping is reported to be inadequate and inefficient with need for improvement. The establishment of routes appears to be in harmony with criteria; the superintendent cooperating with the board of education in the planning. Few schools use buses on more than one route and most were circle routes. Only three districts use feeder lines.

The reports show that the average time children ride buses to get to school is fifty two minutes.

Western Kansas schools do not require children to walk to meet the bus, but load at the child's home.

Assignment of buses to routes is not standardized and the practice is left to expediency.

Most schools operate the vehicles on a flexible schedule. There is need for improvement to meet the suggested strict schedule criterion.
The majority of the districts place responsibility for operation in bad weather in the hands of the superintendent, yet one fourth still fail to fix this responsibility.

The State Department of Education suggests that school time lost because of bad weather be made up by teaching extra days in the spring. A majority of the districts follow this suggestion, yet about one fourth still make up time on Saturdays.

Maximum bus speed in Kansas is forty five miles per hour. All but one district operate equipment at or under this speed. Schools that have had trouble with speeding drivers have installed governors on the equipment. One fourth operate with governors on motors with another eleven percent reporting that excess speed is a problem.

The average mechanic's salary is $2409 a year with no specialized training required other than mechanical experience.

Little dissatisfaction with drivers is reported. Most schools employ adult men to drive, a few use all students and the rest have combinations of teachers, janitors, women, students, and men other than teachers and janitors. The median salary for students is $44.10, teachers $62.00, janitors $74.50, and outside men $91.10.

Eighty two percent of school officials report that licensed men of good character are employed when possible, but 78 percent have no training requirements. The schools are failing in their responsibility by not meeting this training criterion.
Officials do not report discipline as a serious problem, yet 82 percent think a good driver training program would improve social conditions on buses.

Thinking is divided on supervision of transportation by a centralized state department. A majority do not want the state to assume supervisory powers, yet three fourths express the belief that the state should adopt standards for bus drivers.

Cost of bus transportation in Kansas is reported by the United States Office of Education to be $75.22 per child per year. The national average is $30.00. This study found the median cost to be $75.50 per child per year. A study is quoted that found state supervision made pupil bus transportation both cheaper and more efficient.

Full insurance coverage is carried by 97 percent of the districts.

Kindergartens are not encouraged by pupil bus transportation according to the evidence.

Chapter IV brings the study together in a few conclusions and implications.

The first conclusion is that a two or three year tenure is not sufficient time for school administrators to build progressive efficient programs.

Evidence shows that half the enrollments of the districts studied are riding the buses and that the average child rides near the maximum time of one hour.
The conclusion is that bus routes cannot be much longer, with the implication that Western Kansas schools will remain small as they now are.

The conclusion is drawn that pupil transportation accounting is inefficient and inadequate. The implication of this conclusion is that Kansas transportation statistics are inadequate, inaccurate, and of little value. If this is true, some of the value of the study is destroyed, but the recommendation that a state director of transportation in the state department of education becomes doubly important. This official would be responsible for the establishment of driver training programs, standardized accounting systems, and general supervision over buses and routes operating over the state. The chapter closes with the statement that the implication of the conclusions is that to have an efficient, economical, safe transportation system, Kansas must have a state director of transportation.
SCHOOLS USED IN THE STUDY OF SCHOOL BUS TRANSPORTATION

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<td>McCracken</td>
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<td>Meade*V</td>
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* Schools which operate buses.

V Schools where visits were made.
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Dear Sir:

It will take you about 10 minutes to answer this inquiry blank. The question of school bus transportation in Kansas needs study and considerate attention.

I will appreciate your help as this is the only way that much information can be obtained.

Sincerely,

J. C. Witter

Advisory Committee:

J. W. Twente
Cloy S. Hobson
E. E. Bayles
Name of School: ___________________________ Location: ___________________________

Name of Administrator: ____________________________________________________________

Years of Administrative experience: ________________________________________________

Years in present position: _________________________________________________________

If the school does not operate buses to transport children to and from school, please stop here.

If the school operates one or more buses to transport children to and from school, please answer the following questions according to the practice which is followed in the district.

I. Administration of buses:

A. Number of buses operated: ___________________________

B. Enrollment: Grades 1 to 8 _______. Grades 9 to 12 _____________________________

C. Number of public school children transported on buses: __________________________

D. Buses were first used in this district in the year: _________________________________

E. Length of bus routes:
   1. Longest _______ miles. 2. Shortest _______ miles. 3. Average _______

F. Ownership of buses: (Check blanks which apply to system)
   1. Buses are owned and operated by the district: Yes____No____
   2. Buses are owned and operated by a private individual: Yes____No____
   3. If other plan is used please describe it: _______________________________________

G. Housing of buses: (Check blanks which apply to system)
   1. Buses are housed in school owned garage: Yes____No____
   2. Buses are housed in private garage: Yes____No____
   3. Buses are kept in town, but not housed: Yes____No____
   4. Buses are housed at end of route in country: Yes____No____
   5. Buses are left at end of route in country but are not housed: Yes____No____
H. Service, repair, and maintenance of buses:
1. Buses are serviced by a school employed mechanic: Yes  No
2. Buses are serviced by an independent mechanic: Yes  No
3. Buses are serviced by the drivers: Yes  No

I. Replacement of buses:
1. All buses are replaced at one time: Yes  No
2. One unit or bus is replaced each year: Yes  No
3. No replacement plan other than replacement when administration feels that bus is worn out: Yes  No

J. Records: (Check blank for records which are kept)
1. A record of children transported on buses: Yes  No
2. A record of miles traveled by buses: Yes  No
3. A yearly cost of gas and oil for buses: Yes  No
4. Yearly operation cost for the fleet: Yes  No
5. A record of yearly operation cost for each bus: Yes  No
6. Records are kept by:
   a. The superintendent or principal: Yes  No
   b. The mechanic: Yes  No
   c. The board of education: Yes  No

7. A written transportation report is made to the board of education each year: Yes  No

Administration of bus routes:
A. Routes are established by:
1. School board: Yes  No
2. Superintendent or principal: Yes  No
3. Bus mechanic: Yes  No
4. Please give plan if other is used: ____________________________

B. Buses are operated over two routes per day: Yes  No

C. Method of determining routes:
1. Circle routes used: buses load all way around: Yes  No
2. Double-back routes used, buses load one way only: Yes  No
3. Feeder lines are used to meet the buses on the regularly established routes:

D. The maximum time any child must ride the bus to get to his destination is: (give in hours or minutes)

E. Distance children are required to travel to meet the bus:
   1. The driver determines where children meet the bus:
   2. The bus must load or unload in child's yard:
   3. Children living one-fourth mile or less from route must meet bus on route:
   4. Children living one-fourth to one mile from route must meet bus on the route:

F. Buses are assigned to the routes by:
   1. The superintendent or the principal:
   2. The board of education:
   3. The bus mechanic:
   4. Please give plan if other is used:

G. Schedule:
   1. Buses are required to operate on a strict time schedule:
   2. Buses are operated on a flexible schedule:
   3. No definite time schedule is used:

H. Road Conditions:
   1. The decision that the buses will not operate because of bad weather conditions is made by:
   2. School is closed when buses do not operate:
   3. The public is informed when buses do not operate by:
      a. Telephone:
      b. Radio:
      c. No communication:
   4. School time that has been missed because of bad weather conditions is made up by:
      a. School is held on Saturday:
      b. School hours are lengthened each day:
      c. Extra days are added in the spring:
      d. Lost time is not made up:
I. Speed:

1. Maximum speed at which buses are operated: ____________________
2. Governors are used on buses to control speed: Yes || No
3. Control of speed has been a serious problem: Yes || No

III. Driver Personnel:

A. The School employs a bus mechanic: Yes || No

1. The yearly salary paid the mechanic is: $______________
2. This mechanic must be a trained supervisor and mechanic: Yes || No
   a. Please describe this training program: __________________________

3. Authority vested in mechanic:
   a. No authority: Yes || No
   b. Supervisory authority over buses and routes, subject to the superintendent of school: Yes || No
   c. Supervisory authority over buses and routes, subject to the board of education: Yes || No

B. Bus drivers are employed by: __________________________

C. The drivers are responsible to: __________________________

D. The drivers are contracted by a written contract: Yes || No

E. The drivers are required to have a medical examination: Yes || No

F. Type of drivers employed and salary:

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<th>Satisfactory</th>
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<td>1. Student drivers:</td>
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<td>2. Teacher drivers:</td>
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<td>5. Adult women drivers:</td>
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G. Requirements for drivers:

1. No requirements required: Yes || No
2. Good character and driving ability are desired but no requirements otherwise: Yes || No
3. Drivers must meet established, written character and driver qualifications: Yes || No
H. The school has a training program for its drivers:

1. Please describe this program:

IV. Special Problems:

A. Discipline:

1. Discipline is a serious problem on the buses:

2. A good training program for drivers would help control the discipline cases:

B. State supervision:

1. The state should supervise the establishment of bus routes and bus schedules:

2. The state should establish standards for bus drivers:

C. Children from private schools:

1. Private school children are transported:

2. Buses transport private school children on the same basis that public school children are transported:

3. Private school children are required to meet the bus regardless of distance which they live from the regularly established routes:

D. Cost of transportation: (Use last year's report)

Note: do not include new equipment.

1. Cost per child per year - if available:

E. Insurance:

1. Buses are fully insured for property damage and personal liability:

F. Kindergarten:

1. The school operates a kindergarten:

2. What plan is used to get kindergarten children who live in the country home after classes:

G. Accidents:

1. The district has had a serious accident in past 5 years:

2. The driver of the bus was a: (student or adult)

3. Please state nature and cause of accident:

H. Please state other transportation problems which need to be studied:
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