

A STUDY OF TRANSPORTATION IN ATWOOD, KANSAS SCHOOLS

by

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INTRODUCTION

Pupil transportation is a service that has developed rapidly during the past quarter of a century. Atwood has been one of the schools in this expansion. Because of the rapid growth, some undesirable practices have appeared. The problems arising from pupil transportation and the need to improve transportation for Atwood was the justification of this study.

PURPOSE OF THE STUDY

The purpose of the study was to: (1) identify data important to the development and operation of the Atwood Schools' Transportation System, (2) collect and analyze these data for the purpose of recommending improvements to the schools' transportation system, (3) project the proposal into a written report for presentation to the Atwood Schools' Transportation Committee and other people of the community.

IMPORTANCE OF THE STUDY

Transportation of public school children has an important place in the public school systems. The transportation of pupils needs to be accomplished as efficiently and economically as possible without endangering the lives of the passengers in any way. In this study an attempt was made to identify characteristics that make the transportation of public school children efficient, safe, and economical. It is hoped that these characteristics

may be used as guides for the Atwood Schools' Transportation System.

DEFINITION OF TERMS

For clarification and as a guide to the reader the following definitions of terms were used in this report:

Atwood Community High School--The high school, grades nine through twelve, serving Atwood and surrounding territory.

Common School District 201--The elementary school, grades kindergarten through eight, serving Atwood and surrounding territory.

Atwood schools' transportation system--A combination system serving Atwood Community High School and Common School District 201.

Transportation Superintendent--The executive officer of the Atwood schools' pupil transportation system is the principal of the Atwood High School. Therefore this official also has the title of Transportation Superintendent.

Transportation Committee--Comprised of two members each from the Boards of Atwood Community High School and from District 201.

Shoestring bus route--Begins at or near a boundary of the district and proceeds toward the school collecting first those pupils who live farthest from school.¹

¹Ward G. Reeder, The Fundamentals of Public School Administration, p. 406.

Circular bus route--A circular route begins near or at the school, and ends at the school.¹

Units--A vehicle owned by the transportation system and used to transport pupils.

REVIEW OF LITERATURE

It is the purpose of this review of literature to report writings related to the specific topics of this report. The review pertains to these major topics within the broad field of pupil transportation: (1) historical development of pupil transportation, (2) finance of pupil transportation, (3) school bus ownership, purchasing, and maintenance, (4) school bus drivers, (5) bus routes, and (6) pupil transportation policies.

The review of literature will be used to develop criteria which will serve as a guide in analyzing data related to pupil transportation in Atwood, Kansas.

Historical Development of Pupil Transportation

The free transportation of pupils has not been a recent development. The legal authorization of pupil transportation was first given by the Massachusetts Legislature in 1868. The first transportation of pupils began in Quincy, Massachusetts at a cost of \$521.12.² Other states were slow in following the lead of

¹Ward G. Reeder, The Fundamentals of Public School Administration, p. 406.

²William Everett Rosenstengel and Jefferson N. Eastmond, School Finance Its Theory and Practice, p. 410.

Massachusetts, and by 1900 only slightly more than one-third of the states had authorized the use of public funds for the transportation of pupils. By 1920 all the states made transportation permissive and many of them supported it through specific or general money grants.¹

The growth of transportation has been very rapid since 1920. Approximately 5 per cent of current educational expenses goes for transportation, and in a few states, 15 per cent or more.² As more and more rural schools consolidate and more pupils of high school age continue in high school, the transportation systems will continue to grow. Schools are already the largest transportation carrier in the world.³ The development of transportation has been largely the result of the following factors stated by Grieder and Rosenstengel:

1. All-weather road systems in most of the United States have had the tendency to extend community lines and break down barriers between small communities. These conditions have helped in doing away with the small schools and establishing larger consolidated schools.
2. The desires of community leaders, lay and professional, to develop a better educational program have also helped to bring about consolidation and free transportation services. Large attendance areas permit schools to offer a broader curriculum.

¹William Everett Rosenstengel and Jefferson N. Eastmond, School Finance Its Theory and Practice, p. 410.

²Glenn E. Featherston, "Uniform Accounting is the Crying Need in Pupil Transportation," Nation's Schools, 45:71, April, 1950.

³"1,200,000 Miles to School," Overview, 1:36, August, 1960.

3. State aid for transportation, which is now well established in all but seven states, has been important.
4. The feeling of many lay and professional persons throughout the country is that all children, regardless of where they live, should have an equal opportunity to succeed in school work.
5. The rapid development of the efficiency of the automobile and its widespread use by almost all American people have had a great influence upon public school transportation.¹

Finance of Pupil Transportation

Financing pupil transportation has become an item of importance in the school budget. Grieder and Rosenstengel wrote:

Adequate transportation services will be provided in all districts where needed when, and only when, transportation is recognized as an integral part of public education and is included in the regular state plans of financing education.²

There are many different plans being used throughout the United States to provide state support for pupil transportation.

Johns said no plan of state support is adequate unless it:

1. Provides transportation for all who need it.
2. Encourages efficiency, and discourages extravagance in local management.
3. Is based on a completely objective formula, leaving nothing to subjective judgment of state officials.
4. Is based on an equitable formula which takes into consideration all substantial variations in necessary transportation costs.

¹Calvin Grieder and William Everett Rosenstengel, Public School Administration, pp. 278-79.

²Ibid., p. 280.

5. Is a part of a balanced comprehensive program of education financed by an equitable taxing system.¹

Pupil transportation finance in Kansas is served by a complex structure. The Comprehensive Educational Survey of Kansas states:

A school district is authorized to expend money from its general operating fund for school transportation purposes. If the fund is not sufficient to pay for transportation and other expenses of school operation, then a district has the authority to levy up to a maximum of two mills for a special transportation fund.

The elementary state aid law provides for school transportation. The formula to compute the guarantee for grades one through eight includes five dollars a month for each elementary pupil transported who lives two and one-half miles or more from the school by the usually traveled route. Because of the deductions in the state aid formula, some school districts do not receive their full state aid entitlement.²

The cost of transporting pupils to school will vary from state to state and from district to district within a state. The securing of accurate information on transportation costs from any one state is almost impossible because of the number of factors involved. There are, however, a number of known factors which affect the total cost of transporting pupils. Grieder and Rosenstengel list these factors:

1. The size of the bus.
2. The percentage of load carried by buses.
3. The length and condition of the route.
4. The type or make of the bus.
5. The drivers.
6. The ownership of buses.
7. The plan for purchasing buses.

¹R. L. Johns, "Determining Pupil-Transportation Costs," Nation's Schools, 43:48-49, February, 1949.

²Comprehensive Educational Survey of Kansas. The Elementary and Secondary Education Study. Volume II, Topeka: March, 1960, p. 183.

8. The maintenance of buses.
9. Double routing.
10. The density of population.¹

Stoops and Rafferty have indicated the two most important factors in determining costs are density of population and condition of roads.² Comparing district costs to other district averages, allowances must be made for varying local conditions.

The criteria developed from the above related literature on financing pupil transportation can be summarized as follows:

1. Transportation should be recognized as an integral phase of public education.
 - a) All eligible pupils should receive transportation service.
 - b) Accurate cost records should be used to promote efficiency.
 - c) Monies for transportation should come from special sources.
2. The cost of pupil transportation should be recognized as an addition to normal school operating expenses.
 - a) Long bus routes over dirt and gravel roads increase cost of transportation.
 - b) Sparsely populated areas increase per pupil transportation cost.
 - c) Buses carrying capacity or near-capacity loads provide economy for transportation.

School Bus Ownership, Purchasing, and Maintenance

The type of bus ownership used by a school district needs careful attention. In making a decision concerning bus ownership,

¹Calvin Grieder and William Everett Rosenstengel, Public School Administration, pp. 281-82.

²Emery Stoops and M. L. Rafferty, Jr., Practices and Trends in School Administration, p. 287.

three factors should be kept in mind: safety, efficiency, and cost. Safety should be an area of primary interest.

Bus ownership follows a variety of plans, but Stoops and Rafferty said: "There are really only two main varieties of pupil transportation: school owned and operated and privately owned and operated."¹ There is much to be said for both of these types of bus ownership. A study made by Hutchins stated: "Virtually all expert opinion agrees that public ownership is to be strongly preferred."²

School ownership has a number of advantages over privately owned buses. Cooper and Fitzwater wrote:

1. Pupil transportation service costs less under school ownership.
2. Public ownership of the buses makes possible a more flexible transportation program.
3. Public ownership places full operational control where it belongs, in the hands of the superintendent.
4. Under public ownership the school system is better able to get the kind of drivers needed.³

Schools that use privately owned buses should know the owner is in business to make a profit. This may lead to an unsafe transportation program. Butterworth and Dawson stated:

Under the contract system there may be a tendency to increase profits by employing less than the most competent drivers and mechanics and by taking risks with equipment

¹Emery Stoops and M. L. Rafferty, Jr., Practices and Trends in School Administration, p. 279.

²Clayton D. Hutchins, "The Trend is Toward School Ownership of Buses," Nation's Schools, 36:44, October, 1945.

³Shirley Cooper and Charles O. Fitzwater, County School Administration, pp. 525-26.

that may not be in first-class condition.¹

According to Barr:

The use of private contracts, payment of parents for transportation, and payment of subsistence should be used only in areas where isolation and geographical factors require such operation.²

Reeder said:

1. School-owned buses are not run for profit, whereas contracted ones necessarily have that motive.
2. School-owned buses are usually exempt from all forms of taxation, whereas contracted usually must pay all types of taxes.³

Procedures used in selecting and purchasing school buses constitute one of the more important aspects of the pupil transportation program. Many factors are involved which directly influence the effectiveness of the program. These factors include safety, adequacy and safety of service, and sound business management practices.

Cooper and Fitzwater wrote:

Detailed specifications for all transportation equipment should be prepared and included in well-advertised requests for competitive bidding. Even though permitted by state regulations, no board of education can afford to decide what a fair price for needed equipment would be and then proceed to divide the business among local dealers. Buying on competitive sealed bids, opened and examined by the school board while in executive session, is the only defensible method.⁴

¹Julian E. Butterworth and Howard A. Dawson, The Modern Rural School, p. 392.

²W. Monfort Barr, American Public School Finance, p. 345.

³Ward G. Reeder, The Fundamentals of Public School Administration, p. 416.

⁴Shirley Cooper and Charles O. Fitzwater, County School Administration, p. 524.

Cooper and Fitzwater suggested two objectives in purchasing buses for an effective transportation program. They were safety and economy.¹ Pupil safety is, of course, the primary objective; but, because of the outstanding progress made during the last decade in standardizing school bus construction, it is compatible to a very large degree with the economy objective.

Most states have minimum standards of bus construction; these standards aid the local schools in purchasing safe, economical buses. Stoops and Rafferty listed the following general standards: (1) safety, (2) comfort, (3) economy, (4) durability, and (5) possibility of repair.²

School bus maintenance varies with each school district. Some districts which own buses had the maintenance work done in private garages, sometimes on contract prices, but often at regular prices. Other schools employed mechanics to do all maintenance work, including major overhauls.

Reeder wrote:

Districts which own several conveyances have found that the most satisfactory plan for housing, repairing, and servicing them is to own or to rent an equipped garage.³

Belknap said of school bus maintenance: "School bus maintenance could be accomplished with greater economy in a

¹Shirley Cooper and Charles O. Fitzwater, County School Administration, p. 524.

²Emery Stoops and M. L. Rafferty, Jr., Practices and Trends in School Administration, p. 287.

³Ward G. Reeder, The Fundamentals of Public School Administration, p. 419.

school owned garage staffed with school personnel."¹

Transportation systems operating buses from a central school has a rather simple problem in maintenance. Grieder and Rosenstengel wrote: "There can be a small school-operated garage which can take care of all maintenance problems. The personnel needed will be determined by the number of buses."²

Educational literature regarding school bus ownership, purchasing, and maintenance indicates the following criteria:

1. School buses should be owned and operated by the school. This practice would provide:
 - a) More flexibility in the use of buses.
 - b) School control in hiring drivers.
2. School buses should be purchased on a competitive sealed bid basis.
 - a) Requests for bids should be well-advertised.
 - b) Bids should be opened and examined by the school board while in executive session.
3. The school should own and operate a bus garage.
 - a) A full-time mechanic should operate the garage.
 - b) Minor repairs and major overhauls should be made in school garage.
 - c) Buses should be stored in garage during summer months.

School Bus Drivers

Grieder and Rosenstengel wrote:

¹Burton H. Belknap, "School Bus Preventive Maintenance," American School Board Journal, 127:33, April, 1953.

²Calvin Grieder and William Everett Rosenstengel, Public School Administration, p. 287.

The importance of the school bus driver cannot be over-emphasized as a factor in securing safety, economy, and efficiency in pupil transportation. The driver is a teacher, by example, in dealing with the pupils and parents.¹

Rosenstengel and Eastmond said:

The school bus driver has a definite responsibility in dealing with pupils and parents. He must exercise control over the pupils while they are on the bus and his conduct must be such that parents will feel that the safety of their children is secure.²

The school bus driver has an important influence over the pupils on his bus. His conduct, if imitated by the children, could influence their moral and disciplinary actions. A driver with adequate training could provide acceptable influences. General topics for such a training program were suggested by Rosenstengel and Eastmond:

1. State laws and other rules and regulations of agencies governing school bus operation.
2. Personal qualifications of bus drivers.
3. Responsibilities of bus drivers.
4. Operational procedures on local level.
5. First Aid.
6. Bus maintenance.³

The training of bus drivers would be most desirable if such training came near or before the opening of school. Stoops and Rafferty said: "The training of bus drivers would increase the

¹Calvin Grieder and William Everett Rosenstengel, Public School Administration, p. 282.

²William Everett Rosenstengel and Jefferson N. Eastmond, School Finance Its Theory and Practice, p. 422.

³Ibid., p. 423.

efficiency of the transportation system."¹ The program for training bus drivers could be an in-service type continuing throughout the school year.

Stoops and Rafferty proposed an in-service program for the future:

1. Monthly meetings for veteran drivers to exchange problems and opinions.
2. Bi-monthly meetings for new drivers.
3. Use of instructional films on school problems, driver training, and traffic safety.
4. Instruction for new drivers in school rules, proper uniform, traffic regulations, proper maintenance, and accident regulations.²

School bus drivers should be selected carefully from standards adopted by the state and local school districts. The following areas for establishing standards were identified by Cooper and Fitzwater:

1. Minimum age.
2. Character traits.
3. Emotional stability.
4. Physical requirements.
5. Physical examination.
6. Experience.
7. Training.
8. Knowledge requirements.
9. Skill requirements.
10. Issuance of a special license.³

Reeder said:

¹Emery Stoops and M. L. Rafferty, Jr., Practices and Trends in School Administration, p. 290.

²Ibid., p. 291.

³Shirley Cooper and Charles O. Fitzwater, County School Administration, p. 513.

Since the superintendent of schools is more likely to know the requisite qualifications for the positions, and the relative abilities of the persons who are available for the positions, he should be delegated the responsibility of recommending all drivers to the board.¹

The review of related literature indicates the following criteria:

1. School bus drivers should receive in-service training.
 - a) Meetings should be scheduled regularly once a month.
 - b) Instructional films on driver training, safety, and school problems should be used.
 - c) Drivers should exchange problems and opinions at meetings.
 - d) Talks relating to maintenance, laws, accident regulations, and school rules should be given by authorities.
2. Standards should be required in selecting school bus drivers.
 - a) Twenty-one years should be the minimum age.
 - b) Character traits should show ability to obtain confidence and respect of pupils and parents.
 - c) Drivers should be able-bodied and strong enough to handle the bus with ease.
 - d) Physical examinations should be taken once a year from a reputable physician.
 - e) Drivers should be required to take and pass tests on traffic laws and regulations.
 - f) A valid driver's license should be required of all drivers.

Bus Routes

There are many factors which enter into the planning of

¹Ward G. Reeder, The Fundamentals of Public School Administration, p. 409.

school bus routes. Rosenstengel and Eastmond said: "One of the first steps in planning the bus route is to locate the pupils eligible for transportation."¹

A large map of the school district is necessary for planning bus routes. Stoops and Rafferty wrote: "The best single tool for such planning is probably the transportation map of the district."² The map should have data on eligible children for transportation. The data should include such things as: name, age, grade, and location of home. Reeder made the following suggestions for the construction of such a transportation map:

1. Outline the boundaries of the school district on the map. Locate the school or schools of the district.
2. Draw in the streams, railroads, and similar barriers.
3. Draw in the roads, designating their condition as paved, improved, graded, and dirt.
4. Mark bridges, grade crossings and other hazards with appropriate symbols.
5. Locate homes with such symbols as the following: Mark those homes that have children with a square □. Where homes have pupils to be transported, put the number of pupils inside the square, thus □4. If the children are not to be transported, put the figure at the right side of the square, thus □2. If children are under school age, put the number at the left side of the square, thus 3 □.
6. Total the number of pupils to be transported. Using the scale of the map, determine the total mileage of the shortest routes by which all pupils may be reached.

¹William Everett Rosenstengel and Jefferson N. Eastmond, School Finance Its Theory and Practice, p. 425.

²Emery Stoops and M. L. Rafferty, Jr., Practices and Trends in School Administration, p. 282.

7. Lay out tentative routes. Avoid retraces whenever possible. Unless the buses are kept in the school garage at night, the starting points of the routes will be the homes of the drivers, which cannot be known until the drivers are selected.
8. Total the number of pupils on each route. This total will show the capacity of buses needed. Compare it with the capacities of the buses on hand. If necessary, make adjustments to avoid overcrowding 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 and sitting in aisles.
9. Check each route, adjusting if necessary to keep its length within the time limit.
10. Check the proposed routes 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.¹

The length of bus routes varies with different school districts and there can be no set standard. Grieder and Rosenstengel wrote: "The two factors which usually determine the length of the route are the conditions of the roads and the density of population."² Many states have statutes or regulations which set a maximum time for pupils to be on a bus. Kansas has the following recommendation: "The bus routes should be so planned that no

¹Ward G. Reeder, The Fundamentals of Public School Administration, pp. 403-404.

²Calvin Grieder and William Everett Rosenstengel, Public School Administration, p. 286.

pupil will be required to ride in the bus more than one hour each trip."¹

The two most common types of bus routes are the circular and the shoestring. Cooper and Fitzwater described these:

1. Circular--beginning and ending at the school.
2. Shoestring--beginning at the farthest point from the school in the morning and ending at that point in the afternoon.²

Grieder and Rosenstengel said: "The shoestring route is more popular since the bus is usually stored overnight at or near the end of the route."³

A less popular type bus route is the feeder route. Reeder wrote: "Although feeder routes are often necessary, they have proved to be expensive on a per pupil basis."⁴

A review of the related literature on bus routes indicates the following criteria:

1. A transportation map of the school district is necessary to adequately plan bus routes. The map should show:
 - a) Outlined boundaries of the school district.
 - b) Drawings of streams, railroads, and similar hazards affecting bus routes.

¹Traffic and Safety Department State Highway Commission of Kansas, Laws and Regulations Governing School Pupil Transportation in Kansas: July, 1961, p. 7.

²Shirley Cooper and Charles O. Fitzwater, County School Administration, p. 530.

³Calvin Grieder and William Everett Rosenstengel, Public School Administration, p. 286.

⁴Ward G. Reeder, The Fundamentals of Public School Administration, p. 407.

- c) Condition of roads and type surface: paved, oiled, dirt, or gravel.
 - d) Location of pupil homes and number in each home riding buses.
 - e) The bus routes with all stops, barriers, hazards, and type of roads.
2. Shoestring bus routes are more desirable and should be used.
- a) Buses on this type route are stored at or near the end of the route.
 - b) Students would not be on the bus for more than one hour.

Pupil Transportation Policies

Stoops and Rafferty wrote:

In order to provide the best transportation service for pupils and to keep the service fair and impartial for all patrons, the governing board of the school district should set forth policies in writing. Transportation policies should be available not only to school personnel, but also to citizens of the community.¹

Stoops said:

When governing boards place eligibility for bus transportation upon a policy basis, superintendents and principals will be freed to engage in more constructive activities. And parents and pupils will cooperate with reasonable and impartial regulation.²

Butterworth and Dawson stated: "A local district has the opportunity to determine many transportation policies that are not inconsistent with state law or state regulations."³

¹Emery Stoops and M. L. Rafferty, Jr., Practices and Trends in School Administration, p. 281.

²Emery Stoops, "Determining Your School Bus Policy," Overview, 1:68, April, 1960.

³Julian E. Butterworth and Howard A. Dawson, The Modern Rural School, p. 390.

There are many decisions relative to transportation upon which the local school boards should state policy. Rosenstengel and Eastmond listed some questions that would require decisions:

1. Should transportation be provided through district-owned or contract buses?
2. How far should a pupil live from school before he would be transported?
3. What should be the maximum time on the road for children who are transported?
4. How far should a child be expected to walk to the bus stop?
5. Should shelters be provided at bus stops?
6. Should buses be used for the second or third trip?
7. Should a bus serve more than one school?
8. Who should be employed as drivers?¹

Stoops and Rafferty gave the following example of pupil transportation policies:

1. The assistant superintendent in charge of business shall direct pupil transportation.
2. The district shall own and operate its own transportation system.
3. No persons other than pupils or teachers shall ride on school buses.
4. There shall be a district Bus Driver's Handbook, and it shall be in the possession of all authorized drivers.
5. Buses shall never be driven by anyone except a licensed bus driver.
6. Transportation equipment shall be standardized as much as possible.

¹William Everett Rosenstengel and Jefferson N. Eastmond, School Finance Its Theory and Practice, pp. 411-412.

7. Bus capacity shall never be exceeded even by one pupil.
8. Adequate records shall be maintained.
9. Pupils shall not be picked up earlier than one hour before school begins.
10. Pupils shall not spend over 30 minutes riding the bus, one way.
11. No pupil shall be required to leave the bus before reaching his destination.
12. Loading and unloading shall be done only according to specified plans.
13. No child, kindergarten through third grade, living within three-fourths of a mile from school, shall be transported. No other child living within one mile of school shall be transported.
14. Buses shall never be backed up while on school grounds.
15. All accidents shall be reported at once to the appropriate authorities.
16. There shall be no smoking on buses while children are aboard.
17. No animals shall be allowed on buses at any time.
18. No stop shall be made except at regularly designated points.
19. A reciprocal agreement will be continued with the high school district.
20. Each school shall have a pupil-spot map showing location of pupils.
21. Each school shall keep a current route map.
22. Regular surveys and needed changes of the routes should be made.
23. Buses are not to be used except for regular pupil transportation and authorized field trips.

24. Field trips must be planned and included in the annual budget.¹

Educational literature regarding pupil transportation policies indicates the following criteria:

1. Pupil transportation policies need to be written. Written policy should provide:
 - a) For administrative officer to be responsible for transportation.
 - b) Regulations controlling persons who are eligible to ride buses.
 - c) That all drivers be issued a handbook.
 - d) Regulations requiring all drivers to be properly licensed.
 - e) Regulations to prevent the exceeding of bus capacity.
 - f) Rules which prevent a pupil from being requested to leave the bus before reaching destination.
 - g) That report of all accidents be made to appropriate authorities.
 - h) That regular surveys and needed changes of the routes be made.
 - i) That buses will be used only for regular pupil transportation and authorized school trips.
2. Policies should be made available to:
 - a) Drivers.
 - b) Teachers and pupils.
 - c) Principals and other administrators.
 - d) Any person who requests them.

This section presented a review of literature regarding

¹Emery Stoops and M. L. Rafferty, Jr., Practices and Trends in School Administration, p. 281.

these topics within the broad field of pupil transportation: (1) finance of pupil transportation, (2) school bus ownership, purchasing, and maintenance, (3) school bus drivers, (4) bus routes, and (5) pupil transportation policies.

Criteria useful in the analysis of the Atwood, Kansas pupil transportation system were identified.

METHODS AND PROCEDURES

The review of literature was used to describe criteria useful in analyzing the pupil transportation system in Atwood, Kansas.

Information concerning transportation in Atwood was gathered by interviewing responsible people and examining records of the following: (1) Rawlins County Superintendent, (2) Rawlins County Clerk, and (3) the Transportation superintendent.

Data pertaining to the Atwood public schools transportation system were compared to the criteria developed from the review of literature.

Recommendations for the improvement of pupil transportation in the Atwood school districts were developed and will be presented to the transportation committee.

THE STUDY

This section describes the Atwood schools' transportation system in relation to the criteria developed from the review of literature, and presents as a result of such analysis, conclusions

regarding the school system's transportation program and recommendations for improvement.

Financing Pupil Transportation

Financing transportation for the Atwood schools has a rather complex structure. The two schools involved, Atwood Community High School and District 201, have separate districts and school boards. These schools deposit all special money for transportation in a transportation fund to be administered by the transportation committee and transportation superintendent.

The elementary school could obtain money for transportation from: (1) general operating fund, (2) state elementary aid for transportation, and (3) special transportation fund created by a levy of two mills or less.

Since there was no state aid for high school transportation, money deposited by the high school district for transportation could come from only two sources: (1) general operating fund, and (2) special transportation fund created by a levy of two mills or less.

Table I, page 24, shows sources and amounts of monies deposited to the Atwood transportation fund. The general fund would be used if and when operating expenses could not be met by the sources shown. The Atwood schools would contribute equally from each general fund to meet any such deficit.

Transportation is provided for all pupils going to school in Atwood and who live outside the city limits. This policy is

followed because transportation of pupils is recognized as a part of public education.

TABLE I
SOURCE AND AMOUNT OF FUNDS INCLUDED IN THE
ATWOOD TRANSPORTATION FUND

Year	Grade School		High School	
	Special	Elementary	Special	
	transporta- tion fund*	transporta- tion*	transporta- tion fund**	Operating fund
1959-60	\$ 8,569.78	\$4,950	\$11,480.01	\$24,999.79
1960-61	9,892.36	5,355	17,058.26	32,305.62
1961-62	10,439.75	5,850	18,591.78	34,881.53
1962-63	12,364.03	5,400	17,577.23	35,341.26

*Figures obtained from Rawlins County Superintendent.

**Figures obtained from Atwood transportation records.

Cost of transportation in Atwood will be higher than in other areas of the state because of long bus routes on dirt and gravel roads. Sparsity of population will also cause an increase in these costs. Atwood tried to minimize these conditions by using buses of proper size loaded to capacity or near capacity. Table VI, page 33, shows information on bus size, load, and capacity.

Table II, page 25, shows the total expenses and the total operating fund for the four years Atwood schools have operated a transportation system. It can be seen that the money available

for transportation has not been exceeded by expenses. The total operating fund is made up from the accumulated balance and monies from special sources.

TABLE II
ANNUAL OPERATING FUND WITH ACCUMULATED
BALANCE FOR ATWOOD

Year	: : Total : expenses	: : Operating : fund	: : Accumulative: : balance	: : Total : operating : fund
1959-60	\$19,406.53	\$24,999.79		\$24,999.79
1960-61	25,628.53	32,305.62	\$ 5,593.26	37,898.88
1961-62	43,160.08	34,881.53	12,270.35	47,151.88
1962-63	29,799.83	35,341.26	3,991.80	39,333.06
1963-64			9,533.23	

These criteria from the review of literature will be used to compare financing pupil transportation in Atwood:

1. Transportation should be recognized as an integral phase of public education.
 - a) All eligible pupils should receive transportation service.
 - b) Accurate cost records should be used to promote efficiency.
 - c) Monies for transportation should come from special sources.
2. The cost of pupil transportation should be recognized as an addition to normal school operating expenses.
 - a) Long bus routes over dirt and gravel roads increase cost of transportation.

- b) Sparsely populated areas increase per pupil transportation cost.
- c) Buses carrying capacity or near capacity loads provide economy for transportation.

Table III shows the comparison of criteria to data from Atwood on financing pupil transportation.

TABLE III
COMPARISON OF FINANCE CRITERIA TO ATWOOD

Criteria	Atwood	
	Yes	No
All eligible pupils are transported	x	
Accurate cost records are maintained	x	
Monies come from special sources	x	
Long bus routes and poor roads	x	
Sparsely populated area	x	
Proper bus size	x	
Capacity or near capacity loads	x	

The comparison of criteria to Atwood data indicates adequacy for financing pupil transportation. The Atwood schools recognized transportation as an integral phase of education and that costs are in addition to normal school operating expenses. It is recommended that Atwood continue with this method of financing pupil transportation.

School Bus Ownership, Purchasing, and Maintenance

The Atwood transportation committee recommended school-owned

buses after corresponding with schools in northwestern Kansas. All schools contacted operated school-owned buses and gave ease of control, safety, and economy as the reasons for this type of bus operation. School ownership allows the Atwood schools to use buses for all approved school events and the complete control in hiring drivers.

Buses are purchased by the transportation superintendent after a survey has been made. This survey shows the number and size of buses needed for the next school year. It will also show the buses that need replacing. Buses are replaced when records show them to be uneconomical or a mechanic pronounces them unsafe to operate.

Atwood tries to purchase needed buses one to three years old rather than new ones. This practice has been followed as closely as possible.

Buses for pupil transportation are maintained and repaired by the several garages operated in Atwood. This practice is necessary as the schools do not have a bus garage. The transportation committee is planning for a school garage to be constructed in the very near future.

These criteria will be used to compare bus ownership, purchasing, and maintenance in the Atwood public schools' transportation system:

1. School buses should be owned and operated by the school. This practice would provide:
 - a) More flexibility in the use of buses.
 - b) School control in hiring drivers.

2. School buses should be purchased on a competitive sealed-bid basis.
 - a) Requests for bids should be well advertised.
 - b) Bids should be opened and examined by the school board while in executive session.
3. The school should own and operate a bus garage.
 - a) A full-time mechanic should operate the garage.
 - b) Minor repairs and major overhauls should be made in school garage.
 - c) Buses should be stored in garage during summer months.

Table IV, page 29, shows the comparison of criteria on bus ownership, purchasing, and maintenance to the Atwood pupil transportation system.

Atwood has school ownership of buses, thus, allowing flexibility in bus use and school control in hiring drivers. Comparing criteria on purchasing and maintenance to Atwood data shows need for improvement as the school meets none of the criteria. It is recommended that Atwood:

1. Start a program of purchasing buses on a sealed-bid basis. This program should have provision to widely advertise requests for bids, and that the bids will be opened only in an official transportation committee meeting.
2. Build or rent a building to be used as a bus garage.
3. Hire a full-time mechanic to do all major and minor repairs.

School Bus Drivers

Atwood recognized the importance of bus drivers as being one of the differences between a good transportation program and a poor one.

TABLE IV
COMPARISON OF BUS OWNERSHIP, PURCHASING,
AND MAINTENANCE TO ATWOOD

Criteria	Atwood	
	Yes	No
School-owned buses	x	
Flexible use of buses	x	
School control in hiring drivers	x	
Buses purchased by sealed bids		x
Requests for bids well advertised		x
Bids on buses opened in board meeting		x
Bus garage owned and operated by school		x
Full-time mechanic operates the garage		x
Major and minor repairs done by school mechanic		x
Buses stored in school garage during summer months		x

The transportation superintendent is responsible for screening and hiring bus drivers. To make this job easier, a set of standards was adopted by the transportation committee. These standards are:

1. Drivers must be at least twenty-one years of age.
2. Drivers must possess a valid bus driver's license.
3. Drivers must be able-bodied and strong enough to handle a bus.
4. Driver must be of good character and habits.
5. Driver will complete a ten-hour American Red Cross first-aid course or its equivalent.

6. Drivers must pass an annual physical examination given by a reputable physician.

Preference will be given to applicants living on the bus route. This is done so the bus can be housed at or near the end of the route. Table VI, page 33, shows that ten of the fourteen drivers, 71.4 per cent, live on the routes they drive.

Training bus drivers by using an in-service program should improve the quality of any transportation system. Atwood uses the following program:

1. Regular monthly meetings.
2. Drivers discuss problems and exchange opinions.
3. Law enforcing officers explain laws and regulations.
4. Special instructions are given by the transportation superintendent.

School bus drivers for the Atwood transportation system were studied by using these criteria:

1. School bus drivers should receive in-service training.
 - a) Meetings should be scheduled regularly once a month.
 - b) Instructional films on driver training, safety, and school problems should be used.
 - c) Drivers should exchange problems and opinions at meetings.
 - d) Talks relating to maintenance, laws, accident regulations, and school rules should be given by authorities.
2. Standards should be required in selecting school bus drivers.
 - a) Twenty-one years should be the minimum age.
 - b) Character traits should show ability to obtain confidence and respect of pupils and parents.

- e) Drivers should be able-bodied and strong enough to handle the bus with ease.
- d) Physical examinations should be taken once a year from a reputable physician.
- e) Drivers should be required to take and pass tests on traffic laws and regulations.
- f) A valid driver's license should be required of all drivers.

Table V, page 32, shows the comparison of criteria on bus drivers to data from Atwood. These comparisons indicate very few needs for Atwood to meet all criteria suggested. Transportation should be improved if these recommendations were followed:

- 1. Use instructional films with talks.
- 2. Expand the talks to cover more areas such as: maintenance, school rules, and public relations.
- 3. Require all drivers to take and pass tests on traffic laws and regulations.

Bus Routes

Bus route planning requires a great deal of time and effort on the part of the transportation superintendent. This job can be done with more efficiency by using a map of the school district. The map used by Atwood shows the following information:

- 1. Boundaries of the school district.
- 2. Hazards affecting bus routes.
- 3. Conditions of roads and type surface.
- 4. Location of pupil's home and number in each riding bus.

Information on the map and knowledge relative to buses permits the transportation superintendent to construct bus routes.

TABLE V
COMPARISON OF CRITERIA ON BUS DRIVERS
TO DATA FROM ATWOOD

Criteria	Atwood	
	Yes	No
Drivers receive in-service training	x	
Regular monthly meeting	x	
Instructional films		x
Drivers' exchange problems and opinions	x	
Talks on maintenance, laws, accident regulations, and school rules	partially met	
Select bus drivers by standards	x	
Twenty-one years is the minimum age	x	
Character traits showing ability to obtain confidence and respect of pupils and parents	x	
Drivers are able-bodied and strong enough to handle bus	x	
Annual physical examination is required	x	
Drivers take and pass test on laws and regulations		x
Drivers required to have a valid bus driver's license	x	

Routes are planned so the best roads can be used without excessive retracing. If the transportation program is to operate economically it is necessary for buses to carry capacity or near capacity loads. Table VI, page 33, shows capacity of bus and number of pupils on each bus. The capacity of all fourteen buses is 367 pupils, and the buses carry 347 or 94.6 per cent of

TABLE VI
COMPARING CAPACITY OF BUS TO PUPILS RIDING
AND LENGTH OF ROUTES IN THE ATWOOD
TRANSPORTATION SYSTEM, 1962-63*

Bus number	: : Driver : lives : on route	: : Capacity : of bus	: : Pupils : on bus	: : Total : miles : one way
11	no	18	17	35
12	no	18	17	34
13	no	18	17	25
2	yes	18	17	38
10	yes	18	18	38
14	yes	18	15	35
18	yes	25	25	21
1	yes	30	28	41
16	yes	30	29	46
17	yes	30	26	56
4	no	36	35	57
6	yes	36	35	59
9	yes	36	35	35
15	yes	36	33	49

*Figures obtained from Atwood Transportation records.

capacity. Three buses: 17, 4, and 6, have routes of excessive length because roads in these areas are few. This requires several students to ride buses more than the one hour recommended by the State of Kansas. Table VI also shows that ten of the

fourteen drivers, 71.4 per cent, live on their route, thus, allowing buses to be stored near the end of the route.

Atwood uses shoestring routes because it is felt that this type route will provide the greatest comfort for pupils and economy for the school districts.

Bus routes in the Atwood transportation system were compared to these standards:

1. A transportation map of the school district is necessary to adequately plan bus routes. The map should show:
 - a) Outlined boundaries of the school district.
 - b) Drawings of streams, railroads, and similar hazards affecting bus routes.
 - c) Condition of roads and type surface: paved, oiled, dirt, or gravel.
 - d) Location of pupil homes and number in each home-riding bus.
 - e) The bus route with all stops, barriers, hazards, and type of roads.
2. Shoestring bus routes are more desirable and should be used.
 - a) Buses on this type route are stored at or near the end of the route.
 - b) Students would not be on the bus for more than one hour.

Table VII compares bus route criteria to data obtained from the Atwood transportation system.

The comparison of criteria to Atwood data shows an adequate transportation map being used and that this system used shoestring routes. The need for improvement of bus routes was

indicated. These recommendations should provide improvement.

1. Hire drivers who live on the bus route.
2. Use feeder buses to shorten the time pupils spend riding buses.

TABLE VII
COMPARISON OF CRITERIA ON BUS ROUTES
TO DATA FROM ATWOOD

Criteria	Atwood	
	Yes	No
Transportation map is used to plan bus routes	x	
Outlined boundaries of school district are shown	x	
Drawing of hazards affecting bus routes are on map	x	
Type road surface and conditions are indicated	x	
All bus routes shown in detail	x	
Shoestring bus routes are used	x	
Buses are stored at or near the end of the route	71.4 per cent	
Students are on bus for one hour or less		x

Pupil Transportation Policies

The Atwood schools have written policy for selecting bus drivers and conduct of pupils on buses. Other policies may be found in the minutes of the transportation committee. If a request is made of the transportation committee and no policy is found in the minutes concerning the request, a decision will be

made and so entered. This procedure has caused ill feelings between patrons and the transportation system.

The following will be used to measure adequacy of pupil transportation policies for Atwood:

1. Pupil transportation policies need to be written.
Written policy should provide:
 - a) For administrative officer to be responsible for transportation.
 - b) Regulations controlling persons who are eligible to ride buses.
 - c) That all drivers be issued a handbook.
 - d) Regulations requiring all drivers to be properly licensed.
 - e) Regulations to prevent the exceeding of bus capacity.
 - f) Rules which prevent a pupil from being requested to leave the bus before reaching destination.
 - g) That a report of all accidents be made to appropriate authorities.
 - h) That regular surveys and needed changes of the routes be made.
 - i) That buses will be used only for regular pupil transportation and authorized school trips.
2. Policies should be made available to:
 - a) Drivers.
 - b) Teachers and pupils.
 - c) Principals and other administrators.
 - d) Any person who requests them.

Table VIII, page 37, shows a comparison of transportation policies criteria to policies of Atwood.

TABLE VIII
COMPARISON OF CRITERIA ON PUPIL TRANSPORTATION
POLICIES TO DATA FROM ATWOOD

Criteria	Atwood	
	Yes	No
Pupil transportation policies were written		x
Policy will provide:		
For administrator in charge of transportation		x
Regulations controlling eligible riders		x
That all drivers have a handbook		x
Regulations requiring all drivers to be properly licensed	x	
Regulations to prevent overloading buses		x
Rules which prevent a pupil from being requested to leave the bus before reaching destination		x
That all accidents will be reported to authorities		x
That regular surveys and needed changes of the routes be made		x
That buses are used for pupil transportation and authorized school trips		x
Policies are available to:		
Drivers		x
Teachers and pupils		x
Principals and other administrators		x
Any person who requests them		x

The comparison of criteria on pupil transportation policies and data from Atwood indicates this to be the weakest part

of this transportation system. The only criterion Atwood meets is written policy on licensing bus drivers. The other criteria are not in written form, thus making it difficult to be available to any person. These recommendations should provide needed improvement.

1. Atwood should develop written policies for pupil transportation.
2. The written policies should be available to drivers, teachers, pupils, administrators, and any person who requests them.

SUMMARY AND RECOMMENDATIONS

Financing pupil transportation in Atwood showed little weakness when compared to the criteria. The Atwood schools had recognized transportation as an integral part of education, and that its costs were financed outside normal school operating expenses. It is recommended that Atwood continue with its present method of financing pupil transportation.

The comparison of criteria for bus ownership, purchasing, and maintenance to Atwood data indicated a need for improvement in purchasing and maintenance procedures. The Atwood system used school-owned buses which permits flexibility in bus use and school control in hiring drivers.

Recommendations for improvement of purchasing are:

1. Start a program of purchasing buses on a sealed-bid basis.
2. Advertise widely requests for bids.
3. Open bids at an official transportation committee meeting.

Recommendations for improvement of maintenance are:

1. Build or rent a building to be used as a bus garage.
2. Hire a full-time mechanic to do all major and minor repairs.

School bus driver administration in Atwood compared favorably with the criteria. The drivers are selected by standards set up by the Atwood transportation committee, and an in-service training program is provided. These recommendations should improve the procedure now followed:

1. Require all drivers to take and pass tests on traffic laws and regulations.
2. Use instructional films with in-service training program.
3. Have the talks given in meetings to cover more subjects.

The comparison of criteria on bus routes to Atwood data showed need for very few improvements. Pupil transportation in Atwood uses a map in planning routes. The routes used were the recommended shoestring type. The weaknesses found in relation to bus routes were the excessive length of a few routes, and all drivers did not live on the route which they drove. Recommendations for improvement are:

1. Hire drivers who live on the bus route.
2. Use feeder buses to shorten the time pupils spend riding buses.

The comparison of criteria on pupil transportation policies and data from Atwood showed this to be the weakest part of the transportation system operation. Atwood has no written policy except for hiring bus drivers and conduct of students on the

buses. Policy concerning anything else may be found in the minutes of the transportation committee. These recommendations should provide needed improvement:

1. Atwood should develop written policies for pupil transportation.
2. Written policies should be available to drivers, teachers, pupils, administrators, and any person who requests them.

REPORT TO TRANSPORTATION COMMITTEE

To: Transportation Committee, Atwood, Kansas

From: Verle McClellan

Subject: Report of Study of School Transportation in Atwood Public Schools

Strengths

It was found:

1. That financing pupil transportation had few weaknesses and should continue to use present methods.
2. That buses were school-owned and operated which allows flexibility of bus use and school control in hiring drivers.
3. That bus drivers received in-service training.
4. That bus drivers were selected by using written standards.
5. That shoestring routes were used to provide comfort for pupils and economy for transportation.
6. That an adequate transportation map was used to plan bus routes.

Weaknesses

It was found:

1. That purchasing procedures were weak.
2. That the maintenance program for school buses needed improvement.
3. That no instructional films were used in bus driver meetings.

4. That the talks used in driver in-service programs had not covered enough subjects.
5. That drivers were not required to take and pass tests on traffic laws and regulations.
6. That all drivers did not live on the route which they drove.
7. That a few students were on buses longer than one hour.
8. That policies for pupil transportation were not written.
9. That policies were not available to persons needing them.

Recommendations for Improvement

1. Start a program of purchasing buses on a sealed-bid basis.
2. Advertise widely requests for bids.
3. Open bids at an official transportation committee meeting.
4. Build or rent a building to be used as a bus garage.
5. Hire a full-time mechanic to do all major and minor repairs.
6. Use instructional films with in-service training program.
7. Have talks given bus driver in meetings to cover more subjects.
8. Require all drivers to take and pass tests on traffic laws and regulations.
9. Hire drivers who live on the bus route.
10. Use feeder buses to shorten the time pupils spend riding buses.
11. Pupil transportation policies need to be written and should provide:
 - a) For an administrator in charge of transportation.
 - b) Regulations controlling eligible riders.
 - c) That all drivers have a hand book.
 - d) Regulations to prevent overloading buses.
 - e) Rules which prevent a pupil from being requested to leave the bus before reaching destination.

- f) That all accidents will be reported to authorities.
 - g) That regular surveys and needed changes of the routes be made.
 - h) That buses are used for pupil transportation and authorized school trips.
12. Make policies available to drivers, teachers, pupils, principals, and any person who requests them.

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A STUDY OF TRANSPORTATION IN ATWOOD, KANSAS SCHOOLS

by

VERLE ORLO McCLELLAN

B. S., Kansas State University, 1948

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

School of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1964

The purpose of the study was to: (1) identify data important to the development and operation of the Atwood schools' transportation system, (2) collect and analyze these data for the purpose of recommending improvements to the schools' transportation system, (3) project the proposal into a written report for presentation to the Atwood schools' transportation committee and other people of the community.

The review of literature was used to describe criteria useful in analyzing the pupil transportation system in Atwood, Kansas.

Information concerning transportation in Atwood was gathered by interviewing responsible people and examining records of the following: (1) Rawlins County Superintendent, (2) Rawlins County Clerk, and (3) the Transportation Superintendent.

Data pertaining to the Atwood public schools' transportation system were compared to the criteria developed from the review of literature.

Recommendations for the improvement of pupil transportation in the Atwood school districts were developed and will be presented to the transportation committee.

The study covered these topics within the broad field of pupil transportation: (1) financing of pupil transportation, (2) school bus ownership, purchasing, and maintenance, (3) school bus drivers, (4) bus routes, and (5) pupil transportation policies.

The study indicated adequacy for financing pupil transportation and it was recommended to continue with the same methods of financing the program.

Criteria on school bus ownership showed that Atwood, by owning its buses, had flexible use of buses and that the school had control in hiring drivers. The comparison of criteria on bus purchasing and maintenance indicates a need for improvement. These recommendations provide:

1. Atwood should start a program of purchasing buses on a sealed-bid basis.
2. Atwood should widely advertise requests for bids.
3. All bids should be opened in an official transportation committee meeting.
4. Atwood should build or rent a building to be used as a bus garage.
5. A full-time mechanic should be hired to do all major and minor repairs.

Data on Atwood school bus drivers compared to criteria showed a few weaknesses. This school selected drivers by using standards, and they had in-service training for all drivers. Transportation in Atwood should be improved if these recommendations are followed:

1. Instruction films should be used with talks.
2. Instructional talks given in meetings should cover more subjects.
3. All drivers should be required to take and pass tests on traffic laws and regulations.

The comparison of criteria on bus routes to Atwood data showed an adequate map being used and that this transportation

system used the recommended shoestring routes. This comparison also indicated a weakness in the bus routes. Some of the routes were too long and a few of the drivers did not live on the route they drove. These recommendations should provide improvement:

1. Atwood should hire drivers who live on the bus route.
2. Feeder buses should be used to shorten the time pupils spend riding buses.

Criteria on pupil transportation policies compared to data from Atwood showed lack of written policies to be the weakest part of transportation administration. Atwood does not have written transportation policies available to anyone. Recommendations for improvement are:

1. Atwood should develop written policies for pupil transportation.
2. The written policies should be available to drivers, teachers, pupils, administrators, and any person who requests them.

The report of recommendation to the transportation committee covered the proposals for improvement identified through this study.