State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Paul F. Johnston, Superintendent
Des Moines 50319

DEPARTMENT OF PUBLIC INSTRUCTION

ADMINISTRATION

PAUL F. JOHNSTON, Superintendent of Public Instruction and Executive Officer of State Board of Public Instruction
DAVID H. BECHTEL, Administrative Assistant
W. T. EDGREN, Assistant Superintendent - Administration
L. N. JENSEN, Assistant Superintendent - Instruction

Transportation Division

Arthur Roberts, Director
Fredric W. Bohning, Consultant

FOREWORD

In order to achieve safe, efficient and economical pupil transportation, we must have well-qualified and well-trained school bus drivers. Since it is only a part-time position in the majority of cases, it is a problem to secure qualified drivers. Moreover, a second problem arises because driving a school bus requires special skill and information.

During each of the past several years, the Department of Public Instruction, in cooperation with other agencies, has conducted bus driver training programs at various centers throughout Iowa. While present plans call for the continuation of this activity, we realize the need for supplementing it with training programs for the school bus driver at the local level.

The purpose of this bulletin is to assist administrators and transportation supervisors in organizing and conducting driver training classes. It is not intended that each bus driver will be provided with a copy since this would defeat the purpose of the training course.

Paul F. Johnston

PAUL F. JOHNSTON
Superintendent of Public Instruction

TABLE OF CONTENTS

[illegible]

[illegible]

[illegible]

365A-1236TR

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

School Bus Driver Training and Supervision

Dear Superintendent:

The material included in this circular is designed to assist you in organizing and operating a safe and efficient transportation program.

At this point, we should add that we are indebted to Mr. W. T. Edgren, Assistent Superintendent, since a great deal of the material contained herein was prepared by him during the time he served as director of the transportation division.

Nearly six thousand school buses are transporting approximately 260,000 children to and from public school each day in Iowa. These buses travel more than 52,000,000 miles of Iowa highways during the course of a school year at a cost of almost $16,000,000.00.

In these days of growing traffic congestion, increasing traffic hazards and mounting financial costs, it is essential that the men and women who have a part in the transportation program be thoroughly competent. They must achieve a competence which can come only through adequate training and day to day supervision.

Some of you, we know, have already organized school bus driver training classes. Others, however, have done very little along this line.

The essentials of such a training course are first presented in outline form. Although major emphasis is placed on a training program for school bus drivers the role of those who, besides the drivers, have responsibility for pupil behavior, and of those who keep the records, cannot be slighted. It is hoped that you will give this material your close attention.

You will note that recommended instructors for each section are indicated. In districts where there is no professional staff member who has been appointed as supervisor of transportation, the superintendent of schools should take over those sections indicated for the supervisor. In any case, the superintendent should undertake to conduct section I which deals with the drivers position on the school staff and the general philosophy of the school with regard to transportation, and, possibly, section XI.

There may, of course, be other qualified individuals in your community who could be asked to participate in the specific areas of their competence. Community resources should be used when available.

Some of the smaller schools may find it difficult to organize an adequate training program. Larger schools might find it possible to invite the superintendent and school bus drivers of one or two such small neighboring schools to participate in the service offered.

Please remember that we are always happy to assist you in any way we can.

Sincerely yours,

Arthur Roberts

Arthur Roberts, Director
Division of Transportation

SCHOOL BUS DRIVER TRAINING AND SUPERVISION

A school district which undertakes to transport children to and from school needs to give careful and continuous attention to the many problems involved. Transportation is an important part of the educational program which cannot be neglected without serious consequences resulting.

Your program should be organized to achieve three broad objectives.

1. To transport children to and from school and to and from school activities safely.

2. To do this job economically and efficiently.

3. To maintain a transportation environment which is consistent with, and equal to, the general educational environment.

In order to achieve these goals it is necessary for the board of education to make provision for sound administration. This requires placing direct responsibility for administration of transportation in the office of the superintendent of schools. In order to relieve the superintendent of some of the detailed burden involved, a staff member should be appointed to serve, under the superintendent, with direct responsibility for administration and supervision of the transportation program. If the size of the bus fleet is large enough (approximately 20 buses) to warrant it, a full time transportation supervisor is desireable. Driver-training instructors have interest and training in this field. If available, they should have the opportunity to participate.

Proper administration of the transportation program requires:

1. A definite detailed set of standards for selecting, among the candidates available, individuals who have the physical and mental capacity to become good school bus drivers.

2. A definite and detailed training program for candidates selected.

3. Day to day supervision of drivers.

4. An adequate maintenance program.

5. Complete and accurate financial accounting.

6. Arrangements for educating and training pupils in safe practices.

7. Arrangements for informing the public about transportation procedures.

Several of these administrative requirements can be met only through a good training program for school bus drivers and maintenance personnel. There should be several hours of concentrated class work before a driver enters upon his duties. There should be class discussion and training sessions during the school year. Training is a continuous task. A good training program will include the following areas:

I Administrative Organization

A. The driver's relationship with others on the school staff.

B. Rules and regulations governing driver's conduct and general behavior.

C. The driver's contract obligations.

D. Relationship between transportation and the general school program.

1. Inter-relationships

2. Necessity for consistency

Recommended Instructors
Superintendent of Schools
or
Transportation Supervisor

II Organization of the Maintenance and Accounting Programs

A. The driver's responsibility for inspecting and reporting in connection with the maintenance program.

1. The preventive-maintenance philosophy

2. Daily, Monthly, Annual inspection routines

3. Reporting and repairing responsibilities

B. The driver's responsibility for records and reports in connection with financial and pupil accounting.

1. Financial and pupil records to be kept.

2. Procedures involved in recording expenditures

3. Discussion of usefulness of adequate financial records

Instructors
Transportation Supervisor
Mechanic

III Qualifications of a School Bus Driver

A. Established physical qualifications

1. Importance of physical well-being

2. Discuss physical qualifications

B. Psycho-physical factors

1. Test drivers for:

a. Reaction time

b. Distance judgement

c. Field of vision

d. Night vision

2. Discuss importance of each

3. How to compensate for weakness

C. Emotional factors

1. Importance of emotional balance

2. Undesireable emotional traits

3. Attitudes which lead to trouble

Instructors
Transportation Supervisor
Driver-Training Instructor

IV Training and Experience in Handling the School Bus Under All Operating Conditions

A. Relationship between speed and weather and road conditions

B. Driving on the rural highway

C. Driving in city traffic

D. Stopping and starting on the highway

E. Right and left turns

F. Turning around

G. Backing

Instructor
Driver-Training Instructor

V Defensive Driving Techniques

A. The defensive driving concept

B. Driving defensively in relation to:

1. The vehicle ahead

2. The vehicle behind

3. A vehicle approaching from the opposite direction

4. A vehicle approaching from right or left

5. A vehicle overtaking and passing the school bus

6. Overtaking and passing another vehicle

C. Route hazards

1. Railroad crossings

2. Narrow roads, bridges

3. Sharp turns

4. Hills

5. Slippery roads

6. Loading and unloading zones

Instructor
Driver-Training Instructor

VI Receiving and Discharging Pupils on the Highway

A. Section 321.372 - Code of Iowa

1. The school bus driver

a. Official stops

b. Driver procedure

2. Pupil procedure

3. Motorist procedure

B. The time schedule

C. Policy in regard to discharging pupils at other than official stops

Instructors
Transportation Supervisor
Driver-Training Instructor
Highway Patrol

VII Traffic Regulations, Laws of the Road

A. Local traffic regulations

B. Laws of the road (Chapter 321, Code of Iowa)

Instructors
Local Police
State Highway Patrol

VIII Accident Records - Accident Behavior

A. Analysis of traffic accidents

B. Analysis of school bus accidents

1. Discussion of situations most apt to lead to accidents

2. Application of defensive driving techniques

C. Accident behavior

1. First aid

2. Control of traffic

3. Care and use of the fire extinguisher

4. Accident reporting

Instructors
Transportation Supervisor
Driver-Training Instructor
Highway Patrol

IX Driver-Pupil Relationships

A. Influence of driver personality and character

B. The bus as a learning situation

C. Desireable pupil behavior

1. Entering and leaving the bus at loading and unloading station

2. Entering and leaving the bus at stops on highway

3. Riding in the bus

4. Crossing the highway

5. Walking on the highway

D. Extent of driver's responsibility for discipline and general pupil behavior

E. Acceptable disciplinary procedures

F. Unacceptable disciplinary procedures

Instructor
Transportation Supervisor

X Principles of Economical Operation

A. Preventive maintenance

1. Lubrication

2. Electrical system

3. Cooling system

4. Wheel alignment

5. Front-end assembly - Steering gear

6. The school bus body

B. Connection between the inspection program and preventive maintenance

C. Operating techniques

1. Starting the motor

2. Shifting gears

3. Motor load

4. Tire mileage

5. Gasoline consumption

Instructors
School Mechanic
Local Garage Mechanic

XI Driver-Supervisor Relationships

A. The drivers position in relation to supervision

B. Importance of supervision

1. Good work commended

2. Poor work corrected

Instructors
Superintendent of Schools
or
Transportation Supervisor

XII Driver-Public Relationships

A. The driver and his bus as public relations agents of the school.

1. The general public

2. Parents

3. Motorists

B. Courtesy and sympathetic consideration for the other persons problems.

In addition to providing a training program for school bus drivers, careful attention needs to be given to the education of pupils in safe behavior patterns. Teachers have responsibility here. Teachers should know in detail what is expected of pupils and should be trained to take an active part in teaching pupils safety requirements.

Parents need to know about rules and regulations governing pupil behavior. Their active cooperation and assistance should be sought.

Motorists are expected to obey the school bus stop law. We cannot take it for granted that they know their responsibilities. Local publicity efforts along this line should prove very helpful.

Bibliography

Belknap, Burton H. "The School Bus". Minneapolis: Educational Publishers, 1950. 212 P.

Culp, D. P. "An Administrator's Handbook of School Transportation". Department of Education, State of Alabama. Bulletin 1950, No. 4 Montgomery, Alabama: The Department, 1950. 99 P.

Isenberg, Robert M. Guide for Analyzing a Pupil Transportation Program. Washington, D.C.: Department of Rural Education, National Education Association, 1953. 18 P.

National Education Association, Department of Rural Education. "Pupil Transportation" Yearbook - 1953. Washington, D.C.: the Department, 190 P.

National Education Association, National Commission on Safety Education. "Standards and Training Programs for School Bus Drivers". Washington, D.C.: the Commission, 1949. 24 P.

New York State Education Department, Bureau of Field Financial Services, School Business Management Handbook #6. "Transportation". Albany, N.Y. 1950: The University of the State of New York Press. 128 P.

365A-1236TR
Div. of Transportation

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

Driver Training Series I

Administrative Organization

All school bus drivers should be required to sign a written contract. The official school bus driver's contract, TR-F-5-497, should be used. Local rules and regulations pertaining to the driver may be added thereto.

The training of a school bus driver should begin at the time he signs his contract. It is important for the driver to understand the general nature of his job and what will be expected of him. Complete understanding will eliminate later difficulties.

This involves complete explanation to the driver covering:

A. The driver's relationship to others on the school staff.

The driver should clearly understand his relationship to others on the school staff. He should know he is not independent of others. He should know to whom he is responsible, from whom he takes orders, and to whom he reports.

B. Rules and Regulations adopted by the board.

Local regulations concerned with conduct of the driver should be freely discussed.

Driver character, personality, grooming, general conduct, are important factors in the total educational program. Pupils are under the control of the driver in his bus for an appreciable length of time each day. The pupils will learn from the driver and the transportation environment. This is true whether the driver wishes it so or not. He should be aware of it.

There should be a local regulation requiring the driver to participate fully in the local training program.

C. The drivers obligations under the contract.

As stated above, local regulations having to do with the driver may be made a part of the official contract.

The official contract (required by Section 285.5 (5-9), Code of Iowa, contains the following:

The driver agrees:

(a) To conform to all rules of the board of education in and for said district adopted for the protection of the children and to govern the conduct of the person in charge of said conveyance.

(b) To make such reports as may be required by the State Department of Public Instruction, County Board of Education, or Superintendent of Schools.

(c) To conform to all standards for operation of the school buses as required by statute or by legally constituted authorities.
(d) To take bus to school bus inspections when held under auspices of the Division of Transportation, Department of Public Instruction without further cost to the board.
(e) To attend a county or regional school of instruction for bus drivers when called by the State Department of Public Instruction, Division of Transportation.
(f) That the party of the second part can terminate this contract and dismiss the party of the first part for any inattention to duty, use of intoxicating liquors, immoral conduct, incompetency, or for any other good cause.
(g) That this contract shall not be in force until driver presents official School Bus Driver Permit.

All terms of the contract should be explained. The driver should know, for instance, that the standards referred to under item c of the official contract may include specific daily inspection, maintenance, housekeeping, and reporting duties. Understanding and organization is required.

D. Relationship between transportation and the general school program.

The philosophy of the administration in regard to transportation will have a direct bearing on the quality of the transportation program.

By officially adopted policy, the board of education should insist that the same high standards which govern the operation of the school program apply equally to the transportation program. The administration should be as particular about the transportation environment as it is about the classroom environment.

A well operated school system will reflect - character. The obligation of a school system to teach, directly and indirectly, citizenship and integrity is accepted. A school district cannot practice these virtues in some segments of the program and ignore them in others.

An understanding, on the part of school bus drivers, of the close relationship existing between the general educational program and the transportation program should prove to be very helpful.

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

Driver Training Series II

Organization of the Maintenance and Accounting Program

None of the three broad objectives can be met without an adequate maintenance and accounting program.

Organization details and administrative routines will vary from school to school depending upon the size of the bus fleet, available personnel and maintenance facilities. In any case however, the maintenance and accounting programs must be well organized with precise routines set up if they are to function effectively.

A. The Maintenance Program

Your maintenance program should place heavy emphasis on preventive aspects. The term, preventive maintenance, may be defined as a program which aims to prevent failure of the vehicle or any of its parts. Corrective maintenance means to make repairs after a breakdown has occurred.

Preventive maintenance is less costly than corrective maintenance. It will result in increased safety, increased efficiency, better economy, longer vehicle life. You cannot eliminate all corrective maintenance, of course, but a good preventive maintenance program will hold corrective maintenance to a minimum.

A good school bus maintenance program requires:

1. Drivers and servicemen who are maintenance-minded.

2. Careful organization of maintenance duties and responsibilities.

Maintenance-minded school bus drivers are developed through training and close supervision. A maintenance-minded driver will not be happy about his bus unless it is in tip-top shape. He will take a considerable amount of pride in his well-kept bus.

The average school bus driver needs instruction, in theory and in practice, in the art of driving his bus with respect and consideration with the view towards getting the utmost from it in terms of economy of operation and long vehicle life. He needs instruction in the art and importance of spotting defects and developing weaknesses as he drives the bus on the route. A good driver will attempt to spot and report, accurately and fully, unusual noises and changes in the way the vehicle drives, rides, operates.

All responsibilities in the maintenance program must be definitely allocated and clearly understood by everyone concerned. Preventive maintenance requires proper lubrication at the proper time and place. If failure of a

part is to be prevented the maladjustment or developing weakness must be discovered in time. If failure occurs repairs must be made without delay. All this requires adequate inspection and reporting procedures. Daily, monthly and annual inspection schedules are essential. Recommended inspection schedules are attached.

Repair responsibilities must also be clearly established. If local commercial garages are to do the repair work detailed procedures must be set up to insure that repairs are properly made at the proper time. This is sometimes difficult to accomplish but it is necessary effort. Garagemen should know that the school will not accept less than first class work. If the school employs its own serviceman, training and supervision is necessary to insure adequate results.

Good maintenance doesn't cost---it pays.

B. Records and Reports

Pupil and financial records covering the transportation program should be complete and accurate. Competent accounting will provide for at least the following:

1. Daily and Monthly Bus Operating Records
2. Annual Summary of Monthly Operating Records
3. Equipment Index and Cost Records
4. Subsidiary Transportation Distribution Register
5. Special Trip Authorization and Driver's Report
6. Bus Route Schedule
7. School Bus Driver's Weekly Report

The first four records listed are necessary to give the administration an adequate picture of fleet and individual bus operation. Detailed records of maintenance costs for each bus may be provided by Job Sheet and Garage Service Records. These should be summarized monthly and annually.

The Special Trip Authorization and Driver's Report is necessary to assure close control by the administration over the use of buses for purposes other than transporting pupils to and from school and for proper financial accounting of such use.

An accurate and efficient Time Schedule cannot be maintained without some form of Bus Route Schedule. It is also important to have an accurate record of pupils who are being transported from day to day.

For a detailed explanation of recommended reports and record forms see Transportation Bulletin TR-B-5-454.

Each driver, and other personnel involved, should be instructed regarding the records he is expected to keep, how he is to keep them, why they are important, and when and to whom they are to be delivered.

At the end of the year the administration should have usable transportation records showing "where every penny went."

Bibliography

Featherstone, E. Glenn. "School Bus Maintenance". U.S. Office of Education. Bulletin 1948, No. 2. Washington, D.C.: United States Government Printing Office. 42P. .15¢

Featherstone, E. Glenn, and Gibbs, Andrew H. "Records and Reports for Pupil Transportation". U.S. Office of Education. Special Series No. 2. 1949. Washington, D.C.: United States Government Printing Office. 27P. .20¢

Iowa State Department of Public Instruction. "Pupil and Financial Accounting for School Transportation". Des Moines, Iowa: the department. 1954. 20P

365A-1236TR
TR-F-27B

BUS DRIVER'S
DAILY INSPECTION REPORT

Check one: Morning Evening Special

Date_____ Bus No.____ Speedometer Reading_____

1.	Emergency door--Latches and warning signal working properly.	
2.	Windshield Wiper	
3.	Radiator water level satisfactory	
4.	Fuel tank level satisfactory	
5.	Crankcase oil level satisfactory	
6.	Brakes: Service; Emergency	
7.	Tires (Visual inspection only)	
8.	Cleanliness: Interior; Reflectors; Lenses	
9.	Generator charging satisfactorily	
10.	Oil pressure guage working properly	
11.	Headlights; stop lights; tail lights; directional signals; flashing warning lights; I.D. lights all working properly	
12.	Rear View mirrors (Adjusted properly)	
13.	Stop arm	
14.	School Bus signs visible	
15.	Motor functioning properly	
16.	Other	

_____
Signature of Driver

Instructions on other side

Place a check mark (✓) in the right column if satisfactory.

If an item is not satisfactory leave right column blank until the condition has been corrected.

Note: All items must be satisfactory before the bus is put on the route.

Enter under number 16 any items you may notice which should be called to the attention of the service manager.

365A-1236TR
TR-F-27C

SCHOOL BUS
MONTHLY OR 1000 MILE INSPECTION REPORT

Bus Number _____ Driver _____

Date of Inspection _____ Speedometer Reading _____

BODY		ENGINE	
1 Check all instrument panel gauges		27 Inspect motor supports: front, rear	
2. Check all lights, signals, and wiring		28 Check oil and air filters	
3 Check horn; first aid kit		29 Check muffler, manifold and exhaust line	
4 Check flares; fusees; flags; axe			
5 Inspect heater and defroster equipment		30 Inspect fan belt	
6 Inspect fire extinguisher		31 Inspect generator and distributor	
7 Inspect windshield wipers		32 Check battery and starter	
8 Check and adjust rear view mirrors		33 Check cooling system	
9 Check cleanliness: Interior; Exterior		34 Check carburetor and fuel line	
10 Inspect windows; windshield; door glass		35 Others	
11 Check seats and upholstery (seats must be tight to floor)			
12 Inspect emergency door, latches, warning signal			
13 Inspect service door, controls, steps			
14 Check stop arm			
TIRES			
15 Check for cuts, bruises, uneven wear, air pressure			
FRONT END			
16 Check spindles; wheel alignment; tie rods; drag links			
17 Check springs; clamps; shackles			
18 Check steering mechanism			
REAR AXLE			
19 Check springs; clamps; shackles			
CLUTCH			
20 Check pedal clearance & adjustment			
21 Check clutch for slipping or dragging			
TRANSMISSION			
22 Check shifting for noise			
23 Check for leaks and cracks			
BRAKES			
24 Check pedal clearance and pressure			
25 Check fluid			
26 Check emergency brake			

I certify that I have completed the inspection of this bus as indicated above.

Date_____ _____
Signature Mechanic

Note: Place a check mark (✓) in the column when each item is completed. If an item is unsatisfactory leave column blank until repairs are made. If there is more than one item on a line circle the ones that are unsatisfactory. A check mark in the column will indicate that the circled items have been completed.

365A-1236TR
TR-F-27D

SCHOOL BUS
ANNUAL INSPECTION SHEET

Bus Number _____ Make _____ Year Model _____ Driver _____
Date of Inspection _____ Speedometer Reading _____

MOTOR	
1 Inspect for oil or grease leaks and any unusual noises	
2 Tighten cyclinder head bolts	
3 Tighten manifolds--stop leaks	
4 Inspect muffler and exhaust line	
5 Inspect and adjust fan belt	
6 Tighten engine block to base	
7 Tighten engine support bolts	
8 Tighten lower crankcase bolts	
9 Adjust valves and tappets	
10 Inspect ignition cables	
11 Check battery: clean, tighten, refill	
12 Clean and adjust distributor points	
13 Inspect and adjust carburetor	
14 Check and clean generator and starter	
15 Oil generator and starting motor	
16 Check voltage regulator, connections and charging rate	
17 Clean fuel pump; air cleaner	
18 Clean or replace oil filter	
19 Clean and adjust spark plug gaps	
COOLING SYSTEM	
20 Drain and flush radiator	
21 Inspect & tighten hose connections	
22 Inspect water pump & cooling system	
23 Tighten radiator stay rods and hold-down bolts	
STEERING AND FRONT END	
24 Check wheel bearings, knuckle pins bushings, spindles, steering arms, tie rod ends, drag link; align front wheels	
25 Tighten steering housing to frame	
26 Tighten pitman arm	
27 Adjust play in steering post	
28 Inspect springs for faulty leaves	
29 Tighten spring clips & U-bolts	
30 Tighten spring shackles & hangers	
CLUTCH	
31 Check pedal clearance & adjustment	
32 Check clutch for slipping or dragging	
TRANSMISSION	
33 Check shifting and for noise	
34 Check for leaks and cracks	
REAR END	
35 Inspect differential for leaks	
36 Inspect differential pinion for play	
37 Tighten differential housing bolts	
38 Tighten rear axle flange bolts	
39 Tighten spring clips & U-bolts	
40 Tighten spring shackles & hangers	

BRAKES	
41 Remove wheels, inspect lining, linkage, drums, wheel bearings, hydraulic cylinders and lines	
42 Inspect booster and hoses	
43 Check air compressor, governor, gauge	
44 Check emergency relay valve	
45 Check chambers, travel & adjustment	
46 Inspect emergency brake lining, ratchet and pawl	
CHASSIS	
47 Check all wheels for trueness	
48 Tighten rim lugs, check studs	
49 Tighten body bolts and clips	
50 Tighten fenders, bumpers	
51 Inspect universal joints and flanges; tighten all bolts	
52 Check propeller shaft center bearing	
53 Check & adjust radius rods	
BODY	
54 Inspect windshield wipers; test horn	
55 Check seats and upholstery (seats must be tight to floor)	
56 Inspect and adjust rearview mirrors	
57 Inspect heater & defroster equipment	
58 Inspect fire extinguishers	
59 Inspect windshield, windows, glass	
60 Inspect emergency door, latches, hinges, warning signal	
61 Inspect service door, controls, rubber	
62 Check stop arm	
63 Check all instrument panel gauges	
64 Flares, fusees, flags, first aid kit, axe (replace when necessary)	
65 Check floor covering, safety shield	
66 Inspect body mounting sills & bolsters	
67 Tighten tank support bands	
68 Check visibility of all signs and lettering	
69 Check all lights, signals, wiring	
TIRES	
70 Check for cuts, bruises, uneven wear	
71 Check tread (replace if smooth)	
CHANGE OIL AND GREASE	
LUBRICATE ACCORDING TO CHART	

I certify that I have completed the annual inspection of this bus as indicated above.

Date _____ Signature _____

Place a check mark in column when each item is completed. (✓)

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

Driver Training Series III

Qualifications of a School Bus Driver

The employment of careful, well qualified bus drivers is a most essential phase of a safe school transportation program. Driver selection should have only one basic criterion--the employment of the most responsible and careful operator that can be found. It must be recognized that school bus driving is generally a part-time job and that the school district cannot afford to pay a full-time salary for a part-time job. A careful survey should be made of those persons in the community who can arrange their work so that they can devote the time required for bus driving.

The selection of school bus drivers is the responsibility of the local school officials. The State Department of Public Instruction has a part in the employment of drivers only to the extent that it rules on the physical fitness of the applicants and issues the state school bus drivers' permits to those who meet the physical requirements.

In addition to the requirements of bus drivers specified by law and regulations, the school authorities should adopt standards as to character, emotionability, and knowledge and skill requirements. Among the elements that should be considered in setting up character standards are reliability or dependability, initiative, self reliance and leadership; ability to get along with others; freedom from use of undesirable language; personal habits of cleanliness; moral conduct; honesty; freedom from addition to narcotics or habit-forming drugs; and freedom from addiction to alcoholic beverages or liquors.

In recognition of the importance of emotional stability needed in school bus driving, local school officials, in selecting applicants and in re-employing drivers, should give full consideration to such factors as patience, considerateness, even temperament, and calmness under stress.

All applicants for driving a school bus should be required to show a satisfactory knowledge of state and local motor vehicle regulations; traffic laws and ordinances; traffic signs, signals and road markings; and driving techniques, including knowledge of the effects of physical laws on vehicle control. They should also be required to show satisfactory proficiency in the skills necessary in all phases of school bus operation. This should include experience in driving large vehicles, such as trucks and buses.

Local school authorities should check the driving records of all persons who apply for a position as school bus drivers. The driver's word should not be accepted as final on this point, but information on traffic violations should be secured from the Drivers Examining Division of the Iowa State Highway Patrol. A suggested form for use in securing this information is attached at the end of this series as well as a School Bus Driver Application and School Bus Driver's Interview Checklist.

A. Physical Qualifications.

Iowa State law requires a school bus driver to hold a valid Chauffeur's License issued by the Department of Public Safety and a School Bus Drivers' Permit issued by the State Department of Public Instruction. The applicant must be at least 16 years old. The maximum age limit, established by regulation, is not more than 65 as of August 1 preceeding the opening of the school year. In addition he must submit a statement, signed by the examining physician, indicating physical fitness as follows:

1. Sufficient physical strength to operate the bus effectively.

2. Possession of full and normal use of both hands, both arms, b th feet, and both legs. Amputation of an arm or foot will disqualify the applicant. Amputation of more than two whole fingers of a hand will also disqualify him. In other words, the applicant must have one complete hand, and the thumb and at least two fingers of the other hand to qualify. Individual evaluations are made for applicants who have parts of fingers missing.

3. Freedom from any communicable disease, such as tuberculosis.

a. Tests for tuberculosis.

(1) New appointees.

(a) Bus drivers who are new appointees must take the intradermal tuberculin test or have a chest x-ray. If the intradermal test is negative, the x-ray film is not required. If the intradermal test is positive, an x-ray must be taken. Those candidates whose chest x-rays show any active form of tuberculosis will be rejected.

(2) Candidates for re-appointment.

(a) Bus drivers who have taken the intradermal tuberculin skin test only at any time prior to the six-month period preceeding September 1 of the school year for which the permit is to be issued must be retested.

(b) Bus drivers who have had a negative chest x-ray within the 16 months preceeding September 1 of the school year for which the permit is to be issued are not required to be retested.

(c) The driver may take either the intradermal tuberculin test or the chest x-ray. However, if the tuberculin test is positive, the chest x-ray is required.

4. Freedom from mental, nervous, organic, or functional disease such as epilepsy, paralysis, insanity, diabetes, abnormal blood pressure, heart ailments or any disease that may cause a tendency to fainting.

Blood pressure in excess of 170 (systolic) and 100 (diastolic) taken in a sitting position will disqualify the applicant in the absence of a qualified physician's recommendation and satisfactory statement covering the significance of the high pressure.

5. The driver must be mentally alert and of at least normal intelligence. Unless he has these characteristics he is unable to size up difficult traffic situations and make intelligent decisions quickly.

6. The driver must have at least 20/40 vision in each eye, either normally or after correction. If one eye is near normal, visual acuity within the limits of 20/100 in the other eye is permissible. If glasses are required to bring the vision within the above limits, the glasses must be worn at all times when driving the bus. Persons with tunnel or barrel vision are not acceptable. Near normal depth perception is required.

7. The driver must have sufficient hearing in both ears to be able to hear sirens, whistles, warning bells, signals, and other sounds related to the safe operation of school buses. These requirements must be met without the use of a hearing aid.

B. Psycho-physical factors.

All driver applicants should be required to take tests to determine if their psycho-physical factors are normal. These tests are given by means of specially constructed devices. All the Iowa Highway Patrol districts have most of this equipment available. Some of the equipment is also available in schools teaching driver education.

1. Reaction time.

In driving, reaction time is the time it takes to reach the necessary control lever after recognizing the need to do so. Tests show that drivers in the 18-30 age group normally have a brake-reaction time of five-eights of a second. That means they are able to get their right foot onto the brake pedal, ready for braking, in a little more than half a second. A middle-aged driver would most likely need three-fourths of a second to get into braking position.

Three-fourths of a second is usually considered normal reaction time. A reaction time of one second is common to drivers who are fatigued. A reaction time of one and one-fourth or over would indicate that something is radically wrong with the individual. He may be ill or under the influence of alcohol or drugs. School authorities should hesitate to employ a driver whose reaction time is as much as one second under normal conditions.

A driver's reaction time is important because it has a direct bearing on his ability to stop his bus quickly in an emergency. The distance it takes a driver to stop his vehicle is the distance he travels after seeing the danger until he gets his foot on the brake plus the braking distance of his vehicle. A driver with a normal reaction time of three-fourths second, travelling only 25 miles per hour, will travel 27.5 feet before he can get his foot on the brake pedal after he sees a green traffic light turn red. After the brakes have been applied, the car would require a braking distance of 36 feet more. The reaction time distance plus the braking distance would demand a total of 63.5 feet. This is on dry pavement. The braking distance would be much greater on gravel roads or slick pavement.

Reaction time increases as the driver grows older. If a driver knows his reaction time is slow there are certain things he can do to compensate for it. He must approach a "stop and go" light at a reduced speed because it is going to take him longer to stop if the light turns red. He must allow a greater distance between his vehicle and the one ahead in order to avoid a rear-end collision if the car ahead stops suddenly. In general, he must be more alert to impending emergencies and drive at slower speeds so as to give himself more time to react when an emergency develops.

2. Depth Perception.

In normal vision an object is seen in three dimensions. Its size, its shape, and the approximate distance away can be judged quite accurately. A person with faulty depth perception usually cannot judge distance with any degree of accuracy. He may overestimate the distance of an approaching car and attempt to pass the car he is following when there is not enough clear space ahead; or, he may stop suddenly, thinking the car ahead is closer than it actually is.

Depth perception or distance judgment is measured by having the driver line up, side by side, two movable miniature cars. These cars are placed on tracks in a device and viewed through a mirror from an apparent distance of 20 feet. The driver moves the cars by a cord until they appear to be directly opposite each other. Unless his depth perception is considerably below normal, he should have an error of less than one inch in lining up the cars, side by side, in this test.

It takes two eyes to judge distances effectively. This is one reason why bus driver applicants with no sight, or very poor sight, in one eye are rejected.

Persons who have a deficiency in the ability to judge distances will have greatly increased driving hazards. Such a driver must allow additional space between his car and other cars on the road. In other words, he must not follow other cars closely or overtake another car to pass, unless there is considerably more clear space ahead than appears to be needed. If a driver is aware that his depth perception is faulty, he must make allowances for it.

In normal driving the following situations require good depth perception:

a. Overtaking and following another car.

b. Turning in traffic, especially left turns.

c. Parking in small spaces.

3. Field of Vision.

One looks directly at an object to see it sharply and in detail. Off to the side, one sees objects in less detail. The area which one sees to either side, while looking straight ahead, is called the field of

vision. This vision is very important in driving, as a driver must be aware of everything going on around him. It is important when pedestrians step out from between parked cars, when cars start out from parking stalls, and at all intersections.

To determine the field of vision the driver places his head in a device that forms a little more than a half circle, and looks straight to the front. The driver is instructed to notify the operator at the exact moment when the white object on either the right or left comes within the line of vision. The average on this test is from 170 to 190 degrees, or from 85 to 95 degrees on each side. School bus drivers should have a minimum of 75 degrees on each side or a total field of vision of 150 degrees. This is another reason why an applicant with sight in one eye only is rejected.

There are some individuals who see only straight ahead, as one would if he were looking through a pair of binoculars. People with such a narrow field of vision are said to have "tunnel vision." They are at a great disadvantage when cars are overtaking them to pass, when they are driving through intersections, and at all times in heavy traffic. Persons with "tunnel vision" are not acceptable as school bus drivers.

A person with a narrower field of vision than normal should be aware of it. Being aware of it he can do much to compensate for this handicap. He can reduce speed at all points where vehicles or pedestrians might be approaching from the side, and he can use the "swivel" God gave him to move his head slightly to look both ways at intersections and at other dangerous points.

4. Night Vision.

The ability to see at night varies greatly among individuals. Two persons may have the same visual acuity during the day, and yet, at night, one may be able to see much better than the other.

A number of devices have been developed to measure the ability to see at night. The best tests are those which most nearly duplicate night driving conditions. These tests are designed to test the driver's glare resistance, glare recovery, and how well his vision adapts to darkness.

One's eyes make adjustments so one can see in different degrees of illumination. Like the diaphram of a camera, the pupil of the eye controls the amount of light that enters. The retina also adapts itself to different degrees of light.

We all have entered a dark theater in daytime and found it very difficult or almost impossible to see at first, but gradually objects became visible. This is what happens in the daylight, the pupil of the eye contracts to prevent too much light from falling on the retina. Then, when entering the dark theater, the pupil opens up fairly rapidly to allow more light to enter. But the sensitivity of the retina has become dulled by exposure to the brightness of day, and sight is dull until the retina has time to recover its sensitivity.

The eye adjusts much more slowly to darkness than to light. Although most of the adjustments may take place in the first few minutes after one enters the dark room, complete adjustment to dim light can take as long as half an hour.

The age of a driver is important in night driving. Various experiments have shown that the ability to see in dim light becomes poorer as people grow older. The eyes of older persons are also less able to see correctly in the glare of oncoming headlights, and are slower to recover after an exposure to such glare.

The difficulties and handicaps of night vision must be taken seriously at all ages. The fatal accident rate, on the basis of miles driven, is three times higher at night than during the day. Inability to see well enough is a major factor in the many accidents which occur at dusk and after dark. The driver may lessen the accident danger in night driving by observing such practices as:

a. Drive at a slower speed than in the daytime.

b. Drive at night only when rested. Fatigue impairs night vision.

c. Know the range of his headlights and what he can see at given distances.

d. Be able to stop within the visibility range of his headlights.

e. Do not wear dark or colored glasses which reduce the amount of light entering the eye.

f. When facing glare from approaching headlights: reduce speed; avoid looking directly at the lights; and guide your steering by the right-hand side of the road and the center line. Keep speed reduced until the eyes recover from the effects of the lights.

g. Always depress headlights when meeting other cars. This is not only common courtesy, but it lights the road directly ahead and to the right, where it is most needed. A driver blinded by high-beam headlights tends to crowd the light, possibly causing a sideswipe.

h. Depress lights when following another driver. The glare caused by lights shining in his rear-view mirror can reduce his vision enough to cause an accident.

i. Avoid lighting matches or using bright lights in the bus. Keep interior lights out.

j. Keep headlights properly adjusted so that depressed beams are not high enough to hit the oncoming driver's eyes.

k. Keep windshield and all lights clean.

C. Emotional Factors.

1. Importance of emotional balance.

A school bus is no safer than its driver. A person may meet every one of the physical requirements and still be a poor risk as a driver. In order to be a really safe driver, it is necessary to possess certain personality traits and mental attitudes. A school bus driver, in particular, should be:

a. A mature individual with dependable and controlled emotions. Emotional stability is extremely important.

b. Alert and safety-minded at all times. He should never take chances which might endanger the lives or safety of the pupils entrusted to his care.

c. At least normally intelligent.

d. Patient, sincere, dependable, and foresighted.

e. Able to handle children easily and retain their respect.

f. Courteous and considerate.

g. Honest and industrious.

2. Undesirable emotional and personal traits.

a. Use of profane and indecent language.

b. Sloppy in personal habits and attire.

c. Using tobacco while driving a school bus.

d. Use of sarcasm in reprimanding children.

e. Discourteous and inconsiderate.

f. Emotional shock (generally of a temporary nature).

Drivers who have suffered an emotional shock due to such happenings as sickness or death in the immediate family, worry over financial affairs, etc., should not be permitted to operate a school bus until the emotional shock has worn off.

3. Attitudes that lead to trouble.

Attitude is hard to measure, but it leaves its imprint. The school bus driver with a poor attitude is the driver who is continually having trouble with the people he serves.

In addition to this, attitude takes its toll in serious accidents. Half of our serious highway accidents can be attributed to poor attitude or what is commonly called impoliteness. Poor attitude does not go with school bus driving. Many drivers who are mentally, physically and emotionally sound, know all the rules and regulations and possess above average skill in the operation of a car or bus, may possess a poor attitude, and as a result are poor drivers.

Attitudes are more or less emotionalized. They are acquired from personal experience and are as many and varied as the situations to which they are a response. Attitudes influence behavior. Therefore, driving behavior that creates a hazardous situation, either for the driver himself or for others, may be said to be evidence of poor attitude.

Bibliography

Public School Transportation, Texas Education Agency, Bulletin 559, Austin, Texas.

Selection, Instruction and Supervision of School Bus Drivers, National Commission on Safety Education, National Education Association, Washington, D. C.

Lets Drive Right, Maxwell Halsey, Executive Secretary of the Michigan State Safety Commission, Lansing, Michigan.

Sportsmanlike Driving, American Automobile Association, Washington, D. C.

SCHOOL BUS DRIVER APPLICATION (Example of a form that may be used)

Name_____Age_____Male_____Female_____

Present Address_____Phone No._____

How long have you lived at present address?_____

Previous Address_____

Date of Birth_____Place_____

Marital Status: Single_____Married_____Widowed_____

Do you have any physical impairments?_____

Years of Formal Education Completed: Grade School____H. S.____College____

Current Driver's License: Operator's_____Chauffeur's_____

Other_____Number_____State_____

Have you had any type of vehicle accident in the last 3 years? Yes____ No_____

_____

If yes, give approximate dates

Have you been arrested for a moving traffic violation in the last 3 years? Yes_____No_____

_____

If yes, give approximate dates

Has your driver's license ever been suspended or revoked? Yes____No_____

Do you use intoxicants? Yes____No____To what degree_____

To the best of my knowledge the answers to the above are full and correct.

Date_____Signature_____

* * * * *

REFERENCES

Do not use relatives. Include at least one businessman, and one professional person.

NAME	ADDRESS	TEL.	OCCUPATION
1.			
2.			
3.			
4.			
5.			

SCHOOL BUS DRIVER'S INTERVIEW CHECKLIST (Example of a form that may be used)

Name_____

Age_____

Date_____

1. Driving Experience: Car_____ Truck_____

   School Bus_____ Other_____

2. Number of jobs held in last 3 years_____

3. Are reasons for leaving logical? Yes_____ No_____

4. Attitude toward former employers Good____ Poor____

5. Any accidents? Yes_____ No_____

6. Is explanation logical? Yes_____ No_____

7. Does applicant "talk big" or act "cocky"? Yes_____ No_____

8. Any charge accounts? Yes_____ No_____

9. Any bank accounts? Yes_____ No_____

10. Any insurance? Yes_____ No_____

11. Married? Yes_____ No_____

12. Any family? Yes_____ No_____

13. Ever been in trouble with the law? Yes_____ No_____

14. Alert and responsive to questions? Yes_____ No_____

15. Appears intelligent High____ Average____ Low____

16. Personal Appearance Good____ Fair____ Poor____

Remarks:_____

_____

_____

_____
Signed

REQUEST FOR DRIVING RECORD (Example of a form that may be used)

To: Driver Services Division-Motor Vehicle Department

Address_____ State_____

Type or Print

			Date of Birth		
First Name	Middle Name	Last Name	Month	Day	Year

Last License Number	State	Expiration Date

List moving violations, accidents, probations, suspensions, revocations

_____

_____

_____

_____

_____

_____

Please return this form to:_____

Name Position

_____

School Address

State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Paul F. Johnston, Superintendent

Driver Training Series IV

Handling The School Bus Under All Operating Conditions.

A. Driving Under Unusual Conditions.

Beginning drivers too often learn to drive only under favorable driving conditions. Then, when they have to drive under unfavorable road, light or weather conditions, they go right ahead with the only driving practices they have learned and run into trouble.

Adverse driving conditions put special responsibilities on the driver. They lengthen the stopping distance or danger zone. Under unfavorable conditions, vehicle speed must be reduced merely to maintain the same margin of safety at any given speed under favorable conditions.

School bus drivers operate their buses over a variety of roads and under varied conditions. It is, therefore, necessary for such drivers to adapt their driving habits to the conditions under which they are driving. On poor roads a considerable part of their attention should be devoted to getting through with the greatest degree of comfort to the passengers and without damaging the bus. On main highways, a large part of their attention should be concentrated on other traffic on the road. They should know how the bus is going to respond on different types of roads and what their braking distance will be on different road surfaces under normal conditions and when rain or snow is present.

1. Emergency Conditions.

During the course of a school year, a bus driver will face a variety of hazardous conditions that will demand alert and skillful action on his part. Conditions he will constantly face are: ice, snow, mud and fog. A basic rule for the driver to follow is always to shift to a lower gear when it is apparent that he will encounter any of these conditions.

A vehicle cannot be operated safely and efficiently at a high rate of speed when any of the above conditions prevail. To avoid getting stuck or spinning his wheels the driver should endeavor to keep the bus moving slowly and steadily forward in gear. If the wheels start to spin, let up slightly on the gas to allow the wheels to take hold. If the bus stops, do not continue to spin the wheels in hope of pulling out. In mud and soft sand this will only serve to dig the wheels deeper. When the bus becomes stuck, first try to get it out by pointing the front wheels straight ahead, and then try "rocking" the bus by alternately putting it into reverse and into low. This can be done in a manner that the wheels do not spin, and in many cases it will pull the bus out of a tough spot. If this fails, some material to provide friction, such as crushed rock, tree branches, pieces of timber, or burlap should be pushed down around the rear wheels to allow the bus to again get in motion.

a. Snow and Ice.

To operate a school bus successfully on ice and snow the driver should progress at a slow and steady rate of speed. Never should the driver attempt to drive a bus under such conditions in low gear. To avoid spinning the wheels, less power should be applied to the drive-shaft. The bus should be operated in third gear and the following points should be observed:

(1) Engage the clutch very slowly

(2) Accelerate slowly and steadily

(3) Apply brakes slowly and intermittently

(4) Approach all curves slowly

(5) Do not disengage the clutch until the bus is almost stopped.

b. Rain, Fog, Smoke and Sleet.

These conditions usually cause hazardous driving conditions because of poor visibility. However, they also frequently cause slippery road conditions. Drivers should be alert to slippery conditions at the start of a rain, before it has had time to wash off oil, soil and other materials that cause slippery conditions when wet. The following precautions should be observed when operating under these conditions:

(1) Reduce speed of bus.

(2) Drive well to the right of the road

(3) Watch side roads closely for entering traffic

(4) Beware of patches of wet leaves and smooth blacktop surface

(5) In fog, use windshield wipers and defrosters continuously

(6) In fog, use a deflected light. Never use the bright lights

(7) Never look directly at lights of on-coming vehicles

Visibility is at its worst in fog. The best rule for fog is "stay off the road unless the trip is absolutely necessary."

In dense fog, creep. Drive with low beam headlights. They throw the light down on the road where you need it, rather than out into the fog to be reflected back at you. Avoid sudden stops. Signal stops by tapping on the brake pedal to make the stop lights blink. Rear-end collisions are a special danger in fog.

Never assume a clear road ahead in fog, except for the distance you can see. Usually that distance is very short. Drive as though you have to make an emergency stop within the distance you can see, no matter how short it is. In really heavy fog, this means that you cut speed to a crawl--the only intelligent way to drive under fog conditions.

If the fog lies in patches, go into the patches at greatly reduced speed.

Drive as far as possible to the right of the center line, watching the road edge carefully, so you won't drive off the road, hit culvert heads, or hit pedestrians or parked vehicles.

c. "Skidding" Road Conditions.

What a driver will do in case of a skid will depend largely on his experience and presence of mind. Therefore, it is very difficult to teach a driver how to recover from a skid. It is more profitable to teach a driver how to avoid skids than to encourage him to depend upon being able to handle a bus after it starts to skid. Regardless of the precautions taken there are times when skids will occur. While there are no set rules which will apply in every case, the following suggestions should prove helpful:

(1) Keep yourself under control. Whatever is to be done to get out of a skid, you must do. You do it best if you don't "blow up". A person who cannot control himself in an emergency is an accident-prone driver.

(2) Steer in the direction in which the rear end is skidding. As the car begins to straighten, straighten the front wheels also.

(3) Avoid braking. Slamming the brakes on in a skid locks the wheels, causes loss of traction, and increases the skid. On slippery roads, nothing starts a skid faster than locking the wheels while braking. Braking on slippery roads, if necessary, should be done by tapping the brake pedal intermittently, being careful not to lock the wheels.

(4) Avoid oversteering. Turning the steering wheel too far "whips" the rear end into a skid in the opposite direction.

(5) Keep the clutch engaged. Holding the car in gear helps reduce speed and produces maximum control throughout the skid.

(6) Avoid lifting the foot from the accelerator suddenly. Decelerating suddenly increases the skid because of the sudden braking effect of the engine. Some expert drivers even accelerate moderately to get out of a skid.

B. Driving on Rural Highways.

Most of the school bus operations take place on rural roads. Such highways may consist of standard width hard surfaced roads, narrow hard surfaced roads, gravel and crushed rock surfaces, and just plain black dirt.

Rural roads which are not hard surfaced are generally quite narrow. Probably the greatest hazard on such roads is the questionable condition of the outer edges of the grade. During wet weather they frequently become soft and give way when the school bus gets too close to the edge. Under such conditions the bus driver, when meeting another vehicle, should avoid pulling too far to the right. In many cases it is wise to stop the bus entirely until the other car has maneuvered around it.

Hills are another source of danger. Many motorists using these roads tend to drive toward the center of the road. Bus drivers approaching a hill should pull over to the right as far as possible so as to minimize the possibility of a head on collision with a motorist coming over the hill from the opposite direction.

Blind and uncontrolled intersections constitute an additional hazard on rural roads. All such intersections must be approached at a reduced speed and with the utmost care. Where the intersection is blind to the extent that it is impossible to see down the side roads until almost at the intersection, the only safe procedure is to enter the intersection at a crawl.

Many of the secondary roads, though hard surfaced, are narrow and crooked. On such roads the driver may permit his right wheels to run off the paved surface. When this happens, the driver should be cautious so as not to follow his instinct and attempt to pull the bus back on the pavement immediately. He should keep going straight and allow the bus to slow down. If there is sufficient space on the shoulder of the road, he should pull the right wheels out two or three feet from the pavement after the bus has slowed down, and then, with the bus moving very slowly, turn the wheels rather sharply to the left, and cut back on the pavement. The brakes should be applied very gently in slowing the vehicle--quick and hard application of brakes should be avoided. Moreover, if conditions permit it, engine compression alone should be used to slow the bus to the desired speed.

C. Driving in City Traffic.

Regardless of the fact that the school bus will be operated most of the time on the open highway, it is important that the driver acquaint himself with the sound practices that are necessary for town and city driving. He should become familiar with local traffic regulations and follow the direction of officers directing traffic.

One of the most common faults of school bus drivers, while driving in town, is that they do not stay in the proper lane of traffic. Many drivers feel that since they are driving a vehicle that is wider than the ordinary car, it is safer if they straddle the lane. This is an erroneous and dangerous idea for the bus is in a much safer position if it is in one lane than if it is in two. The driver should endeavor to keep the bus in the right lane,

unless he is preparing to make a left turn; in this position the bus will be in a less hazardous position and will not interfere with other traffic to the extent it does when occupying the portion of both lanes. If lanes are not marked off, it is up to the driver to imagine the lanes exist, and to operate the bus in the proper one. The driver who makes it a habit to drive his bus in the wrong lane, or who continually changes from one lane to another, demonstrates an absence of respect for other drivers and the safety of his passengers.

Another factor that is important to the safe operation of a school bus in city traffic is regulating the speed of the bus in accordance with other traffic on the street. If the bus is operated at a speed that is in excess of, or greatly under, that of other vehicles, it becomes a hazard to both the occupants of the bus and other users of the street. The driver should be careful to maintain enough distance between the bus and other vehicles to allow him room to stop without colliding with other vehicles under emergency conditions. In city traffic, the speed of the bus should be in accordance with the speed of other vehicles, so that the bus will not create a hazard and "tie-up" traffic.

Streets in cities, and roads leading into cities, frequently consist of four or more lanes and divided highways. If such roads are a part of the school bus route where children are picked up, consideration of the safety of the children should be paramount. The bus should be required to double back rather than to have a child cross a divided highway unassisted. This will permit children living on such roads to load and unload on the right side of the highway with a consequent lessening of the danger of the type of accident which has occurred at various times when students have had to cross to the opposite side of the road to board the bus.

D. Right and Left turns.

In order to provide the maximum degree of safety in making turns it is first necessary to maneuver the bus into the correct position. For a right hand turn the bus should be close to the right-hand curb, and for a left turn, on the lane nearest the center of the road. The driver should be able to anticipate most of the turns he will be required to make well in advance and place his bus in the proper position.

1. Right turns.

   a. Check mirrors for movement of other traffic.

   b. Maneuver bus into proper lane, 300 feet before reaching the intersection.

   c. Signal intentions 300 feet in advance.

   d. Slow down to under 10 miles per hour. For safety and comfort the speed should be reduced before the turn is started.

   e. Shift to the proper gear prior to making the turn to make certain that the turn will be completed without stalling.

f. Start the turn when the front wheels are slightly past the curb of the street into which the turn is made.

g. Turn the steering wheel so that the vehicle will be in the correct lane when the turn is completed.

Many school bus drivers, particularly those operating larger buses, have a habit of steering away from the turn, and then turning in the direction intended. This is a dangerous practice as it may carry the wrong impression to the driver immediately following, and he may try to pass on the right thinking the bus is going to make a left turn. Pulling to the left is not necessary if the bus is properly positioned before commencing the turn. Another common fault is starting to turn too soon. The driver should proceed straight ahead until the front wheels of the bus are clear of the curb, and then by turning sharply to the right, the turn can be made without striking the curb and without swinging wide.

2. Left turns.

Due to the necessity of crossing a lane of traffic, left turns are more dangerous and more difficult than right turns. To assure the maximum degree of safety, the driver should always use the following procedure in making left turns:

a. Check mirrors for movement of other traffic.

b. Place bus in inner lane or next to center line and signal turn 300 feet before reaching the intersection.

c. Be alert to special signs regarding left turns.

d. Proceed on signal or when the intersection is clear of oncoming traffic or pedestrians.

e. Do not cut corners too short or too wide.

f. Complete turn in lane nearest the center line.

The vehicle should be shifted to first or second gear (depending on type of vehicle) before entering the turn and no shift in gears should be made until after turn is completed.

E. Turning around.

Turning a school bus around is always a hazardous procedure. The best way to do it is to drive around the square if it is possible.

1. Using side road on the right (recommended)

a. Check mirrors for movement of other traffic.

b. Signal turn 300 feet before reaching intersection.

c. Pull over to near curb and stop with rear wheels just beyond side road to be used.

d. Shift into reverse, check traffic and utilizing a monitor or patrol boy at rear of the bus, if one is available, back into side road. Steering wheel should be cut sharply to the right just as the wheels reach the intersection.

e. When bus has been properly positioned in side road, signal left turn, shift into first gear, check traffic in both directions and pull across into lane nearest the center.

2. Using side road on left.

a. Check mirrors for movement of other traffic.

b. Signal left turn, pull into lane near center line 300 feet from intersection.

c. Slow down or stop with front wheels approaching intersection, shift into first gear, check traffic moving in opposite direction and pull into side road on left when traffic permits.

d. Pull into side road just far enough so that the rear end of the bus will not protrude into main highway or road to be backed into.

e. Shift into reverse, and, utilizing monitor or patrol boy in rear of bus, back into main highway, when traffic is clear. Cut steering wheel strong to the right at the point when the rear wheels of the bus reach the edge of the road that the bus is being backed into.

3. Making U-turn. (Not recommended)

a. Pull to the right of the highway and stop, utilizing proper signalling procedure.

b. Give signal for left turn, observe traffic, remembering that all traffic has the right-of-way over the turning vehicle.

c. Shift into low gear and proceed to turn when it will not interfere with traffic.

d. Do not shift gears while turn is being made.

e. Maneuver bus into proper lane and proceed in the desired direction.

F. Backing.

Backing a school bus is a dangerous practice and should be avoided if possible. If a bus must be turned around the safest way to do so is to drive around the square. If it is necessary to back in order to complete a turn, it should be done where there is very little traffic. Backing into main highways, streets and on down grades should be avoided. The following procedures are recommended when necessary to back the bus:

1. Station a monitor or patrol boy at the rear of the bus to aid the driver.

2. If no monitor is available, get out of the bus and check to determine if any obstacles are present.

3. Shift into reverse and proceed to back at a slow even speed.

In a school bus, it is difficult for the driver to see the area behind the bus adequately; therefore, there is always danger involved when a school bus is being backed. The school bus should never be backed on the school grounds where small children may be present. The safety conscious driver will never back a school bus unless it is absolutely necessary. In most cases it is possible to find a method whereby backing a school bus may be avoided, especially if there are students on the bus.

Bibliography

American Automobile Association. "How To Drive." Washington, D. C.

American Automobile Association. "Sound Driving Practices." Washington, D.C.

American Automobile Association. "Sportsmanlike Driving", Third Edition. Washington, D. C., 1955.

Halsey, Maxwell. Let's Drive Right. Scott, Foresman and Company, 1954.

School Bus Driver Training Manual. North Carolina Department of Motor Vehicles.

365A-1236TR
Division of Transportation

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

Driver Training Series V

Defensive Driving

Some time ago the Interstate Commerce Commission, through a study of accidents, concluded that the causes of traffic accidents were as follows:

1. Mechanical defects - 3%

2. Condition of Street or Highway - 12%

3. Human failure or error - 85%

Apparently some 15% of traffic accidents are caused by factors beyond control of the driver. A study of accident reports reveals, however, that this is not necessarily true. Quite a large per cent of accidents ascribed to condition of street or highway are actually caused by failure of drivers to adjust their driving to street or highway conditions. Also, quite a large per cent of accidents ascribed to mechanical defects are actually caused by failure of drivers to take into consideration known mechanical defects, or failure to see that proper repairs are made without delay when mechanical defects become known.

Thus, many accident investigators today state that 95 to 99% of all traffic accidents are due to human failure or error.

Hugh E. Rhodes*, Farm Bureau Insurance Safety Department Director at Indianapolis, says:

"Certain classes of accidents have been listed as being preventable. Unless thorough investigation shows circumstances beyond our drivers' control, the following accidents are classed as preventable.

(1) Backing Accidents

(2) Intersection Accidents

(3) Pedestrian Accidents

(4) Rear End Collisions

(5) Traffic Lane Encroachment Accidents

(6) Accidents resulting from Mechanical Condition

(7) Accidents with Fixed Rail Vehicles

(8) Collision with Stationary Objects and Non-Collision Accidents

(9) Unattended Vehicle Accidents

*Rhodes, Hugh E. "What is a Preventable Accident?" School Bus Trends. December, 1958

(10) Accidents Blamed on Adverse Weather Conditions

(11) Passenger Accidents."

Rhodes goes on to say that an unpreventable accident is one which the driver did everything possible to avoid and prevent.

The Rhodes yardstick doesn't leave much room for unpreventable accidents. It is essential that school bus drivers be trained in preventive techniques.

A. The Defensive Driving Concept

A large percentage of all traffic accidents could be avoided through application of defensive driving techniques. Through defensive driving a school bus driver can almost always avoid the consequence of mistakes made by other drivers: he can compensate for the bad manners, poor attitudes, mistaken judgements and carelessness of other drivers. He should be aware of road, weather and vehicle condition and adjust his driving to these conditions. He should know his own deficiencies and continually strive to overcome them.

A good school bus driver aims to drive defensively. He strives to be fully alert to all that is going on around him and his bus. He recognizes and knows how to avoid hazardous situations arising from:

1. Acts of others

We have all encountered drivers who don't stop at stop signs, or who don't stop long enough to really check the traffic situation; drivers who refuse to wait at intersections for traffic to clear; drivers who don't see your signals or who refuse to heed them even when they do see them; drivers whose signals are so erratic that it is impossible to tell just what they plan to do.

A good defensive driver never gambles on the other driver doing the right thing. The defensive driver keeps an alert eye on the situation; he learns to recognize danger signs early and to "leave himself an out" so that when the other fellow "pulls a boner" he can avoid him.

2. Weather Conditions

Fog, rain, snow, dust, cuts visibility and makes driving hazardous. A defensive driver will adjust his driving to these conditions. He will drive at a reasonable speed; he will keep his windshield clear, inside and out; he will get all the light possible from his lamps and signals; he will see that his brakes are in good order as he starts out on his trip; he will increase the normal distance between him and the vehicle ahead.

3. Condition of streets and highways

A school bus driver drives over the same route twice a day for 180 days during the school year. He becomes thoroughly acquainted with his route and after a short time he may begin to take the road for granted. He may even get careless. But conditions change rapidly; chuck holes develop overnight, the grade washes away, shoulders become soft, railroad crossing approaches change during the day

or night, loose gravel appears, slick spots develop through accumulations of snow and ice or oil deposits. Each day conditions are different and drivers must be on the alert to detect these changes before it is too late. It is no use to say that an intersection accident happened because the road was slick. The accident happened because the driver failed to adjust his driving to the road condition.

4. Condition of his vehicle

A bus driver should know his bus rather intimately. He should get the "feel" of it early in the school year, and be quick to detect changes in the way the bus drives or operates. Such changes may indicate repairs are due. Constant day to day attention needs to be given to brakes, lights, signal devices, tire condition, front end assembly, wheel alignment, windshield wipers, defrosters, horn, service door, emergency door, seat and floor condition. Many of these items must be checked twice daily. Daily, monthly, and annual inspection routines are necessary for safety. (see Unit II)

5. His own deficiencies

The school bus driver should be aware of his own weak points in the driving situation. The various psycho-physical factors are easily measured and have much to do with safe driving. (see Unit III) Defensive driving techniques can be used to bolster the weak spots. Driving skills--manipulating the bus in the various traffic situations, has an important bearing on safe driving. (see Unit IV). Here too, defensive driving techniques can be used to strengthen weak spots.

The defensive driving concept, in all the various applications, should be explained to school bus drivers and extensively discussed.

B. Route Hazards

Sound safety practices in connection with specific route hazards should be known to the driver and enforced by the administration. Don't take it for granted that bus drivers know how to drive safely in all situations. Don't take their word for it either. Discuss the following common route hazards:

1. Railroad Crossings

By State Law a school bus must stop at all railroad crossings. This is a must. It is difficult if not impossible to cross safely when no stop is made.

Discuss these procedures:

a. Approach the crossing at such speed that a slow, easy stop may be made not closer than 10 feet nor further than 50 feet from the nearest rail. (See section 321.343, Code of Iowa) If visibility is not restricted in either direction a stop 25 feet from the nearest rail is better.

b. Open the service door for better hearing, look, listen, make certain beyond possible doubt that the way is clear before proceeding. Cross in low gear and do not shift gears until the bus has cleared the tracks.

c. Be extremely cautious at double track crossings. Make certain that a train is not approaching behind a parked train. Stop between tracks if you can keep at least 10 feet clearance at both ends of the bus. Do not stop so that the bus straddles any track.

d. Always wait for an approaching train. Do not attempt to judge speed and distance when train is approaching. (We have had some narrow escapes in this situation the past two years)

e. Take as much time as necessary for safety.

2. Road intersections

Twenty-eight per cent of all school bus accidents which have been reported since July 1st, 1955, have occurred at road intersections. Bus driver procedure at road intersections should be carefully worked out and expertly followed. The following procedures are required for safety:

a. Signal properly before beginning a right or left turn. Check traffic front and rear. Do not proceed with turn before observing that the way is clear. Arrange routes so as to eliminate left turns when possible. Quite often a right turn and a journey around the block is the best way to make a left turn.

b. Be prepared to stop if a vehicle on an intersecting road is moving into the intersection. Do not try to take the right of way. Never take it for granted that the other driver will stop at a stop sign. Never take it for granted that he will stay stopped until you are in the clear.

c. Never attempt to pass other vehicles at an intersection. It is not safe, nor is it legal (Section 321.304).

d. Always come to a complete stop at an intersection protected by a stop sign. Check carefully before proceeding. When in doubt - wait.

e. Be alert at all private driveway entrances.

f. Take time to be safe at all intersections.

3. Narrow roads, bridges

a. When meeting traffic on narrow roads never insist on the right of way. Stop when it appears safer to do so. Be wary of soft shoulders. Let the other fellow through, then proceed.

b. Never meet or pass another vehicle on a bridge. If something goes wrong you have no way out except over the side of the bridge. Wait for an approaching vehicle to clear unless you have ample time to cross before meeting it.

c. Don't inconvenience following traffic more than is necessary. Slow down or stop and let him through when safe and convenient.

4. Sharp turns

a. Never attempt to pass another vehicle on a turn where vision is restricted. (Section 321.304)

b. Keep well to the right.

c. Be traveling slowly enough so that you can take the turn comfortably. The danger of a skid is increased by application of brakes. Slight acceleration gives more traction. Expert drivers don't skid.

5. Slippery roads

a. When roads are slippery, drive accordingly.

b. Short, rapid applications of brake pressure (pumping) will stop a bus or car on icy streets much more quickly than steady brake pressure. Bus drivers should be experts at this.

c. Expert drivers don't slide through an intersection.

6. Hills

a. Never attempt to pass another vehicle when approaching the crest of a hill. (Section 321.304)

b. Slow down when approaching the crest. Keep well to the right. Be prepared to find the unexpected when you arrive at the crest.

7. Loading and Unloading Zones

(See Unit II)

Bibliography

American Automobile Association, Sportsmanlike Driving - Third Edition. Washington, D. C. The Association, 1955. 480 pp.

A high school driver education test. Contains much excellent material suitable for use in school bus driver training sessions. Several chapters deal specifically with driving problems covered in this unit on Defensive Driving: Chapter 15. Driving On The Open Highway. Chapter 16. City Driving. Chapter 17. Driving Under Unfavorable or Special Conditions. Chapter 18. Keep The Car in Safe Driving Condition.

Halsey, Maxwell. Lets Drive Right. Chicago: Scott Foresman and Company. 1954 496 pp.

Although written for high school driver education classes this book contains much excellent material suitable for school bus driver training sessions. Chapters 16 through 20 cover areas included in this Unit.

Rhodes, Hugh E. What Is A Preventable Accident? School Bus Trends, December, 1958.

National Safety Council. 5 Minute Safety Talks For Driver Supervisors Book 2. Chicago. The Council, 1957.

This paper covered volume has much useful information on safety. There are several excellent sections on Defensive Driving.

Films

The Defensive Driving Series. Produced by the National Safety Council, 425 North Michigan Avenue, Chicago 11, Illinois.

This is a series of six defensive driver films covering the six basic traffic situations which produce most traffic accidents. 1. The vehicle ahead. 2. The vehicle behind. 3. A vehicle approaching from the opposite direction. 4. A vehicle approaching from right or left. 5. A vehicle overtaking and passing your vehicle. 6. Overtaking and passing another vehicle.

Running time for each film is about ten minutes.

The Smith System. Produced by the Ford Motor Company, Film Library, American Road, Dearborn, Michigan.

This is an instructional film produced to illustrate five good driving habits. Excellent for Defensive Driving discussions.

365A-1236TR
Division of Transportation

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

Driver Training Series VI

Receiving and Discharging Pupils on the Highway

Section 321.354, Code of Iowa, gives the school bus driver the legal right to stop his bus on the public highway to receive or discharge pupils. This right entails an obligation.

In order to receive and discharge pupils on the public highway with complete safety it is necessary that all persons involved in this operation understand clearly and follow strictly the procedures outlined by law and regulation.

Those involved include:

1. The School Bus Driver
2. The Pupil
3. The Motorist

A. Section 321.372, Code of Iowa, which deals with stopping a school bus on the highway to receive or discharge pupils, reads as follows:

"321.372 Discharging pupils-regulations.

1. The driver of any school bus used to transport children to and from a public school shall, when stopping to receive or discharge pupils, turn on the flashing stop warning signal lights at a distance of not less than three hundred feet nor more than five hundred feet from the point where said pupils are to be received or discharged from the bus. At the point of receiving or discharging pupils the driver of the bus shall bring bus to a stop and extend the stop arm. After receiving or discharging pupils, the bus driver shall turn off the flashing stop warning lights, retract the stop arm and then proceed on the route. No school bus shall stop to load or unload pupils unless there is at least three hundred feet of clear vision in each direction.

2. All pupils shall be received and discharged from the right front entrance of every school bus and if said pupils must cross the highway, they shall be required to pass in front of the bus, look in both directions, and proceed to cross the highway only on signal from the bus driver.

3. The driver of any vehicle when meeting a school bus on which the stop warning signal lights are flashing shall reduce the speed of said vehicle to not more than twenty miles per hour, and shall bring said vehicle to a complete stop when school bus stops and stop signal arm is extended and said vehicle shall remain stopped until stop arm is retracted after which driver may proceed with due caution.

The driver of any vehicle overtaking a school bus shall not pass a school bus when flashing stop warning signal lights are flashing and shall bring said vehicle to a complete stop not closer than fifteen feet of the school bus when it is stopped and stop arm is extended, and shall remain stopped until the stop arm is retracted and school bus resumes motion, or until signalled by the driver to proceed.

This section shall not apply to "business" and "residence" districts unless so provided by ordinance, but shall apply in suburban districts of cities and towns."

1. The School Bus Driver

The school bus driver cannot control the driving of a motorist but he can make sure that his own procedure is correct, and, he is responsible to a large extend for the behavior of his passengers. To fullfil these responsibilities satisfactorily he needs instruction and supervision.

Note that the school bus driver may stop his bus on the traveled portion of the public highway to receive or discharge pupils only at those points where the clear vision distance in both directions is at least 300 feet.

Standard braking distance charts indicate, however, that a motorist traveling at a speed of 60 miles per hour will travel more than 300 feet before he can come to a complete stop. Therefore, clear vision distance at points where the school bus stops, must, in many instances, be more than 300 feet. On roads where high speed travel is common, the clear vision distance in both directions should be at least 700 feet.

Great care should be used in locating these stopping points. Superintendents and transportation supervisors are strongly urged to make a special and careful study of bus routes with these objectives in mind:

a. Arrange routes, when feasible, so that pupils need not cross a heavily traveled road. This is especially important in thickly populated suburban areas where there is heavy traffic.

In some instances this can be achieved without an increase in bus mileage. A reasonable increase in bus mileage in order to increase safety for children is entirely proper. Of course, time available for running a given route is a limiting factor.

It should be standard policy to arrange routes on four-lane highways so that pupils need not cross when boarding or leaving the bus. Traffic control on the opposite lanes of a four-lane highway is difficult and not dependable.

b. Reduce the number of bus stops in thickly populated suburban areas to the minimum considered necessary.

Picking up children at each home driveway in these areas cannot be justified when safe walking areas are available. Children from several homes can board the bus at one stop. If there are sidewalks, or wide shoulders, which eliminate the necessity for walking on the traveled portion of the highway, pupils and parents cannot reasonably object to meeting a school bus some two to four hundred feet from the home driveway.

c. Eliminate bus stops at points where clear vision distance in each direction is insufficient to give the motorist adequate time to stop.

Once fixed by the administration, bus stops should be approved by the board of education. Bus drivers should know the exact location of each stop and the reason for the location. Bus drivers should not be responsible for determining stop locations. They should, however, be trained to detect and report dangerous situations at stop locations so that corrective measures may be taken by the administration.

Training and instruction relating to stopping the bus to receive or discharge pupils should stress the following driver responsibilities and procedures:

a. When approaching an official stop, the driver of the bus <u>must</u> turn on the flashing warning lights <u>not less than 300 feet</u> nor more than 500 feet from the point where the bus is to stop on the traveled portion of the highway to receive or discharge pupils. A distance of 500 feet is much safer than 300 feet. Bus drivers should be trained to take full advantage of the distance for warning provided by Section 321.372.

b. <u>After</u> bringing the bus to a stop the driver extends the stop arm. He is then responsible for checking traffic and, after ascertaining that it is safe for them to do so, for signalling pupils to cross the highway.

The procedure described above applies when either receiving or discharging pupils. Pupils who live on the opposite side of the road should wait on the opposite side of the road until the bus has stopped, the stop arm is extended, and they receive the bus driver's signal to cross to the bus. Pupils who are being discharged must proceed to the front of the bus, pause in line with the left front fender, and receive the signal from the bus driver before proceeding to cross. (See 2. Pupil Procedure, this section)

c. Under the provisions of Section 321.372, the motorist <u>meeting</u> the bus is not required to stop <u>until</u> the stop arm is extended. Thus it becomes necessary for the bus driver to use some judgement as to the precise time he extends the stop arm. The motorist's problem deserves some consideration on the part of the bus driver. Under no circumstances should the bus driver attempt to trap an approaching motorist.

d. When discharging pupils the bus driver should require the pupils to remain in their seats until he is ready to open the service door. He should not open the service door until he is certain that a safe traffic situation exists.

e. The bus driver may not proceed to his next stop until all discharged pupils have reached a point of safety. The driver may not take it for granted that pupils have reached a point of safety and are proceeding home. He must know. This means that he must account for all pupils before putting his bus in motion.

f. When receiving pupils the bus is to remain stopped until all pupils are seated.

g. When discharging pupils at the school unloading station the bus driver is to remain in the bus until all pupils are out of the bus.

h. The driver must use the flashing warning lights and the stop arm even though the pupil lives on the right hand side of the road and does not need to cross the highway.

i. The driver must stop the bus on the right hand lane of the highway. In no case may the bus be stopped straddling the center line on the paving.

The driver may pull off the traveled portion of the highway entirely if there is plenty of room to load or unload well off the traveled way and if the pupils do not need to cross the road. In this case the driver may not use the flashing warning lights nor the stop arm. This procedure may be used only when conditions are right and it is impossible to solve a safety problem any other way. The new highway information signs state that a motorist must stop for a stopped school bus. If a bus is stopped immediately adjacent to the traveled portion to load or unload, the motorist may easily become confused and thus set up a hazardous situation.

If, for instance, there is a filling station with an adequate "yard" located at an official bus stop, it is permissible for the bus to use the "yard" to load or unload, provided the pupils need not cross the highway.

j. The driver of the bus is directly responsible for seeing to it that pupils follow correct procedures in boarding and leaving the bus and in crossing the highway. He must not slight this responsibility. He must be on the alert to detect any sign of indifference or carelessness on the part of the pupil, and he must be quick to take corrective measures when he detects signs of indifference or carelessness.

k. Flashing warning lights may not be used at railroad or intersection stops, nor is their use as turn lights permissible. The use of these lights is limited by Section 321.372 to the operation of receiving or discharging pupils on the traveled portion of the highway, outside of business and residential areas of cities and towns.

1. The driver of the school bus must be certain, before starting out on his route, that all lights and signal devices, brakes and emergency equipment are in good operating order. This means that some items on a school bus must be inspected twice daily.

2. Pupil Procedure

Pupils, of course, need instruction and supervision. They should be required to know and abide by rules and regulations covering their behavior while boarding, leaving and riding on the bus, and while approaching or leaving bus stop locations. (See Unit IX Driver-Pupil Relationships)

Pupil procedure in connection with boarding or leaving the bus on the highway should stress the following:

a. All pupils shall be received and discharged through the right front entrance. The emergency door is for emergency use only.

b. Pupils who must cross the road after leaving the bus shall be required to pass in front of the bus, to pause in line with the left side of the bus, to check the traffic situation in both directions for themselves, and to proceed to cross the road only on signal from the driver that it is safe for them to do so. When pausing to check traffic and to receive the "go ahead" signal from the driver they shall be not closer than ten feet in front of the bus.

c. Pupils who must cross the road in order to board the bus in the morning may cross the road only after the bus has arrived, the stop arm is extended, they have received the signal from the driver and they have checked the traffic situation in both directions for themselves.

d. Pupil procedure in connection with boarding and leaving the bus at official stops in business and residential areas of cities and towns differs from that described above. This difference in procedure must be made clear to all pupils concerned and to school bus drivers. In business and residential areas of cities and towns, school buses load and unload at the curb at street intersections. Pupils who must cross the street wait on the curb until the bus has proceeded, then cross the street on their own responsibility.

It is not good safety education to permit pupils to depend entirely upon the bus and the driver for protection. They must learn to always satisfy themselves that it is safe.

3. Motorist Procedure

The paragraphs of Section 321.372 dealing with the motorist's responsibility are clear. It is necessary that the school bus driver understands the precise limits of the motorist's responsibility.

It is clear that the safety of the pupil is worth the time required of the motorist. The school bus driver must not, however, inconvenience the motorist more than is required for the safety of the pupils.

Motorists may be instructed through newspaper items and ads, radio announcements, parent-teacher meetings, etc.

B. The Time Schedule

All buses should operate on a definite time schedule. A "dry-run" before the start of the fall term will establish an approximate schedule. The final schedule should be established by the end of the first week of school. Revisions should be made promptly as necessary. The schedule should be posted in the bus.

A properly functioning time schedule will improve the efficiency of your transportation program. It will make your program safer for both pupils and motorists.

Bus drivers and pupils should be instructed in the operation of the time schedule. Pupils should understand that the bus will not be ahead of schedule and therefore will not wait for them. A school bus has no legal right to "sit" on the highway waiting for tardy pupils. Bus drivers should understand that the time schedule is a "tool" which they can use to advantage. It is not sacred, however, as the bus driver must always take time to be safe.

C. Policy in regard to discharging pupils at other than official stops.

A regularly transported pupil asks permission to leave the bus at a neighbor's home. A pupil who does not want to ride the bus "the long way around," asks permission to leave the bus at the intersection nearest his home so he can walk. How should the bus driver handle these requests?

Some schools, as a matter of policy, refuse to permit such variations in routine procedure. If such variations are permitted, extreme care must be taken by the driver to assure safety of the pupils involved. Regulations should provide that the driver will honor requests only when so directed by the administrator, and that the administrator will approve only upon written request of the parent. Parents should be urged to make such requests only in emergency situations.

State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Paul F. Johnston, Superintendent

Driver Training Series VII

Traffic Regulations, Laws of the Road

In order to operate legally and safely, all persons driving vehicles on public roads must be familiar with and obey all traffic laws and regulations, both local and state.

A. Local Traffic Regulations.

All school bus drivers should become familiar with local ordinances and regulations pertaining to traffic within the jurisdiction of local governing bodies. Local ordinances should be consulted since these rules and regulations apply only to specific areas.

Local authorities have no power to enact, enforce, or maintain any ordinance, rule, or regulation in any way which is in conflict with, contrary to or inconsistent with state law and regulations. Any such ordinance, rule or regulation of said local authorities shall have no force or effect.

However, this does not prevent local authorities, with respect to streets and highways under their jurisdiction and within the reasonable exercise of the police power, from:

1. Regulating the standing or parking of vehicles.
2. Regulating traffic by means of police officers or traffic-control signals.
3. Regulating or prohibiting processions or assemblages on the highways.
4. Designating particular highways as one-way highways and requiring that all vehicles thereon be moved in one specific direction.
5. Regulating the speed of vehicles in public parks.
6. Designating any highway as a through highway and requiring that all vehicles stop or yield the right of way before entering or crossing the same or designating any intersection as a stop intersection and requiring all vehicles to stop at one or more entrances to such intersections.
7. Regulating or prohibiting the turning of vehicles at intersections.
8. Establishing speed limits in public alleys and providing the penalty for violation thereof.

Cities, towns and counties have the power to establish school zones and provide for the stopping of vehicles approaching said zones, when movable stop signs have been placed in the streets in such cities and towns and highways in counties at the limits of the zones.

Cities and towns have been given the power by the state legislature to pass ordinances requiring the use of the flashing warning lights on school buses when loading or unloading pupils in the business and residential sections of such cities and towns. In other words they may extend the provisions of section 321.372, Code of Iowa, to the business and residential areas.

B. Laws of the Road.

The items listed under this section may be found in Chapter 321, Code of Iowa. Only that part of the Code more or less applicable to school bus driver's and not covered elsewhere in other series of this course of study is given in this outline. For a more complete description of laws of the road, Chapter 321 of the Iowa Code should be consulted.

1. Traffic Control Devices.

a. No driver of a vehicle shall disobey the instructions of any official traffic-control device placed in accordance with the law, unless at the time otherwise directed by a police officer.

b. Vehicular traffic facing a green (alone) "Go" signal may proceed straight through or turn right or left unless a sign at such place prohibits either such turn. However, vehicular traffic shall yield right of way to other vehicles and to pedestrians lawfully within the intersection at the time such signal is exhibited.

c. When a yellow (alone) or "Caution" signal follows the green or "Go" signal, vehicular traffic facing the signal shall stop before entering the nearest crosswalk or intersection, but if such stop cannot be made in safety a vehicle may be driven cautiously through the intersection.

d. When a red (alone) or "Stop" signal is exhibited, vehicular traffic facing the signal shall stop before entering the nearest crosswalk at an intersection or at such point as may be indicated by a clearly visible line and shall remain standing until green or "Go" is shown alone.

e. When a red with green arrow is exhibited, vehicular traffic facing such signal may cautiously enter the intersection only to make the movement indicated by such arrow but shall not interfere with other traffic or endanger pedestrians lawfully within the crosswalk.

f. Whenever flashing red or yellow signals are used they shall require obedience by vehicular traffic as follows:

(1) When a red lens is illuminated by rapid intermittent flashes, drivers of vehicles shall stop before entering the nearest crosswalk at an intersection or at a limit line when marked. The right to proceed shall be subject to the rules applicable after making a stop at the stop sign.

(2) When a yellow lens is illuminated by rapid intermittent flashes, drivers of vehicles may proceed through the intersection or past such signal only with caution.

2. Speed Restrictions.

a. Any person driving a motor vehicle on a highway shall drive the same at the careful and prudent speed not greater than, nor less than, is reasonable and proper, having due regard to the traffic, surface and width of the highways and of any other conditions then existing. Furthermore, no person shall drive any vehicle upon the highway at a speed greater than will permit him to bring it to a stop within the assumed clear distance ahead, such driver having the right to assume, however, that all persons using said highway will observe the law.

The following shall be the lawful speed except as hereinbefore modified, and any speed in excess thereof shall be unlawful:

(1)	Business districts	20 Mph.
(2)	Residential district	25 Mph.
(3)	School district	25 Mph.
(4)	Suburban district	45 Mph.
(5)	Primary highways	70 day 60 night.
(6)	Secondary (Hard Surface)	70 day 60 night.
(7)	Secondary (not hard surface)	60 day 50 night.
(8)	Interstate (Divided 4 lane)	75 day 65 night.
(9)	Interstate Minimum	40 mph all vehicles.
(10)	School buses	

(a) To and from school 45 mph.

(b) Extra curricular 50 mph.

3. Passing Restrictions.

a. Do not pass another vehicle less than 100 feet from an intersection or railroad crossing, or when approaching within 100 feet of any posted narrow bridge, viaduct, or tunnel.

b. Do not pass on approaching a hill or curve where there is not 700 feet clear distance ahead.

c. Do not pass on the right shoulder of the highway.

d. Do not cross the yellow line in your lane. (Look for the yellow "No Passing Lane" sign on the left side of the road ahead.)

e. Do not pass unless it can be completed without interfering with the safety of oncoming vehicles and before yellow line appears in your traffic lane.

f. Do not overtake and pass a school bus when the red warning lights are flashing.

g. Do not increase speed when you are being passed.

4. Signalling.

a. A hand and arm signal or directional signal must be given continuously for at least 300 feet before turning or stopping a vehicle.

b. To make a left turn, get into proper lane well ahead of turn. Signal your intention for at least 300 feet. Yield to oncoming cars and pedestrians.

c. To make a right turn, get into right lane well ahead of turn. Signal your intention to turn for at least 300 feet. Yield to pedestrians in crosswalk.

5. Intersections.

a. A driver shall have his car under control and shall reduce his speed to a reasonable and proper rate when approaching and traversing an uncontrolled intersection. An uncontrolled intersection is one that is not protected with stop signs, yield signs, or traffic lights.

b. When two vehicles approach an intersection in such a position and time that there is danger of collision, the car coming from your right shall have the right of way. If you are the driver approaching from the right do not assume you have the right of way. You have the right of way only when the other driver gives it to you.

c. No person shall suddenly decrease the speed of a vehicle, or stop without first giving an appropriate signal to the driver of any vehicle immediately to the rear when there is opportunity to give such signal.

d. Intersection accidents can be avoided if the driver will obey the following rules:

1. Approach all intersections with your foot off the accelerator and on the brake pedal.

2. Look first to the left and then to the right before entering the intersection.

3. Assume the right of way only when your judgment says it is safe.

6. Parking.

a. When parking adjacent to roadway outside of city limits, all four wheels must be off the pavement, if possible. Parking lights or low beam lights are to be left on at night. Trucks and school buses shall set out flares, fusees and flags as specified in section 321.448, Code of Iowa.

b. "No parking zones" in cities and towns are usually marked by a sign or yellow painted curb.

c. Double parking is prohibited by law.

d. It is against the law to leave the engine running on a parked, unattended vehicle.

e. In parallel parking the wheels must be within 18 inches of near curb.

f. Driver must look, signal, and yield right of way when coming out of a parking place.

g. The use of flashing directional lights for any purpose other than signalling to turn or stop is illegal except all four turn signals may be displayed during the hours of darkness when a vehicle is disabled or otherwise presents a hazard.

h. It is illegal to park closer than the indicated distances from the following:

(1) 5 feet from fire hydrant.

(2) 20 feet from stop sign.

(3) 20 feet from entrance to fire station.

(4) 25 feet from entrance to hotel.

(5) 50 feet from railroad crossing.

(6) It is illegal to park in a block when fire apparatus has stopped to answer fire alarm.

7. Miscellaneous Rules.

a. No person shall drive a vehicle when it is so loaded, or when there is in the front seat such a number of persons, exceeding three, as to obstruct the view of the driver to the front or sides of the vehicle or as to interfere with the driver's control over the driving mechanism of the vehicle.

b. No person driving or in charge of a motor vehicle shall permit it to stand unattended without first stopping the engine, or when standing upon any perceptable grade without effectively setting the brake thereon and turning the front wheels to the curb or side of the highway.

c. The driver of a school bus when approaching a railway crossing shall stop the vehicle not more than 50 feet nor less than 10 feet from the nearest rail, and then proceed only when it is safe to do so. This applies to all railroad crossings whether located in cities and towns or in rural areas.

Bibliography

Chapter 321, Code of Iowa.

Iowa Drivers Manual, Iowa Highway Patrol

Films

"A Vehicle Approaching From Right or Left". Produced by the National Safety Council, 425 North Michigan Avenue, Chicago 11, Illinois.

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

Driver Training Series VIII

Accident Records - Accident Behavior

Accident records are essential to the development of an accident prevention program. One must know something about the situation in which accidents occur if one is to promote safe driving habits and practices. Defensive driving techniques should be applied where the record shows the need.

Each school district should, therefore, keep an accurate and detailed record of each accident in which a school vehicle is directly or indirectly involved. Records and accounts of accidents which are connected with transportation service because they involve pupils before they enter or after they leave the bus should also be made and filed. Reports of all such accidents should be mailed to the Department of Public Instruction so that a complete state-wide record may be available for use in the safety program.

A. Analysis of Traffic Accidents

The Travelers Insurance Companies publishes an annual summary of data covering accidents which occur in the United States. The Travelers 1959 Book of Street and Highway Accidents Data is titled "The Luckless Legion." It contains detailed data covering traffic accidents which occurred during the years 1957 and 1958. It can be obtained, free, by writing John G. O'Brien, The Travelers Insurance Companies, Hartford, Connecticut.

Monthly and annual summaries of Iowa traffic accident data are available from the Iowa Department of Public Safety, State Office Building, Des Moines.

B. Iowa School Bus Accidents

Each year, during January or February, the Division of Transportation distributes to each superintendent a detailed report on accidents involving Iowa school buses.

A study of the records from which this report is compiled indicates that almost all school bus accidents are preventable accidents. Effective application of defensive driving techniques, as discussed in Unit IV of this series, would eliminate most of them.

C. Accident Behavior

There are a number of things which need to be done quickly after an accident. The order and number will vary somewhat in terms of the location of the vehicles after the accident, the severity of the accident and the extent of injuries. It is of particular importance that the bus driver has a good understanding of what it is necessary to do and how to do it. If he is to control events after an accident he must keep calm so that he can judge the situation accurately and quickly and proceed with a minimum of delay. In some situations the bus driver can avert tragedy by proceeding with speed and precision.

Here, in general, is what needs to be attended to:

1. Fire Hazard. Turn off the ignition immediately. Arrange to eliminate smoking in the vicinity of the wreck if there is any possibility that gasoline has been spilled.

The fire extinguisher should be readily available when needed. It should be mounted in an accessible place. It should be inspected and tagged before school opens each fall.

2. Traffic Control. To prevent additional accidents traffic must be controlled. Poor visibility or restricted sight distance may cause additional accidents especially if roadway is completely or partially blocked.

Arrange for immediate placement of flags and flares or fuses in accordance with the provisions of section 321.448, Code of Iowa. Student bus patrol members can be trained to do this quickly, accurately and safely.

Flags, Flares and Fuses should be mounted in a permanent position where they will remain in good condition, and where they are quickly available. It is inexcusable for a bus driver not to know where these items are located or to find them in poor condition.

3. Safety of Pupils. Attend to safety of pupil passengers promptly. If necessary, move them to a safe location pending arrangements to get them home or to school. They should not be allowed to mill about the accident scene.

4. First Aid. Check carefully for injuries. Severe injuries must be attended to quickly. Rapid bleeding and shock requires first aid treatment immediately.

All bus drivers should take the American Red Cross Standard First Aid Course. If the complete course is not possible bus drivers should be fully informed on at least the following:

a. Control of bleeding. (including the six pressure points)
b. The proper use of the tourniquet.
c. Artificial respiration procedure.
d. Treatment of shock.

A knowledge of what not to do is very important. Many accident victims have been severly injured or killed by improper treatment at the scene of the accident.

Some important don'ts

a. Do not move injured persons unless necessary to prevent further injury. If it is necessary to move the patient determine first, if possible, the nature and extent of injuries so that the patient can be moved without further injury.

b. Do not bundle an injured person in the back seat of a passing car and rush him to a doctor. Wait for an ambulance or doctor. It's safer for the injured person.

c. Do not attempt to make an unconscious person drink anything.

The American Red Cross Standard First Aid Book should be issued to each driver and should be carried in the bus.

First aid kits should be inspected at regular intervals. All items should be kept in good condition and replaced when necessary. The first aid kit should be mounted securely in an accessible place.

5. Notify Authorities. An older pupil or member of the bus patrol can be trained to call, from the nearest telephone, those who must be notified of the accident. These include:

a. Ambulance and doctor if required.
b. State Highway Patrol.
c. School officials.

Person making the call should be able to report, calmly and coherently, the exact location of the accident, number and severity of injuries, name of bus driver, number of the bus, school district involved.

6. Report of Accident. Gather all information necessary for complete accident report. The report should include the following:

a. Names and addresses of owners of other vehicles or property involved.
b. Names and addresses of drivers of other vehicles involved.
c. Names and addresses of witnesses.
d. Names and addresses of all persons involved in the accident, with apparent nature and extent of injury of each.
e. License numbers, and other identifying information, of other vehicles involved.
f. A diagram of accident scene. Note and record the position of the vehicles at time of crash, direction of travel of all vehicles involved, condition of road and weather, time of day, place, and other information deemed pertinent.
g. A clearly written statement of exactly what happened.
h. Name and address of the bus driver.

Bus drivers should be courteous to other drivers involved in the accident. Nothing is to be gained by argument. No attempt should be made to fix the blame. The facts are wanted and are necessary.

This unit is too broad to be covered in one training session--at least two are recommended:

a. Accident Analysis and Accident Behavior
b. Essential First Aid techniques for the traffic accident situation

The session in accident analysis and accident behavior might very well be conducted by the Driver-Training Instructor or a member of the Iowa Highway Safety Patrol. A discussion on accident behavior should include not only what needs to be done in case of accident but also, how to get it done with a minimum of wasted time.

The session on First Aid should be conducted by a qualified first aid instructor. The session on first aid should be limited to:

a. Demonstration and discussion of those first aid techniques likely to be needed to properly handle injuries found in a traffic accident situation.
b. What not to do when giving first aid treatment to injured persons.

Bibliography

American National Red Cross. Standard Course In First Aid. 17th and D. Street, N. W., Washington, D. C.

Hyde, Wallace N. Minimum Needs and Suggested Procedures for Gathering School Bus Accident Data. School Bus Trends; 28-29 December, 1958

National Safety Council. Accident Facts. (published annually) 425 North Michigan Avenue, Chicago 11, Illinois. The Council.

National Safety Council. Five Minute Safety Talks for Driver Supervisors. Safety Talks 26, The Accident Report. 425 North Michigan Avenue, Chicago 11, Illinois. The Council, 1957.

The Travelers Insurance Companies. The Travelers 1959 Book of Street and Highway Accident Data, The luckless Legion. Hartford, Connecticut, The Company. 29pp.

Film

16 MM - Black and White - Sound

Accident Behavior, Progressive Pictures, 6351 Thornhill Drive, Oakland 1, California.

365A-1236TR
Division of Transportation

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

Driver Training Series IX

Driver-Pupil Relationships

A school bus driver has children under his direct supervision for a sizeable portion of each school day. To be entirely successful he must not only successfully guide the general behavior of these children, he must also exert a positive, beneficent influence. If he cannot do these things reasonably well he is not an asset but is, actually, a liability to the school and its educational program. What can be done to help the driver achieve a satisfactory relationship with his pupil passengers?

A. Influence of driver personality and character

A general discussion of the important personality traits and their influence on others should help a school bus driver in his relationship with pupils. The following are pertinent:

1. Character
2. Attitudes
3. Personal habits
4. Grooming
5. Temperament
6. Disciplinary methods

We know that pupils learn from the driver. His influence is never neutral. If the school bus driver has some understanding of how pupils react to such personal qualities as a firm but pleasant bearing, good grooming (personal and school bus), a well controlled even temperament, honesty, integrity, courtesy, orderliness, he is in a position to increase his effectiveness as a driver.

It is difficult to maintain a satisfactory disciplinary situation if pupils do not respect the driver as a driver and as an individual. It is also difficult, if not impossible, to maintain a wholesome satisfactory situation if the driver does not have a genuine liking for children or if he does not respect them as individuals.

B. The Bus as a learning situation

As indicated previously, we are of the opinion that the grooming and general maintenance of the bus have an important bearing on the disciplinary situation and the effectiveness of the general educational program. Pupils have respect for a clean, well-kept, well maintained bus. They will react to it. A clean, well-kept bus will increase pupils respect for the school which operates it.

You can, therefore, improve your curriculum by making sure that your bus drivers understand these relationships and by efficiently organizing all duties connected with bus maintenance (see Unit II Organization of the Maintenance and Accounting Program).

It might be well, at this point, to consider the nature of the school curriculum. The statements quoted below appear in the Revised Edition of the Department Handbook. The first is taken from Chapter Four, Education in Iowa's Elementary Schools, page 29. The second is taken from Chapter Five, Secondary Education in Iowa, page 39.

"The Curriculum of the elementary school consists of all those experiences that children have under the direction and guidance of the school"*.

"The broad range of experiences offered by or affected by the school program constitute the total curriculum"*.

Certainly it cannot be denied that children are affected by the school transportation program, nor that they have specific experiences arising from the transportation program "under the direction and guidance of the school". These experiences, good and bad, become a part of their educational experience.

This is an aspect of public school transportation which has not received the attention which it deserves. Let's see what can be done with it.

C. Desireable Pupil Behavior

Formal class-room behavior need not, of course, be required of pupils in a school bus. An informal atmosphere which encourages pupils to relax and enjoy the ride is desireable. There are, however, certain limits within which pupil activity must be confined. What are these limits?

Driver and school control over pupils should be sufficient to assure that pupils will:

1. Enter and leave the bus, at school loading stations and at highway bus stops, in orderly fashion and in accordance with instructions.

   This requires pupils to proceed at all times:

   a. Without haste and without loitering.

   b. Without crowding and without pushing.

   c. With each pupil showing due regard for his own safety and the safety of others.

2. Remain quiet enough not to distract the driver.

*The State Department of Public Instruction, The Iowa State Department of Public Instruction, A Descriptive Handbook. 1958

Pupils must, at all times:

a. Refrain from shouting and other boisterous activity.

b. Refrain from talking to the driver while the bus is in motion.

c. Show due consideration for the bus driver and his problems.

In general, any activity which worries or distracts the driver is objectionable. The bus driver needs to keep his mind on his driving and on the traffic situation. If he is worried about the activity in the bus he cannot be a safe driver.

3. Remain seated while the bus is in motion.

a. Each pupil must go directly to his seat upon entering the bus.

b. Each pupil must remain seated until the bus has stopped and the driver signals that it is time to rise and leave.

4. Cross road in accordance with instructions and the provisions of Section 321.372, Code of Iowa.

Pupil procedures are described in Unit VI and should be closely followed by all pupils.

5. Not, wantonly or carelessly, destroy property.

Transportation equipment represents a large capital investment. Pupils can be expected to cooperate in its maintenance and preservation.

a. Orderly behavior in the bus, at all times, is essential. Roughhousing is not only hard on seats and interior finish, it also, as explained above, makes it difficult for the driver to operate safely.

b. Pupils should keep feet off the seats.

c. Pupils should keep sharp objects off the upholstery.

6. Not extend arms or other parts of body out through windows.

It is important that <u>no</u> object protrude through an open window.

Pupils should leave windows alone. The bus driver will attend to ventilation.

7. Not throw objects about in the bus nor out through windows.

a. Waste paper and other refuse may not be scattered along the highway. Provision should be made inside for such material and disposed of by the driver at end of trip.

b. Books and other property should be properly stowed out of the way.

c. The aisle should be clear.

d. Shooting "paper-wads" or other material in the bus is not permissible.

In addition to items listed above pupils should be instructed and encouraged to:

a. Follow the bus driver's instructions, promptly and cheerfully.

b. Be on time at the bus stop location.

c. Be on time at the school loading station.

d. Leave home in time to reach the bus stop location without haste.

e. Leave home at proper time to eliminate loitering on the way.

f. Avoid playing or loitering on the highway when waiting for a bus which is late.

g. Follow correct safety procedures when walking on the highway to and from a bus stop. In some instances pupils must meet a school bus some distance from the home driveway. Procedures for walking on the highway should be clear to pupils.

D. Extent of driver's responsibility for discipline and general pupil behavior.

All rules and regulations concerning pupil behavior should be well-known and clearly understood by bus drivers. They should also be well known and clearly understood by pupils and parents.

Obviously, bus drivers cannot be solely responsible for proper pupil behavior. Teachers should have direct responsibility for training and instructing transported pupils. Teachers, as well as bus drivers, should supervise loading stations at the school grounds.

Mimeographed lists of rules and regulations covering pupil behavior should be prepared by the administration and distributed to pupils and parents. The active cooperation of parents can be very helpful.

The bus driver must, of course, accept responsibility for supervising and controlling pupils out on the route. He cannot escape the fact that he is in charge. Acceptable discipline procedures should be established and discussed.

E. Acceptable discipline procedures.

Bus drivers should be encouraged to report behavior problems and to ask for assistance when it appears necessary. Mis-behavior and refusal to abide by the regulations cannot be permitted to continue unchecked.

It is quite often possible to solve behavior problems by:

1. Discussing the problem with the supervisor.

2. A conference between the pupil and his teacher

3. Enlisting the assistance of the parent.

4. Changing the pupil's seat.

5. If all other means fail, transportation privileges may be withdrawn from the pupil by the administration.

F. Unacceptable discipline procedures.

The use of sarcasm by the driver in his relations with pupils is not acceptable.

Angry eruptions by the driver will not solve any problems.

It is not permissible for a bus driver to put an unruly pupil out of the bus to force him to walk home. Correct procedure calls for the driver to tell the pupil when he leaves the bus at his home that it will be necessary for him and his parents to make acceptable arrangements with the superintendent before he can be transported again. This gives the superintendent an opportunity to enlist the cooperation of the parents in the handling of unruly pupils.

Bibliography

Safety Education Data Sheet No. 63, Educating Pupil Passengers, National Safety Council, 6 pp. Illustrated. Chicago 11, Illinois; the Council, 425 North Michigan Avenue.

Safety Education Data Sheet No. 51, Safety in Pupil Excursions, National Safety Council. 4 pp. Illustrated. Chicago 11, Illinois: the Council, 425 North Michigan Avenue.

School Bus Patrols: Student Participation in the Operation of School Buses, American Automobile Association. 6 pp. Illustrated. Washington, D.C.: the Association, 1712 Y Street Northwest. 1942

The Expanding Role of School Safety Patrols, National Commission on Safety Education of the National Education Association. 36 pp. Illustrated. Washington 6, D.C.: the Association, 1201 Sixteenth Street Northwest. 1953. pp 20-21

Let's Be Safe Passengers, National Commission on Safety Education of the National Education Association. Poster. Washington 6, D.C.: the Association, 1201 Sixteenth Street Northwest.

Films
16 mm Sound

Safety on the School Bus, Young America Films, Inc., Eighteen East Forty-First Street, New York 17, New York.

Safety On Your School Bus, Encyclopedia Britannica Films, Inc., Wilmette, Illinois.

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

Driver Training Series X

Principles of Economical Operation

A. Preventive Maintenance.

A general discussion of preventive maintenance may be found in Number II of this Training Series. It also includes three inspection forms which may be used in connection with the maintenance program. These forms consist of: (1) Daily Inspection Report, (2) Monthly or 1000 miles Inspection Report, and (3) Annual Inspection Report.

Series Number X points out specific areas of preventive maintenance and in greater detail.

1. Lubrication.

Regular lubrication and servicing of the school bus is essential in order to prevent development of defective conditions and to locate and correct such conditions in order to prevent failure and wear. The length of time and the number of miles travelled between lubrication jobs will vary with the driving habits of the operator as well as with weather and road conditions. If a bus is operated on crushed rock roads or other surfaces where dust is a problem, the engine oil should be changed more frequently. A bus operating on wet and muddy roads requires more frequent chassis lubrication than those operating on hard surfaced roads.

Although each driver is not responsible for the maintenance program, he, nevertheless, should assume responsibility for:

a. Checking the engine oil level.

b. Observing signs of lubrication trouble, such as

(1) Excessive oil consumption.

(2) Low oil pressure, as shown on gauge.

(3) An inoperative engine oil filter.

(4) The appearance of exhaust smoke.

(5) Oil leaks.

(6) Evidence of lack of chassis lubrication.

2. Electrical system.

The school bus of today is a precision-built instrument, especially the electrical system. In order that the system will continue to function effectively, it is essential that regular check-ups and repairs be made by

trained workers with precision-built instruments and tools, following procedures developed by the respective manufacturers. The parts of the electrical system are so interdependent that each must be kept in perfect working order if the whole system is to function efficiently. If accurate testing equipment is not used, the precise adjustments necessary are not likely to be obtained.

a. Some general rules for the care of the electrical system.

(1) All lubrication points should be known and serviced according to instructions for the particular bus. Instructions should be carefully followed since too much oiling of the electrical system may be as disastrous as too little.

(2) All connections which tend to loosen or corrode should be known, checked regularly, adjusted properly and cleaned. This will avoid short circuiting.

(3) All worn parts should be repaired or replaced. This will avoid burning, short circuiting and failure to function.

b. Some specific precautions to be taken in the use and maintenance of the electrical system.

(1) The starter switch should be released as soon as the engine starts to run under its own power. It should never be pressed while the engine is running.

(2) If the engine fails to start, the fault is seldom with the starter. The starting motor should not be abused by continuing to "Step on it." Trouble in the fuel line or inadequate spark are more likely reasons for failure to start.

(3) The battery should be the object of watchful concern.

(a) Keep the battery in charged conditions. Recharge as soon as necessary. A battery will not freeze at 92 degrees below zero if fully charged. If fully discharged it will freeze at 18 degrees above zero.

(b) Keep battery connections tight and clean.

(c) Keep battery securely fastened in its carrier frame.

(d) Check level of battery solution once a week in summer and every two weeks in winter.

(e) In cold weather add water to battery only when the engine is to be run. This prevents it from freezing by making sure it mixes with the sulphuric acid.

(4) The maximum efficiency of the engine, and also economy of fuel, depend upon the full, unobstructed flow of current through the ignition circuit.

(a) Keep timing properly set by having complete engine tune up frequently.

(b) Keep switch terminals and connections clean and tight.

(c) Keep distributor points polished, flat, and clearance adjusted properly.

(d) Change spark plugs if a "healthy" high tension spark is not obtained.

(e) The generator generally needs little attention other than keeping the brushes and bearings in good condition. Care should be taken not to lubricate the generator excessively.

3. Cooling system.

The cooling system consists primarily of the radiator, the coolant (usually water), the water pump, engine block, the connections and gaskets, fans, belts, thermostats, and gauges. The cooling system is necessary to protect the engine from damage due to the terrific heat developed from combustion. A defective cooling system may be indicated by a rise of the temperature gauge above 180 degrees, odor from over-heated parts, loss of power, steam coming out from in front of the bus, and the engine continuing to run after the ignition is turned off.

a. Some possible causes of overheating.

(1) Not maintaining proper coolant level.

(2) Leaks in the system.

(3) Loss of coolant out over-flow from boiling.

(4) Broken or slipping fan belt.

(5) Insufficient oil in crankcase.

(6) Poor quality or improper grade of oil.

(7) Radiator (coolant) frozen.

(8) Clogged circulation.

b. Indirect causes of overheating.

(1) Improperly timed ignition.

(2) Poorly adjusted carburator.

(3) Badly carbonized combustion chambers.

(4) Worn or broken water pump.

(5) Dragging brakes.

c. Immediate temporary remedial steps to cool engine.

(1) Stop bus and let engine run at fast idle.

(2) Open hood to hasten cooling.

(3) Pour water slowly over front of radiator core.

(4) Do not remove radiator cap until all steam stops escaping from overflow pipe.

(5) Do not pour cold water into radiator while engine is extremely hot.

(6) If fan belt is broken--drive slowly to the nearest repair shop, stopping for engine to cool as often as necessary.

(7) If oil is too low to show pressure on gauge do not drive further without refilling.

(8) If observation of circulation (look into radiator filler neck while engine is running) reveals pump not operating or system clogged drive slowly to nearest repair shop.

(9) If brakes are dragging severely do not move bus until the condition has been remedied.

d. Some results of improper care of the cooling system.

(1) Scoring of pistons, rings, and cylinder walls.

(2) Loss of piston-ring tension due to excessive heat.

(3) Cracked cylinder head or block.

(4) Warping of valves.

e. Some important general rules of maintenance for the cooling system.

(1) General inspection of entire cooling system twice a year.

(2) Flushing of system when changing coolant and after internal engine repairs.

(3) Have radiator core and reservoirs examined for leaks each spring and fall.

(4) Have external air-passages of radiator blown out with compressed air to remove dirt, insects or other deposits.

(5) Check hose connections for leaks, especially in the fall of the year.

(6) Have cylinder block, head and gasket checked for cracks and leaks.

(7) Check fan and fan belt at each inspection time and take up slack if needed.

(8) Have thermostat and temperature gauge checked at inspection time.

(9) Pay constant attention to temperature gauge and check coolant each time the gas tank is filled.

4. Wheel alignment and balance, front end assembly and steering.

All the time you are driving, you depend on the steering mechanism for safe control of bus direction. You roll along at 40 to 50 miles per hour with very little space separating the bus from a line of cars zooming by in the opposite direction at equal or greater speed. This means a few feet of clearance and an 80 miles and over per hour meeting speed. This is a lot of confidence to put in steering equipment. It should be maintained in good condition.

The checks and adjustments that have to be made in the steering assembly are so intricate and numerous that they should be made only by expert mechanics. Every driver, however, can learn to recognize symptoms of trouble developing in the steering mechanism and should have adjustments made at once. Steering conditions give important warning cues:

a. Too much "play" in the steering wheel. If you can turn the wheel two or more inches before it starts to turn the front wheels, there is too much "play." An adjustment is needed.

b. Hard steering. This may be due to unequal or under-inflated tires, inadequate lubrication, improper wheel alignment, or worn or improperly adjusted steering parts.

c. "Shimmy" or rapid movement of the wheel from side to side. Check tire inflation and have wheel balance checked. If neither check solves the trouble, have a mechanic tighten connections, correct wheel alignment, replace worn parts, and balance wheels.

d. The car wandering from side to side, or turning persistently to one side. This can mean unequal tire pressure, poor wheel alignment, or rapid uneven tire wear.

The front end assembly should be carefully checked by a competent mechanic annually. He should check wheel bearings, knuckle pins bushings, spindles, steering arms, tie rod ends, drag link, and front wheel alignment.

If there is uneven wear of the front tires it is generally an indication that the front end assembly needs adjusting. If a wheel is out of balance the tire usually wears intermittent flat spots. If there is a misalignment of the front end, tires will show a smooth even wear toward one side. It will have the choppy appearance of a tire worn by a wheel out of balance.

5. Brakes.

The brake system consists of the service or foot brake, hand or emergency brake, master cylinder, lines, wheel cylinders, brake shoes or drums plus fluid. Since brake failure is a common difficulty, the driver should be made aware of the first signs indicating potential trouble so that the condition can be remedied. Whenever these or other signs appear they should be reported immediately. The hand or emergency brake should be tight enough so that when the brake is "pulled up" it will stall the engine in low gear as the clutch is slowly released.

a. Indications and causes of brake troubles.

(1) Pedal goes to floor board.

(2) Dragging brakes.

(3) One wheel dragging.

(4) Bus pulls to one side.

(5) Foot pedal feels springy.

(6) Poor stops with excessive pressure on foot pedal.

(7) Brakes over-sensitive.

(8) Squeaks or squealing brakes.

(9) "Chattering" brakes.

b. Driving precautions and procedures to conserve brakes.

(1) Anticipate stops and slow down gradually.

(2) Use motor to assist brakes in stopping. Do not depress clutch pedal until bus is almost stopped.

(3) Avoid sudden stops.

(4) Use lower gears when descending steep hills. Do not disengage clutch at any time when descending hills.

(5) Avoid "riding" brake pedal.

(6) Apply brakes ahead of curve, not when in it.

(7) Avoid driving through deep water and sand.

(8) Avoid prolonged hard application of brakes.

c. Brake maintenance precautions and procedures.

(1) Inspect and clean brakes regularly. All wheels should be removed each summer to note condition of brake linings and brake lines. Worn linings should be replaced before drums show wear. Reconditioning or replacing brake drums is expensive.

(2) Make prompt adjustment or repair at first signs of trouble.

(3) Watch for evidence of overlubrication, or leaks which denote worn parts.

6. The School Bus Body.

The care of the school bus body is one operation that has been one of the most neglected in the maintenance program. Each driver should be held responsible for maintaining a bus in a clean and sanitary condition.

The drivers should be given a clear understanding as to what their duties are in connection with body maintenance. Generally they are responsible for the inside of the bus and where no other arrangements are made, they should also be responsible for the cleanliness of the outside. Where other arrangements are made for washing the outside of the bus, the driver should, nevertheless, be held responsible for keeping all lights and reflectors clean.

a. Reasons for maintaining a school bus in a clean sanitary condition.

(1) To safeguard the health of the pupils.

(2) To reduce the possibilities of accidents among the pupils that might be caused by falling, tripping over objects, or slipping on the floor.

(3) A clean bus induces a better attitude among the students. If the driver takes pride in keeping his vehicle clean the children will respond in the same manner.

(4) The school bus is about the only visual contact many people have with the school system. If they see a clean, well maintained school bus, it will give them a favorable impression of the school as a whole. A dirty, poorly maintained bus will have just the opposite effect.

(5) To prolong the life of the bus.

b. Responsibilities of the driver for the condition of the bus.

(1) The driver should be solely responsible, subject to checking by the supervisor.

(2) Regulations for pupils conduct regarding sanitation and cleanliness may be set up by the driver with the approval of the school authorities.

(3) The driver should set an example of cleanliness. This applies not only to the vehicle but also to his own person. He should be neat and clean in his manner of dress. He should never enter the bus in the morning unless cleanly shaven.

c. Suggested schedules for cleaning the school bus.

(1) Daily schedule.

(a) Sweep floor and steps.

(b) Dust seats after sweeping.

(c) Clean windshield, rear view mirrors, lamp lens and reflectors oftener than daily, if necessary.

(d) Inspect and clean or dust windows after sweeping.

(e) Report the presence of fumes and gases.

(f) Check the operation of the emergency door.

(2) Weekly schedule.

(a) Wash floor, using a mop and disinfectant.

(b) Scrub all wood and metal parts of seats, rods or hand rails with soap and warm water.

(c) Wash all windows and sills and report any damages. Check operation of windows.

(d) Clean the seats and inspect and report any damage.

(e) Clean interior lights if necessary.

(f) Wipe off those surfaces on the inside of the bus that have not otherwise been cleaned.

(g) Check condition of fire extinguisher and first aid equipment.

(h) Check the operation of the emergency door and lubricate as required.

B. Connection between the inspection program and preventive maintenance.

Preventive maintenance is the scientific care of a vehicle that will guarantee the dependability and maximum life from the various parts. It is a carefully organized system of inspections made at regular mileage intervals combined with immediate attention to all reported defects. These inspections are made up of a series of well-balanced checking procedures combined with the process of cleaning, tightening, lubricating, and adjusting of parts and units. It is the best known, simplest, and most economical means of protecting the original investment in a fleet of motor vehicles.

A regular periodic inspection program is the key to a good preventive maintenance program. (For suggestions and inspection forms refer to number II of this series.)

In addition to the inspection program by a trained mechanic, the bus driver has a responsibility in this field. The driver is on the road with the vehicle.

for a number of hours each day. He and he alone is in a position to observe its performance under all conditions. He should learn to recognize defects and immediately report the symptoms to the maintenance department. He should not attempt to diagnose the trouble but should report what he hears, sees, smells, and feels.

C. Operating Techniques.

1. Starting the engine.

Before attempting to start the engine the driver should first check the water level, oil level, tires and gasoline supply. He then should do the following:

a. Press down the clutch pedal with the left foot to disconnect the engine from the rest of the car. This is not only the safe thing to do, but reduces the load on the storage battery.

b. Check the gear-shift lever to see that the transmission is in neutral.

c. Pull throttle control on instrument panel so the engine will have sufficient gasoline to idle.

d. Turn on ignition switch and manipulate the starter switch.

e. Pull out choke if weather conditions require it.

f. Release pressure on starter switch when engine starts to run.

g. The engine should now be running. Let up on the clutch pedal slowly, keeping the gears in neutral position and hand brake set.

h. Let the engine idle until it warms up. The vehicle should not be moved until the heat indicator gauge starts to register. (Three-fourths normal engine wear takes place during the starting period, according to AAA Contest Board tests.) Avoid racing the engine during the warming up period.

2. Shifting gears.

After the engine is properly warmed up the vehicle is ready to be put into motion. This procedure involves the following steps:

a. Press the clutch pedal to the floor.

b. Move gear shift into low.

c. Release hand brake, accelerate engine and allow clutch pedal to come up slowly until the clutch takes hold. Accelerate to give the engine power to move the added load.

d. If the bus starts with jumps or jerks, press clutch pedal down immediately and start releasing it again until the bus starts smoothly.

e. Shift to next gear.

All the gears in the series should be utilized, from low to high. The shift to the next higher gear should not be made until the bus has gained sufficient momentum. The bus should never be driven in a gear that causes the engine to "lug." To do so overloads the engine and decreases the life of the motor.

It is not advisable to change gears while going down steep hills. The vehicle should be put in the right gear for descending the hill before starting the descent. However, if gears must be shifted, it should be remembered that the engine must be speeded up because the bus will be moving more rapidly on a down grade, and so it is necessary to give the engine a proportionately greater speed to accomplish a smooth, quiet changing of gears.

3. Conservation of tires.

Driving at high speeds is the greatest single factor in reduced tire mileage. School bus tire wear is affected less by the factor of car speed in relation to some other factors because school buses are not driven at high speeds. However, tires will go twice as far at 30 miles an hour as at 50 miles an hour. High speed is much more harmful to tires in hot weather than in cold. They wear six times as fast at 100 degrees than at 40 degrees.

School bus drivers can do much to get greater mileage from tires if they observe the following:

a. Drive slowly on roads with sharp projecting stones.

b. Drive slowly on curves and take turns slowly.

c. Never let tire pressure get below that recommended by the tire manufacturer. Even slight under-inflation increases tire wear considerably. Six pounds of under-inflation for a tire which should carry thirty pounds of pressure will cut the life of the tire at least twenty per cent.

d. Avoid striking rocks, holes, curbs, glass, etc.. Anything which produces a sudden sharp bend in the casing, especially if the tire fabric is crushed between the rim and a hard object, is likely to break cords within the tire and then other cords break around the unseen weak spot and the tire later fails. Cuts or bruises on the side wall will greatly shorten the life of the tire.

e. Avoid jumping starts and fast stops. They scuff off much more tire tread than most people realize. One ten-foot skid takes many miles off the life of a tire.

f. Keep brakes adjusted so no one tire does more than its share of braking.

g. Switch tires every 5000 miles. This will assure approximately even wear on all tires. The important point to remember is to get each tire used in each position.

h. Have wheel alignment, play and balance checked twice a year. Driving a bus with a wheel one-half inch out of line on dry pavement

is approximately equivalent in tire wear every mile to an eighty-seven foot direct side skid. Wheels out of line can shorten tire life one quarter or more. Too much play in the steering system also causes spotty wear of tires.

i. Use tires of proper size and do not overload bus.

j. Keep oil and grease off tires. Oil and grease cause rubber to deteriorate or rot.

4. Gasoline Consumption.

Smooth gear shifting at proper speeds and driving in the highest gear possible at all times without causing engine labor secures the maximum value from the fuel. Other means that can be used by the school bus driver to conserve gasoline are:

a. Avoid racing engine and excessive choking during warm up period.

b. Start, drive and stop smoothly.

c. Drive at moderate speeds.

d. Shut off engine when stops of excessive lengths are made. Avoid long periods of engine idling.

e. Maintain proper fuel-air mixture.

f. Maintain proper tire pressure.

g. Maintain proper engine heat.

h. Keep ignition correctly timed.

i. Maintain good ignition spark.

j. Use light engine oils and lubricants in the engine during cold weather.

k. Maintain a carbon-free engine. Keep valves and piston rings properly conditioned.

l. Drive at moderate speeds around curves and down hill.

Bibliography

Sportsmanlike Driving, American Automobile Association, Washington, D. C.

Manual for Instruction of School Bus Drivers, The University of the State of New York and The State Education Department.

Instruction Manual for Training School Bus Drivers of West Virginia, State Department of Education, Charleston, West Virginia.

Training School Bus Drivers, Federal Security Agency and U. S. Office of Education, Washington, D. C.

School Bus Driver Training Manual, North Carolina Department of Motor Vehicles.

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

Driver Training Series XI

Driver - Supervisor Relationships

A. The drivers position in relation to supervision.

The school bus driver does not work independently. He, like every other employee in the school system, must work within the policies of the school as established by the board. The driver should understand his obligations to the school superintendent and supervising principal.

The bus driver must at all times work in close cooperation with the principal or superintendent of the school which he serves. In some school districts a director of transportation is employed who is directly responsible to the superintendent of schools. Under such an arrangement the bus drivers are directly responsible to the director of transportation. School transportation is an essential part of the educational system and one cannot function properly without the other. Therefore, it is the duty of the school bus driver to keep officials well informed as to matters which may be of vital interest and importance.

Before the opening of school, bus stops and schedules are planned and set up by the school officials. The bus driver should cooperate, if requested, in planning such schedules, and should feel free to suggest improvements with a view to the most efficient and economical operation of the school transportation system. Or, in like manner the supervisor should enlist the aid of his drivers in planning the program. He should encourage them to offer suggestions and give due consideration to any suggestions made by the drivers.

B. Importance of supervision.

No program can function effectively without adequate supervision. Supervision must begin the first day the driver is on the job and continue throughout the period of employment. The driver should not be left in the dark as to what his specific duties are and should not rely upon other drivers to show him the procedures in operating a school bus. It is the responsibility of the supervisor to organize an adequate training program for new drivers and see to it that it is carried out satisfactorily.

Supervision and training is a continuous process. It is not a process that can be completed in a few weeks and then forgotten. It must be carried on daily. Any poor work on the part of the driver whether it is in the act of driving or in the preparation of required reports should be promptly called to his attention with suggested corrections. And in like manner, if a driver does a good piece of work, he should be commended for it. Giving an individual just credit where credit is due tends to make the individual do still better.

Because he is away from the supervisor a greater portion of the time, we are inclined to think of a school bus driver as one who is his own boss and who can do pretty much as he pleases. However, he is subject to other factors which tend to keep him on the ball. Some of these control influences are:

1. Possibility of accidents.

2. Iowa Highway Safety Patrol.

3. Local police.

4. Chance observation by a school official.

5. Presence of other vehicles and pedestrians.

6. Fixed route.

7. Fixed schedule of stops.

8. Letters of complaint/commendation.

9. Maintenance records/fuel consumption.

The supervisor must always keep the following in mind if the training program is to be successful:

10 WAYS TO KILL A SAFETY PROGRAM

1. Order it into existence. Let the drivers know that they must drive safely .....or else.

2. Make an example of your most recent accident. Name names; don't mince words; place the blame squarely where it belongs--on the driver.

3. Hold safety meetings before dispatching the drivers every morning--if you have nothing new to say, repeat the same old clichés....drivers learn by repetition.

4. The morning is the best time to bring up grievances and to set the errant drivers straight on safety malpractices. Do it while they have a clear mind--before they face the howling mob of kids riding the bus.

5. Do not recognize safety achievement. Remember, safety is part of the driving job. Since safety is just in the line of duty, it should not be specially reqarded.

6. Criticize the state laws. Let the drivers know that some of the laws are downright stupid and should be disregarded.

7. Don't take any guff from the gendarmes. And let the drivers know what you think of the cop on the beat--or in the squad car--who hands out tickets to school bus drivers.

8. Have an "arrangement" with the local police department. Let the drivers know you've provided such "insurance" and short of killing somebody, they're pretty immune as far as the local cops are concerned.

9. Whenever you hear of a new gadget devised for safety on a school bus, add it to your equipment. A full panel of buttons, switches and levers impresses the drivers--makes them feel like they're in a cockpit of a jet.

10. Impress on the minds of the drivers that the school bus has the right of way. When they stop--everything with wheels has got to stop. This is their right of the road and they should practice it to the fullest.... it's the motorist who must drive defensively.

Bibliography

Training School Bus Drivers, U. S. Office of Education, Washington, D. C.

Fleet Safety Newsletter, National Safety Council, Chicago, Illinois, April, 1964.

Fleet Safety Newsletter, National Safety Council, Chicago, Illinois, October, 1964.

7. [illegible]

8. [illegible]

10. [illegible]

Bibliography

[illegible] Washington, D. C.

[illegible] Tokyo, [illegible]

[illegible] Chicago, [illegible]

365A-1236TR
Division of Transportation

State of Iowa
Department of Public Instruction
Paul F. Johnston, Superintendent

Driver Training Series XII

Driver - Public Relationships

A. The driver and his bus as public relations agents of the school.

1. The general public.

The bus driver is on the front line in the field of public relations, and the efforts of the supporting cast are all directed toward helping him do the best job possible.

The opinion of the general public and many parents concerning the school system is often based on the efficiency of the school bus service. If well-maintained buses driven by congenial, safe drivers make their stops on schedule, the whole school system enjoys a good reputation, regardless of other aspects of the operation. Many boards of education can attest to the fact that complaints concerning bus operation from delegations of citizens far outnumber the complaints about any other phase of school operation, and in certain areas outnumber all other complaints combined.

A few acts of courtesy by the drivers will soon have everyone remarking about it. In general terms, true courtesy is merely using the Golden Rule.

A few of the simple courteous acts are:

a. Slowing down when passing through pools of water to avoid splashing cars or pedestrians.

b. Waiting patiently for elderly or confused pedestrians to clear the intersection.

c. Keeping engine noise down.

d. Waiting behind a confused motorist without indicating impatience by leaning on the horn.

e. Avoid "blocking" other vehicles when parking the bus.

2. Parents.

There is a very definite value in the bus driver knowing the parents of the pupils who ride the school bus. He should contact them and build up a feeling of friendship. Remember that they are interested in their children and will appreciate knowing the bus driver who is transporting them to and from school. If they feel that the driver is interested and is making a sincere attempt to do his job in the safest possible manner, they will cooperate with him when problems arise. Problems of discipline

can very easily be related to the pupils environment, and if the driver knows the environment from which the pupils comes, he is better able to meet these problems.

The driver should feel free to discuss with the parents the problems which confront him, and to know what help he can expect from them in case of an emergency. During bad weather he may need help, and if he knows the patrons along the route he knows what help he can count on. The patron will be more willing to render assistance if matters have been discussed with him beforehand, and he has been shown where help may be necessary in order to safely transport the pupils. If the driver ignores him until assistance is needed, the patron is going to conclude that the driver only comes around when he is in need of help.

Certain information should be reported to the parents of the children from time to time. If a pupil becomes sick on the bus, this information should be passed on. Many contagious diseases can be stopped from spreading in this manner.

If the driver knows that the bus will be late on a certain day he should inform the parents so they will not be worried about the children. Also, any serious road hazard which develops should be reported. Many times the patrons on the route can be of valuable assistance in getting roads repaired so that they will not be dangerous.

The driver should not go to the parents with every little problem of discipline that confronts him, but if he finds that any discipline problem is becoming serious, and feels that an important step must be taken, then the parents should be notified. Most parents do not want their children to misbehave and will usually take steps to correct this situation before it becomes too serious. The parents should by all means be told if a decision has been made by the bus driver or the principal of the school to deny any child the privilege of riding the bus.

The bus driver is sometimes confronted with the problem of pupils living in town and not entitled to transportation, who want to ride home and stay with farm friends overnight. It also happens that adults living on the bus route will request a ride into town on the bus. All persons should be informed that the law will not permit bus drivers to transport any person who is not a pupil entitled to transportation, a teacher, or an official of the school, while making the regular route. There are several reasons for this law, and if the problem arises these reasons should be explained so that there will be no hard feelings. Transportation is furnished at public expense to pupils attending school who live a certain minimum distance from the school. If adults or unauthorized persons are allowed to ride the bus, they are taking seats to which authorized pupils are entitled. If one unauthorized person is allowed to ride then others cannot be refused, and the situation will soon grow into something too large for the bus driver to handle. Besides being a protection to the school children, this rule is a protection to the bus driver, since the insurance carried on the bus protects the bus load, but does not protect persons who are not officially on school business.

The school authorities and bus drivers should enlist the cooperation of parents, since the parents also have a responsibility. Their responsibility requires:

a. Cooperation with school authorities and bus drivers in promoting efficient service.

(1) The purpose of school transportation is to provide safe, comfortable, and economical transportation for those pupils living beyond walking distance to school. It is not a taxi service for children, parents or unauthorized persons. Parents should not expect the bus to operate over roads that are not properly maintained, or on private lanes leading from the residence to the highway, or on roads where adequate turn-arounds are not provided.

(2) Children should be taken from the school to their homes, but in case of an emergency the principal may arrange for the driver to drop the children at another designated place.

(3) Parents must not send children who are not in school on the bus, either to or from school. Taking care of children too young to be in school is the responsibility of the parents.

(4) In cases where parents wish to take pupils home from school, arrangements should be made before the bus leaves the school. In no case should parents stop the bus along the highway at an undesignated stop for the purpose of removing their children.

b. Have children at the bus stop on time.

c. Make suggestions in writing to the school authorities for the improvement of school transportation.

d. Use their influence in getting roads improved.

e. Insure the cooperation of children with the authorities responsible for transportation.

(1) Parents should understand that pupils riding on school buses must obey all regulations governing pupils' riding school buses or forfeit their right to ride.

3. Motorists.

The school bus driver should be courteous and tolerant toward other users of the highway. Most drivers of commercial vehicles have, by the courtesies extended to other users of the highway, gained the reputation of being good drivers. Such drivers are not content merely to drive according to the law but try to make their presence on the highway both pleasant and helpful to the other motorists. School bus drivers should endeavor to drive in such a manner that they will be looked upon as drivers who stress road courtesy.

School bus drivers should be especially careful not to block traffic unnecessarily. To have a long line of vehicles backed up behind the bus is extremely hazardous. Some of the drivers are apt to become irritable and make attempts to pass the bus when passing cannot be accomplished safely. Every effort should be made, within reason, to permit the natural flow of traffic.

On a busy highway where the homes of pupils are close together, the number of stops should be limited. Pupils should be required to proceed to designated pick-up points so as to reduce the number of stops.

The bus driver should also use good judgment in relation to on-coming traffic while stopping to pick up pupils. If it can be done safely he should permit on-coming traffic to pass before extending his stop arm. Certainly he should not "slam" his stop arm out in front of the on-coming driver who is too close to stop safely in time. This is not only discourteous, but also dangerous, since the driver may lose control of his car in an effort to stop quickly.

Following are a few courteous acts that should be practiced by all school bus drivers:

a. Waiting for a good opening before entering a traffic stream.

b. Yielding to avoid an accident or a close call, even when it's his turn.

c. Stopping and making a break in traffic to let a vehicle enter from a driveway.

d. Dimming his lights first when meeting traffic at night.

e. Dimming headlights when following closely at night.

f. Giving turn signals in plenty of time to warn those following.

B. Courtesy and sympathetic consideration for the other persons problems.

Those people who minimize their own problems and are sincerely sympathetic toward the problems of others are the ones who get along the best. School bus drivers should realize that individual pupils are confronted with problems which are minor, and yet to that pupil the problem is very real and important. The driver should lend a sympathetic ear to these problems, which act in itself in many cases eases the pupil's apprehension. This is not only true of pupils but extends to all people with whom the drivers come in contact.

Bibliography

Manual for School Bus Drivers, Department of Education, Sante Fe, New Mexico.

School Bus Drivers Manual, Department of Education, Salem, Oregon.

Training School Bus Drivers, U. S. Office of Education, Washington, D. C.

School Bus Transportation, Department of Public Instruction, Springfield, Illinois.

5 Minute Safety Talks for Driver Supervisors, National Safety Council, Chicago, Illinois.

A P P E N D I X

365A-1236TR

SCHOOL BUS PATROLS*
Their Selection and Training

In the selection of Bus Patrols you should select those pupils who are among the first to load in the morning and the last to leave the bus at night. This will sometimes require that two groups be selected for each bus, a morning crew and an afternoon crew. Each Patrol should be equipped with a white Sam Browne belt and a badge.

The Patrols selected should be carefully advised that they will be under the direction of the bus driver at all times - except if the driver is injured or sick.

In those cases they should have had specific instructions as to procedures to follow in control of the pupils and in securing help.

Each bus should have:

Two front Patrols and one rear Patrol on each crew.

Each Patrol should be carefully instructed on the following items:

1. Open front door.
2. Open rear door.
3. Turn off ignition key.
4. Apply emergency brake carefully.
5. Operate fire extinguisher.
6. Light flares.
7. Turn on lights.
8. Guide the bus to safe place if driver is injured or sick.

No school Bus Patrol, under ANY circumstance, will act without the direction or consent of the driver - UNLESS the driver is physically unable to give instructions. If the bus driver is unable to give directions, the Bus Patrol shall use extreme caution in carrying out his or her patrol duties.

Recommended Procedure for Emergency Unloading of School Buses

Emergency Duties

1. Bus Driver
   a. Apply emergency brake.
   b. Turn off ignition.
   c. Stay in bus.
   d. Supervise Bus Patrols.
   e. Signal Patrol to open rear door.
   f. Supervise exit of students.

2. Front Bus Patrols

   Patrol No. 1
   a. Set out flags or flares legal distance front and rear.
   b. Assist with unloading
   c. Direct students to safe place.

   Patrol No. 2
   a. Start unloading.
   b. Help small children.
   c. Direct pupils to safe place.

3. Rear Bus Patrol

   Front Unloading.
   a. Keep pupils moving toward front door.
   b. Control panic among pupils.

   Rear Unloading
   a. Open emergency door when directed by driver.
   b. If driver is injured - use good judgment as to when to exit from rear door.
   c. Have another student help.
   d. Watch for traffic hazards.
   e. Direct pupils to safe place.

*William J. Mangum, Safety and Training Specialist; Tell City Tube Plant, General Electric Company, Tell City, Indiana.

Recommended Procedure in Case of Fire

1. Driver orders unloading - front, or rear, or both.
2. Flags or flares to be placed.
3. Bus Patrols assist where they can be of help to the driver.
4. Bus Patrol should know how to use fire extinguishers.
5. Pupils should be directed to safe place away from bus.
6. Watch for traffic hazards.

Recommended Procedure in Case of Accident

1. Driver not injured
   a. Driver directs the placing of flags or flares.
   b. Driver orders unloading - front or rear - or both.
   c. Patrols help driver spot injured pupils.
   d. Patrols assist driver in first aid.
   e. One bus patrol and one other pupil takes telephone number card and goes to the nearest house for help.
   f. Driver and other Bus Patrols stay with the bus and pupils until help arrives.

2. Driver injured
   a. If bus is still moving, front Bus Patrol moves into driver's seat and guides bus to shoulder of road.
   b. Patrol stops engine.
   c. Patrol applies emergency brake.
   d. Front Patrols supervise unloading of pupils.
   e. One Bus Patrol and one other pupil takes telephone number card and goes to the nearest house for help.

Preparation for Emergencies

In addition to the required items such as flags, flares, axe, fire extinguishers and first aid kit, each bus, whether under contract or owned by the school district, shall carry a supply of telephone number cards.

These cards shall contain the names and telephone numbers of the persons who should be called in case of accident or emergency.

There shall be at least three numbers provided - listed as first, second, and third choice.

There shall also be provided additional information which can be used by a pupil in securing aid of an emergency type - wrecker, fire department, doctors, ambulances, local police departments, county traffic departments, and State Traffic Patrols.

A copy of this card should be fastened above the visor level at the front of the bus. The extra copies to be carried by the Bus Patrol when going for help can be carried in the compartment.

Local arrangements should be made to have the department first contacted use short wave police radio in obtaining help from other departments, if time can be saved in getting help to the scene of the difficulty.

THE TEN MOST COMMON REASONS OR CAUSES FOR RAIL-HIGHWAY GRADE CROSSING ACCIDENTS WERE FOUND TO BE:

1. The motorist sees the train approaching, but misjudges its speed. He thinks he can get across, but fails.

2. The motorist waits for one train to clear the crossing, then immediately starts across, but is struck by another train approaching from the opposite direction.

3. The driver converses with other people in his car and his attention is distracted from the safe operation of the car.

4. The motorist sees other cars standing at the crossing, obviously waiting for a train to pass, but heedlessly drives around them into the path of the approaching train.

5. The motorist is so familiar with the crossing, having passed over it hundreds of times, that he uses no caution whatsoever. A case where familiarity breeds contempt.

6. The motorist uses only one hand on the steering wheel, the other arm being otherwise occupied. Under such circumstances his mind is not primarily concerned with driving safely.

7. The motorist has defective eyesight, defective hearing, or both, or is otherwise physically or mentally deficient and should not be licensed to drive a car.

8. The motorist has too much alcohol in his system and is incapable of determining what should or should not be done while approaching the crossing.

9. The motorist, driving at night as well as in locations with which he is not familiar, drives at a speed too great for such circumstances. Consequently, he cannot stop in time when a railroad crossing appears ahead. The result is that he drives into the side of a train.

10. The motorist drives a car with faulty brakes or other defects and is unable to stop or start at the proper time, or stalls his car on the crossing.

Before The
INTERSTATE COMMERCE COMMISSION

Docket No. 33440

PREVENTION OF RAIL-HIGHWAY GRADE-CROSSING ACCIDENTS INVOLVING RAILWAY TRAINS AND MOTOR VEHICLES

BRIEF OF RAILROAD RESPONDENTS

Washington, D. C.
November 15, 1962

365A-1236TR

BUS DRIVERS PERFORMANCE CHECK LIST

		Yes	No
1.	Did the driver check his bus properly before boarding?	_____	_____
	a. Check tires	_____	_____
	b. Oil level	_____	_____
	c. Water in radiator	_____	_____
	d. Clean windshield and mirrors	_____	_____
	e. Clean rear windows, signs, and lettering	_____	_____
	f. Check lights and safety equipment	_____	_____
2.	If the engine was cold, did the driver warm it up properly?	_____	_____
3.	Did the driver sit up in proper driving position?	_____	_____
4.	Did he orient himself properly in the driver's seat before taking off?	_____	_____
5.	Was he alert to conditions outside the bus?	_____	_____
6.	Did he test his brakes before pulling into traffic when leaving the parking area?	_____	_____
7.	Did he use proper signals before making a turn?	_____	_____
8.	Did he get into the proper lane before making a turn?	_____	_____
9.	Did the driver "ride" the clutch?	_____	_____
10.	Did he "lug" the engine?	_____	_____
11.	Did he show skill in down shifting?	_____	_____
12.	When stopping to load or unload pupils, did he use his warning lights approximately 300 feet before stopping?	_____	_____
13.	Were stops made properly at grade railway crossings?	_____	_____
14.	Did the driver use good judgement in passing other vehicles?	_____	_____
15.	Did the driver use brakes properly in bringing the bus to a stop?	_____	_____
16.	Did the driver allow plenty of room when following other vehicles?	_____	_____
17.	Did he check traffic before opening door to discharge pupils?	_____	_____
18.	When pupils had to cross the road did the driver, after stopping the bus on the highway and ascertaining that the way was clear, signal pupils across the road in front of the bus?	_____	_____
19.	Did the driver make sure that all was clear before backing at turn-around?	_____	_____
20.	Did the driver maintain good discipline?	_____	_____
21.	Did the driver carry on unnecessary conversation?	_____	_____
22.	Did the driver observe safe speed limits?	_____	_____

365A-1236TR

ARE YOU A HEEL AT THE WHEEL?*

Want a quick indication of what a man is really like? Just watch him drive. Almost anyone can give the appearance of being a gentleman when everything is going his way, but if he's a true gentleman, he'll remain one even under stress. If he thinks someone is taking advantage of him, watch out -- that's when the phony will betray his true nature.

Let any driver detain the "phony" for a few seconds, out in front of him, or obstruct his so-called right of way, and he's out to show everyone who's boss. Self-centered, hot-tempered drivers are not only unpleasant people, they're dangerous as well.

Remember that your driving reflects you. If you're really a responsible person, you'll act like one behind the wheel. There are several breeds of heels behind the wheel. Here are just a few:

THE ME-FIRSTER--This is the selfish competitive character who must be first away from the traffic light, can't stand to have anyone pass him, and risks the life of anyone who gets in his way.

THE BIG I--This is the fellow who is too big for the rules. Others can obey the law and a code of decent and courteous behavior, but not this self-inflated big shot. He's above all that.

THE KNOW-IT-ALL--This driver is good, in his own estimation. He knows just what the other driver is going to do, just how fast he can stop, just how much room he needs to cut in on another car. But the way this over confident jerk escapes painful disillusionment is that the really good drivers give him a wide berth.

THE SWASHBUCKLER--This fellow thinks he expresses masculinity or something by living dangerously behind the wheel. He believes that he who hesitates is lost and that his luck will hold forever.

THE SOREHEAD--This fellow is just plain hostile. He drives with a chip on his shoulder and is ready to lock fenders for any real or imagined wrong. He's sore at everyone, and very brave while surrounded by a steel automobile with the windows rolled up.

THE SHOW-OFF--This is the exhibitionist. He's graduated from no hands on a bike to no sense at the wheel. He just wants people to admire his flashy performance, but most other drivers are too busy getting out of his way.

The National Safety Council says: safe driving depends not only on skill, but on patience and consideration for the other guy. The alert driver who's a nice guy on the road regardless of circumstances is usually the guy with a clean safety record.

And considerate driving is not only the mark of a true gentleman. Ladies, too, show their true nature behind the wheel.

* Iowa State Highway Commission, School Newsletter. Volume 5 - Number 7, March, 1965.

FILMS AND SLIDES

The following 16 mm. films and slides are available. Direct your request to the Division of Transportation, State Department of Public Instruction, State Office Building, Des Moines, Iowa.

FILMS

1 - How to drive on Ice & Snow

2 - How to follow Safely

3 - Don't be a Sitting Duck

4 - What Right of Way

5 - The Art of Being Passed

6 - How to pass Safely

7 - Stay Right and Stay Safe

8 - The Smith System

9 - Accident Behavior

10 - Safety on the School Bus

11 - Driving under Special Conditions

12 - Priceless Cargo

13 - Law & Tragedy of School Bus Accidents

SLIDES

1 - Greeley School Bus - Train Collision

2 - School Bus - Truck Collision

[illegible]

[illegible]

[illegible]