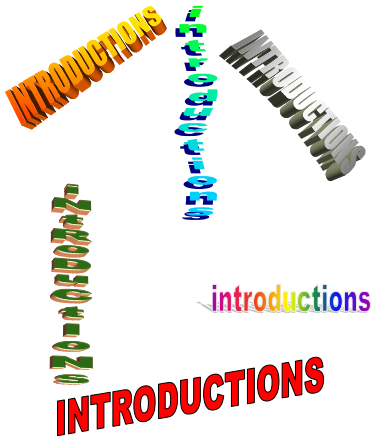
TRAIN THE TRAINER

BEGINNING SCHOOL BUS DRIVER PRE-REQUISITE TRAINING

Presented by:



TRAIN THE TRAINER
Beginning School Bus Driver Prerequisite Training

Schedule

Day One	
8:00 AM	Registration, Housekeeping, Introductions
8:20 AM	Law Changes/Updates
8:40 AM	Purpose of Training
8:45 AM	Organizational Methods and Recommendations
9:00 AM	Skill Sets
9:15 AM	Good Bus Driver Traits and How People Learn
9:30 AM	Break
9:45 AM	How People Learn Student Orientation Progression toward Competency
10:30 AM	How Trainers Teach Managing the Training Program

TRAIN THE TRAINER
Beginning School Bus Driver
Prerequisite Training

11:30 AM	Lunch
12:30 PM	Trainer Liability
1:00 PM	Leadership
	Training Sessions
	Lesson Plans/Instructor Guides
2:15 PM	Break
2:30 PM	Introduction to the Vehicle
2:45 PM	Pre-Trip Inspection
3:45 PM	Closings

Day Two

8:00 AM	Review of Day One
8:30 AM	Basic Operating Techniques
	Railroad Crossings
9:30 AM	Break

TRAIN THE TRAINER
Beginning School Bus Driver
Prerequisite Training

9:45 AM	Staking out the Bus
10:00 AM	Reference Point Driving
10:45 AM	Rural Driving Skills
11:45 PM	Lunch
12:45 PM	Outside Exercises
2:15 PM	Rural Driving (continued)
	Mapping
3:00 PM	Break
3:15 PM	Residential Driving Skills
4:00 PM	Closing for Day
	Homework Assignment

Day Three

8:00 AM	Review
8:15 AM	Homework Reports
9:45 AM	Break

TRAIN THE TRAINER
Beginning School Bus Driver
Prerequisite Training

Day Three

10:00 AM	Signs, Signals, Etc.
10:45 AM	Evaluating Your Student,
	Your Program and Yourself
	Aborting Training
11:45 AM	Lunch
12:45 PM	Sharing Ideas, Comments, Information
1:30 PM	Challenging Yourself and Others
2:15 PM	Urban Driving Skills
2:45 PM	Break
3:00 PM	Complete Urban Driving
3:15 PM	Mapping Review
3:30 PM	Evaluating the Instructor
3:45 PM	End of Program

TABLE OF CONTENTS

PREFACE

The Michigan Department of Education has accepted this document as an updated version of the Train the Trainer Program for School Bus Drivers (A training program designed to teach trainers of beginning school bus drivers).

The text is recommended as a curriculum guide for school bus trainers throughout the state. This material will enable all school districts to offer a consistent program, guiding each trainer through all facets of school bus training instruction, enabling each trainer involved with a thorough, complete instructional guide.

FORWARD

The original Train the Trainer Program was designed and developed by the Michigan State University Highway Traffic Safety Programs. It was a two-year effort in cooperation with many others including the Michigan Department of Education, Central Michigan University, Eastern Michigan University, Western Michigan University, Northern Michigan University, Kalamazoo Valley Intermediate School District, Macomb Intermediate School District, Oakland Schools, and the Washtenaw Intermediate School District.

The second revision occurred in 1990. This revision was accomplished by the Michigan Office of Highway Safety Planning with the cooperation and assistance of the Michigan Department of Education. The second revision was completed after the original Train the Trainer Program had run for eight years.

The newest and third revision of the Train the Trainer Program was completed in June 2007. The revision was coordinated through the efforts of Eva McArdle, Transportation Programs Manager, Iosco RESA and Robin C. Melton, Consulting, LLC., Transportation Consultant, Washtenaw ISD. Eva McArdle and Robin Melton have been the primary instructors of the Train the Trainer Program over the last four years.

The Training Agency Association of Michigan and the Pupil Transportation Advisory Committee have reviewed and accepted this revision as the recommended training manual. The Michigan Department of Education approved the Train the Trainer curriculum on June 21, 2007.

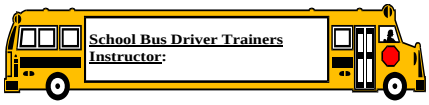
INTRODUCTION

The Train the Trainer Beginning School Bus Driver Prerequisite Training has been approved by the Michigan Department of Education as the course for all school bus instructors who are responsible to teach and train new school bus drivers. It is also recommended that transportation directors/supervisors attend this training. Finally, it is strongly recommended that every instructor/trainer repeat this course every three years as a refresher and update to his/her ongoing program.

The purpose of this extensive training incorporates basic step-by-step instructional materials to make certain that every new school bus driver in the State of Michigan receives consistent and complete driver training. It provides a basis to be followed by all trainers across the entire State of Michigan.

This program will be placed in its entirety on the Michigan Department of Education Website as a “readable only” document to be used as a primary resource for all school transportation administrators.

SCHOOL BUS DRIVER TRAINING PROGRAM



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IMPORTANT NEWS!

Law Changes!

Law Changes!

Law Changes!

Law Changes!

ORGANIZING THE SCHOOL BUS DRIVER TRAINING PROGRAM

This section of the guide provides organizational concepts to bus driver trainers in order to help them organize the instructional program. Most new drivers require a considerable amount of direction, but a well prepared instructor is also a necessity. Preparation will make the task of the instructor easier by defining the roles of everyone involved in the training process.

Whether the training program uses a team approach involving the transportation supervisor, driver trainer, and experienced drivers or relies upon one instructor, the concepts of the program should remain the same. Three general concepts are presented in this section:

- General Considerations for School Bus Driver Instructors and Professionalism
- Student Orientation to the Training Program
- Progressing Toward Competency

Each of these concepts areas contains recommendations that should be incorporated into a well organized training program. The concepts are presented in general terms since every pupil transportation program has its own internal rules, regulations, and procedures. Individual instructors also have specific requirements that should be acknowledged.

General Recommendations for School Bus Driver Instructors and Professionalism

Professionalism on the part of the instructor is essential in the training of any new driver. The instructor serves as a role model. Generally, the instructor is the first intensive contact with the pupil transportation organization, and the behavior/attitudes presented are likely to be evidenced later in the student. Requirements which exist for the student should also exist for the instructor.

- **Personal Philosophy of Safety**

  A well developed personal philosophy of safety means maintaining an ever constant awareness of the people and property one is responsible for protecting. Functioning as a well-prepared instructor with primary emphasis on producing a safe driver will reduce inherent threat of accidents and losses. Protection is an essential element of safety, and safety awareness must be present on a level high enough to insure that the driver can function without the needless stress of worrying about safety. When safety becomes an integral part of driving the bus, present in every aspect rather than an added task, the driver has reached the level at which passengers can be transported with low risk and the driver can gain a sense of satisfaction from performing well.

- **Risk Assessment and Control**

  Throughout the training program, the instructor needs to assess the risk to which the student is being exposed and control the exposure. Risk assessment and control means constantly staying ahead of the student, predicting possible problems, and when needed, altering the action in the lesson to avoid conflicts. The instructor must evaluate the ability of the student to perform in situations where moderate to high risk is present and decide whether or not to accept the risk.

- **Instructor Preparation**

  Every phase of the training program and each driving lesson require instructor preparation. Preparation is important in providing for safe operation. Just as a driver should never go on a run without a pre-trip inspection, the instructor should not engage in training without first preparing the lesson for the student.

- **Instructor/Student Interaction**

  No element is more important in the teaching process than instructor/student interaction. The most useful form, from the view of the instructor, is the use of questions. Questions are the primary means of informal evaluation because, when properly stated, they give an indication of the student's knowledge. Use questions that require the student to interpret what is happening and how they will respond. Avoid questions that will only give a yes or no answer and those simply identifying items.

- **Driver Needs and Differences**

  The instructor should recognize that driver needs and differences exist. The motivation for the student to learn to drive a bus may not fit with the philosophy of the training program or the school district. The instructor should be aware of the fact that there are many different ways in which people learn and teach. A technique that has worked well with one student can be a failure with another. Presenting options is the best alternative.

- **Skill, Knowledge, and Attitude Development**

  Skill, knowledge, and attitude development are all closely related. Adequate practice time should be allowed for driving skills before testing. Practice time should be flexible; some students require a longer training period to master some areas of driving.

- **Components of the Training Program**

  The instructor should list the components of the training program employed. Typically, a training program consists of classroom time, individual instruction, driving off-street, driving on-street, review of printed materials, and testing/evaluation. Not all training programs require these components, and a few special programs may require more. An instructor should use what is necessary to help the student become a safe and efficient driver.

GOOD BUS DRIVER TRAITS

[Added Material – Not in Workbook]

- **What makes school bus driver traits different from any other professional?**
- **At a very early stage of training, what are some ways an instructor might assess a student's willingness to succeed?**
- **How might an instructor make certain the training program is taken seriously by each new student driver?**

HOW PEOPLE LEARN

We Learn Through the Senses

12% - Touch, Taste, Smell
13% - Hearing
75% - Through Sight

We Learn by Doing

Tell Me	**I'll Forget**
Show Me	**I'll Remember**
Let Me Do It	**I'll Understand**

We Remember

10% Of What We Hear
20% Of What We See
50% Of What We Read
90% Of What We Do

People Learn Through

Relevancy – People accept only those ideas which they believe apply to them.

Transfer of Learning – Students should be able to readily see the relationship of a concept to their own real-world living.

Sequence – Training must be progressive, challenging, and at a rate in which success is attainable.

People Learn Through (continued)

- **Evaluation and Remediation**
  - Determine strengths and weaknesses; provide strategies
  - For correction and improvement
- **Modeling**
  - People imitate other members of their culture or society

People Learn Through (continued)

- Effective Instruction is….
  - No better than the degree to which the instructor practices what is taught.

REASONS PEOPLE DON'T LEARN

Can't Do It – Mentally or Physically

Don't Know What You Want - Failed Communication

Don't Know How To Do It – Failed Training

Don't Want To Do It - Motivation

Training is the process of changing the behavior pattern of people, of getting them to do, or think or feel the right things in the right way to reach a desired objective.

STUDENT CONTROL

- **Types of Students**
  - **The Mouth Likes to dominate the class and discussions**
  - **Arguer Likes to debate every point**
  - **Mouse Afraid to participate, unsure**
  - **Disrupter Tendency to lead teacher/class participants away from subject.**
- **Last Resort: Notify Supervisor, Fails Class, Abort as a Potential Driver**

Student Orientation to the Training Program

In order to get the most benefit out of a training program, a student should fully understand his/her role. The scope of the training program needs to be presented by the instructor so that the student has an awareness of the specific demands that will be encountered. The following are areas considered especially valuable to the student and useful in program development.

- **Student Responsibilities**

  Provide in writing a list of student responsibilities in the training program. All students should sign and date the listing to indicate that they are aware of what will be expected of them.

- **Training Schedule**

  Prepare for the student a training schedule which includes the objectives and an outline of the content for each lesson. The student can then prepare for the lesson and reduce student orientation problems encountered by the instructor with each new lesson.

- **Study Demands**

  Define the study demands for the student. If any outside study is required, the student should understand how extensive this work will be and the time requirements.

- **Bus Driving Demands**

  Discuss the nature of bus driving with the student and explain what can be expected. Include both positive and negative elements.

- **Licensing Requirements**

  Explain the state commercial driver license requirements in a step-by-step approach and provide the student with all necessary materials to study.

- **School Rules and Regulations**

  Provide the student with a written copy of the school district rules and regulations. These, too, should be signed by the students to indicate that they have read and understand the requirements.

- **Employee Benefits**

  Explain employee benefits that are provided by the school district.

- **Forms and Records**

  Introduce the forms and records that a bus driver must maintain. Include disciplinary records, fuel and oil records, medical reports, accident reports, inspection forms, route slips, etc. Prepare completed examples of each form, if possible, to insure that all necessary information is recorded.

- **Management Structure**

  Define the school district management structure. Identify the supervisor(s), office people responsible for specific functions, and the chain of command.

Not all students will require this information but a totally new driver will probably need a thorough introduction. Familiarization to a new organization is always a demanding task and the purpose of this effort is to reduce possible conflicts and mistakes. The sooner a driver becomes acclimated, the more productive he/she can be as an employee.

Progressing Toward Competency

Most people learn new tasks best by using a step-by-step approach. Learning to drive a vehicle is a perfect example of this concept. The instructor needs to plan the student movement from point A to point B, to point C, and so on. Along the way, simple checks are made to insure that the student is learning the necessary information at each level before progressing to the next level.

The concept of moving in steps, from simple to complex tasks and demanding proficiency at each level, is known as a competency approach. This approach is logical. A student begins with a simple task; after mastering the information or skill, moves on. Mastery of skills is crucial in learning to drive because each successive skill level builds upon previous levels.

Following are several important considerations for the instructor who wishes to make this approach as effective as possible:

- **Move at Student's Pace**

  Move at the student's pace and not at the instructor's pace. Challenge the student to move ahead but do not permit progression to the next level until satisfied with the present learning. Everyone learns at their own speed; e.g. thirty minutes of backing instruction will be inadequate for some students and excessive for others.

- **Constantly Evaluate**

  Constantly evaluate student progress in skill and knowledge development to determine when mastery is reached. Have the student demonstrate the new skill or knowledge at least twice and recheck earlier skills whenever possible.

- **Allow for Overlap**

  Allow for some overlap at the beginning and end of lessons. The beginning of the third lesson should allow a quick review of lesson two (a refresher); and the end of the third lesson should provide a hint of what to expect in lesson four. Tying the lessons together creates reference points and makes a smoother transition from one concept to another.

Summary

A well organized training program benefits everyone. Less time is spent training the new driver and later personnel problems can be avoided through well defined responsibilities and expectations. Other benefits appear years later in lower turn-over rates and absenteeism, with higher levels of job performance. The trained driver not only avoids accidents but also reduces costs through safe, efficient, and economic operation of the bus.

HOW TRAINERS TEACH

[Not in Manual]

- **ESTABLISH PERFORMANCE**
  - **The text is performance objective designed**
  - **Performance objectives are observable and measurable**
  - **Trainer shares objectives at the beginning of each training session: "Today, we will…"**
  - **Trainer tells student what is expected to successfully complete the objective**
  - **Trainer and Trainee stick to objectives**

HOW TRAINERS TEACH (continued)

- **Be Prepared – Understand and Know Your Material and/or**
- **Know Where to Find Answers**
- **Resources**

RESOURCES WEB SITES

Michigan Association of Pupil Transportation (MAPT)	**http://mapt.org/**
Michigan Government	**http:michigan.gov**
MI Legislature	**http:michiganlegislature.org/**
MI Dept. of Ed	**www.michigan.gov/mde**
MI Dept. of Transp.	**www.michigan.gov/mdot/**
MDOT Projects	**Above Site**
Sch. Bus Fleet Mag.	**www.schoolbusfleet.com**
STN News	**www.stnonline.com**

More……..

RESOURCES
WEB SITES

National Weather	www.weather.com
Nat. Hwy Traffic Safety Admin.	www.nhtsa.dot.gov/
NAPT	www.napt.org/
Pupil Tr. Safety Inst.	www.ptsi.org/
Federal Stats	www.fedstats.gov
MI Sch. Bus. Officials	www.msbo.org/
Wheelchair Transp. Safety	www.rercwts.pitt.edu/

DID YOU KNOW

You can now download a full copy or individual parts of the Michigan CDL manual off the computer as needed. Of course it can be used through the computer screen also.

Go to: http://michigan.gov
Choose – Secretary of State
Then – Online Services
Then – Publications & Forms
Then – Publications
Look Under –
Drivers License & State ID
Double Click on –
MI Commercial Driver License Manual

HOW TRAINERS TEACH
THE PROCESS

- **INSTRUCTOR DEMONSTRATES**
  - **Remember, I retain 75% of what I see**
  - **Use action verbs**
    - **Write, Name, Turn, Push, Measure, Lubricate, Recognize, Identify**
- **LET ME PRACTICE**
  - **We Retain 90% of what we do**
- **EVALUATION**
  - **Has the student met the objective?**
    - **Identify specific student deficiencies**
    - **Identify specific curriculum deficiencies**
    - **Determine what to reteach**

TRAINING TECHNIQUES

Audio/Visual

DVD/VCR **Powerpoint**

Charts **Cartoons**

Internet **Whiteboard**

Workbooks **Flipcharts**

Laser pointer

Other methods??

Body Language

Voice

Positioning (Open/Closed)

Physical Barriers

MANAGING THE TRAINING PROGRAM

- **Before (class)**
- **Prepare lessons and presentations**
- **Check physical facilities (seating, lighting, hearing, heating, audio/visual, ventilation equipment etc.)**
- **Set up equipment and materials**
- **Greet students**

MANAGING THE TRAINING PROGRAM (cont.)

During (class)

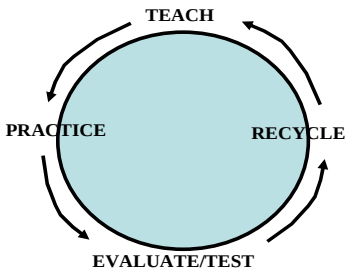
- **Trainee orientation and housekeeping**
- **Establish credibility**
- **Trainees – self introduction**
- **Rationale for training**
- **Program overview**
- **Performance objectives**
- **Expected outcomes**

MANAGING THE TRAINING PROGRAM

Recycle Process

- **Develop** the training program
- **Teach** the training program
- **Evaluate** the training program
- **Revise/Recycle** the training program

CYCLE FOR LEARNING PROCESS



AS A TRAINER/INSTRUCTOR

- Start and stop on time
- Be sensitive to the need for breaks
- Use eye contact; be enthusiastic
- Stick to the objectives
- Believe in what you teach
- Be friendly but professional
- Always show respect
- Don't talk down to students
- Learn names
- Be patient and calm
- Don't argue
- Evaluate individual differences
- Have a sense of humor

AS A TRAINER/INSTRUCTOR

Evaluate throughout the Training

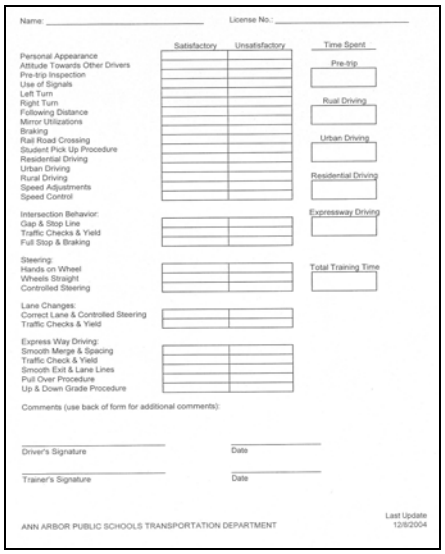
- Study trainee
  - Assets/Deficits (privately)
- Give constructive criticism (privately)

INSTRUCTOR LIABILITY

- An instructor who teaches a student how to drive a school bus assumes a high degree of responsibility for the performance of the student during the lessons.
- The instructor assumes a reduced amount of liability for a period of time after training is completed.
- Liability can be placed on the instructor if he/she makes a mistake during the training that…
  - Leads to an accident
  - Where a skill or concept was taught improperly
  - Where omits teaching a student a necessary skill

INSTRUCTOR LIABILITY (continued)

- The chance of liability being imposed on an instructor is fairly remote; but the chance does exist. Therefore;
  - Plan, anticipate and eliminate route planning difficulties the student may not be ready to handle.
  - Think through the exercises, maneuvers, and other requests that will be made of the student to avoid misunderstandings and conflicts.



Name: _____ License No.: _____

	Satisfactory	Unsatisfactory
Personal Appearance		
Attitude Towards Other Drivers		
Pre-trip Inspection		
Use of Signals		
Left Turn		
Right Turn		
Following Distance		
Mirror Utilizations		
Braking		
Rail Road Crossing		
Student Pick Up Procedure		
Residential Driving		
Urban Driving		
Rural Driving		
Speed Adjustments		
Speed Control		
Intersection Behavior:		
Gap & Stop Line		
Traffic Checks & Yield		
Full Stop & Braking		
Steering:		
Hands on Wheel		
Wheels Straight		
Controlled Steering		
Lane Changes:		
Correct Lane & Controlled Steering		
Traffic Checks & Yield		
Express Way Driving:		
Smooth Merge & Spacing		
Traffic Check & Yield		
Smooth Exit & Lane Lines		
Pull Over Procedure		
Up & Down Grade Procedure		

Time Spent

Pre-trip

Rural Driving

Urban Driving

Residential Driving

Expressway Driving

Total Training Time

Comments (use back of form for additional comments):

Driver's Signature _____ Date _____

Trainer's Signature _____ Date _____

ANN ARBOR PUBLIC SCHOOLS TRANSPORTATION DEPARTMENT

Last Update 12/8/2004

INSTRUCTOR LIABILITY (continued)

- Try to anticipate student errors.
  - The student needs to maintain a 12-18 second visual lead
  - The instructor must stay well ahead of the 12-18 second lead to avoid possible problems.
- The instructor should perform all of the mental processing that the driver performs in traffic situations to fully comprehend the driving and teaching requirements.

INSTRUCTOR LIABILITY (continued)

- Progress from simple to complex tasks
  - Student proficiency before proceeding
- Diligent supervision
- Plan for and know what to do in the event of an emergency situation
- Be certain the student is covered by liability insurance before training begins

LEADERSHIP QUALITIES and GOOD ATTITUDES

As a Trainer, you have an opportunity to affect the attitude of the trainee.

How you handle yourself in different situations is critical to the training process.

Trainers are leaders and leaders exhibit traits that enhance their effectiveness.

LEADERSHIP QUALITIES THAT DEVELOP GOOD ATTITUDES

1. **Display an Interest in People**
2. **Study Trainee and Their Makeup**
3. **Be a Good Listener**
4. **Show Consideration for Others**
5. **Criticize in Private**
6. **Criticize Constructively**
7. **Give Praise When Due**
8. **Praise in Public**
9. **Keep Trainees Informed**
10. **Encourage Ideas**

LEADERSHIP QUALITIES THAT DEVELOP GOOD ATTITUDES (continued)

11. **Give Credit When Due**
12. **Make Suggestions or Requests**
13. **Delegate Details**
14. **Explain**
15. **Don't Ask for Too Much Too Soon**
16. **Be Consistent**
17. **Be Fair**
18. **Be Decisive**
19. **Admit Mistakes**
20. **Be Sympathetic**

Instructor Guide and Lesson Plan

An Explanation

TRAINING SESSIONS

A set of lesson plans are presented in this section to be used by the instructor as the basis for teaching students the operation and control of the school bus. Each of the six open-ended plans are independent, yet given in a sequence. The lessons cover topics such as the introduction to the vehicle, inspection, basic and advanced operating skills, and special operational components in rural, residential, and urban driving environments.

Important concepts of safe driving are imbedded in the lessons and not treated as separate topics. All six lessons contain safety considerations unique to the specific topic and may not be covered in another lesson.

LESSON PLAN FORMAT

The lesson plan is intended to give the instructor both format and suggestions for teaching a student a certain set of skills. A lesson plan is strictly a guide and each instructor should make revisions to suit the individual student or situation. The lesson plan format consists of:

- Introduction to the Instructor
- Student Introduction
- Skill Development
- Competency Check and Key Words
- Instructional Recommendations
- Review Questions
- Summary

Introduction to the Instructor

The first section of the lesson plan consists of an introduction to the instructor which is a statement of what the instructor should accomplish in the lesson. This orientation helps to establish the atmosphere for the lesson. Also included are a few review topics which serve as a refresher of the information presented in the previous lesson.

Student Introduction

A student introduction is used by the Instructor to prepare the student for his/her role in the lesson. Furnishing students information on the purpose helps them visualize the entire lesson and allows smooth movement from one skill to another.

Skill Development

The section on skill development identifies each skill that the instructor will introduce during the lesson, e.g. left turns, following distance, speed control, and lane positioning. The skill is accompanied by a competency check and key words.

Competency Check

In the competency check, the instructor is reminded to make an assessment of skill during the lesson and record the notation.

Key Words

Key words are listed as reminders to the instructor on the specific items to evaluate as the student performs the task. A complete description of each key word is given in the Instructor's Guide for each corresponding lesson plan.

Review Questions

Review questions are listed with a dual purpose. First, the instructor can use the questions to reinforce the lesson concepts for the student. The second purpose is to evaluate the lesson and the performance of the student.

Summary

A final section covering the summary is a wrap-up to highlight the major points and to create a link with the next lesson. Several topics from the succeeding lesson are listed and can be the basis for an assignment if the instructor wishes to present one.

Lesson plans are in-hand guides for the instructor. The lesson plan is based upon the information found in each Instructor's Guide for the corresponding lesson, and supplies detailed support for teaching the concepts addressed by the instructor. Emphasis in preparation by the instructor should be placed upon the material in the Instructor's Guide.

Sample

LESSON PLAN 1

Introduction to the Instructor

This lesson is designed to present the major components of the school bus and to develop an awareness of their relationship to safe driving.

Student Introduction

This lesson will acquaint you with the different systems of a school bus that drivers must operate. A complete tour of the bus will be given, along with a description of the purpose and operation of each system. At the end of the lesson you will be asked to explain how the proper operation of these systems helps to promote safety.

Skill Development

Identify each of the systems listed below on a bus and describe their purpose and operation. Describe the importance of the system in promoting safety.

Competency		Skill
Yes	**No**	**Student defines relationship to safety for each system:**
___	___	Body of bus
___	___	Wheels and tires
___	___	Engine
___	___	Exhaust system
___	___	Electrical system
___	___	Cooling System
___	___	Brakes
___	___	Steering and suspension
___	___	Bus interior
___	___	Instruments and controls
___	___	Lights (interior and exterior)
___	___	Transmission and shifting
___	___	Emergency equipment

Sample

LESSON PLAN 1 (continued)

Review Questions

1. Explain the importance of maintaining a bus in peak operating condition.

2. How does the driver influence the performance and maintenance of a bus?

3. Identify the three (3) most important systems for safe operation and explain why?

Summary

1. Explain the relationship of one system to another.

2. Explain the importance of the driver as an influence in the life span of the bus and its cost of operation.

3. Describe how the inspection of the of the bus on a daily basis helps to avoid breakdowns and other maintenance problems.

INSTRUCTOR'S GUIDE

A series of Instructor's Guides is included in this section to aid instructors in teaching the training program. The Instructor's Guides provide the background information necessary to use the Lesson Plans presented in Section II. There is a corresponding Instructor's Guide for each Lesson Plan.

The Instructor's Guides help in the preparation instructors must do to be able to teach each lesson. Taken alone, the Lesson Plans do not provide enough detail to teach a student, and are only intended to be a reminder of what the instructor should teach. The Lesson Plans serve as outlines, whereas, the instructor's Guides provide the necessary, detailed information instructors must know to be able to teach from the Lesson Plans.

Instructor Guide Format

The Instructor's Guides are divided into several sections. Certain sections are included in all of the Instructor's Guides and additional sections are included whenever relevant. Sections included in the Instructor's Guides are:

- Lesson Objectives
- Recommendations on Teaching Techniques
- Description of Key Words
- Evaluation
- Route Planning
- Preparation for the next Lesson

Lesson Objectives

Lesson objectives are used to define the purpose of the lesson and what will be accomplished by the instructor and the student. A statement is prepared for each of the major tasks to be completed. A lesson is completed successfully when the instructor and the student have met all of the requirements of the stated objective.

Recommendations on Teaching Techniques

Several specific recommendations are presented to the instructor on how to teach a particular skill or concept to the student. These consist of techniques that have proven to be successful with a wide variety of students; but they do not constitute the only way to teach the lesson. A successful teaching technique is related to student learning style and instructor teaching style. School bus instructors are encouraged to utilize the listed techniques and to experiment with developing their individual teaching styles.

Description of Key Words

The key words are provided as a reminder to the instructor that certain elements of the student's performance should be evaluated during the skill exercises. A key word represents a critical element of performance and the description given in the Instructor's Guide explains the concept of evaluation.

Evaluation

In addition to the key words, there are two other evaluation items for use by the instructor. The first is the Competency Yes-No check in the Skills Development segment of the Lesson Plan. The instructor should assess student performance and then check whether or not the skill was performed at an acceptable level. A second evaluation item provided is in the section on Review Questions. These questions are open-ended and require the student to bring together several new school bus concepts in order to formulate a response.

Route Planning

Driving lessons 3, 4, 5, and 6 all require certain traffic and roadway characteristics in order to teach the skills required. Route planning will help to assure that all of the requirements are met by defining the types of situations that the student should encounter. Urban Driving Skills includes railroad crossing skills. The section on route planning reminds the instructor to include a crossing on the route to be traveled during the lesson.

Preparation for the Next Lesson

The final segment of the Instructor's Guide gives information on preparing the student for the next session. The purpose of advanced preparation is to allow the student time to think about and study for the upcoming session. When the advanced preparation is properly done, the instructor and the student perform better because the student possesses a clearer understanding of what the instructor is attempting to accomplish.

Other Considerations

In addition to those sections included in the Instructor's Guides, there are other considerations the instructor must be concerned with when teaching the lesson. These include:

- Time
- Sequencing
- Establishing mental set for driving
- Pre-trip Inspections
- Record Keeping
- Instructor Liability

Time

No time limit or recommendation has been established for any of these lessons. Instructors must recognize that some students will require more instructional time than others in order to reach an acceptable level of competence as a driver. The central issue is driver competence. Any student who has not been allowed sufficient training to perform as a fully capable bus driver can only endanger the well being of the students who are being transported as well as others using the highway.

Sequencing

Both the lessons and activities in the lessons have been designed with a sequence in mind. The sequence progresses from simple task to more complex. Sequencing of the lessons also considers the intensity of the traffic situation and the speed at which the student must drive the bus. In a rural environment, on a properly designed route, the student should encounter minimal traffic problems and can proceed at a slow speed until more familiar with the bus. The urban environment on the other hand, can present a very intense traffic situation and high speeds on urban expressways. The speed at which a student drives and the traffic intensity encountered, should only increase at the same rate as driving competence.

Establishing Mental Set for Driving

The Student Introduction in each lesson plan is presented primarily as a means of orienting the student to driving n a particular day. Good driving requires the complete attention of the students along with a high level of motivation. The review suggestions at the beginning of the lesson plan and the preparation for the following lesson also aid in this respect as the student continues to think about the process and responsibilities of driving the school bus.

Pre-trip Inspections

Lesson 3, 4, 5, and 6 should begin with the student conducting a pre-trip inspection under the supervision of the instructor. Such an activity will help to establish the inspection habit as a permanent behavior. Ask the student to provide a detailed running commentary of the entire pre-trip inspection process. The commentary serves the student by improving recall of the process and by reinforcing the procedure. The commentary serves as a means for the instructor to evaluate the student on sequence and the thinking process of pre-tripping.

Record Keeping

An important part of teaching a student to drive the school bus is evaluation. Evaluation records are the only means of establishing student competence that are readily available to the instructor. In a large school bus operation, where several instructors may work with one student, the training records are the link between instructors and an identification of the skill areas needing attention.

Complete training records from good training programs can be a major asset to an instructor who is asked to testify in an accident liability case involving a driver the instructor trained. For this purpose, all training records should be kept as a part of the employee's personnel file for a minimum of five years. Incomplete records will be of little or no value to the instructor in such a situation.

Sample

INSTRUCTOR'S GUIDE FOR LESSON TWO
Pre-Trip Inspection

Lesson Objectives:

- Demonstrate the proper procedure and sequence for conducting a pre-trip inspection of a school bus.
- Have the student identify the components of the bus in an acceptable sequence.
- Have the student identify the type of defect or deficiency for each component of the school bus being inspected.
- Have the student explain the purpose of employing a standardized sequence for conducting the inspection.
- Establish a habit of inspecting the bus to insure safe operating conditions.

Recommendations on teaching techniques:

- Use the Student Introduction in the lesson plan to prepare the student for the lesson.
- Briefly review the operation of the brakes, instruments, and lights.
- Conduct a pre-trip inspection of the bus using the right front wheel as a starting point for the walk around portion of the inspection. Explain each element of the inspection by identifying each item being inspected, describing its condition as it is inspected. Describe the impact of any defect on safety of the vehicle performance.

Sample

INSTRUCTOR'S GUIDE Lesson 2 (continued)

- Ask the student to perform a pre-trip inspection of the bus as it was demonstrated. Provide whatever assistance is necessary and have them repeat any part of the inspection where he/she is unsure of the process. Record student performance.

- Use student summary items provided in the lesson plan to reinforce principal concepts.

Evaluation:

The review questions in the lesson plan serve as the evaluation of this lesson.

Instructor Materials:

A copy of the pre-trip inspection checklist is included with the lesson. A copy of the checklist should be given to the student to review at the close of the first lesson. The instructor should use the checklist to avoid missing any part of the pre-trip inspection.

Preparation for the Next Lesson:

- Explain the purpose of the next lesson, and if possible, give the student a copy of the operating procedures listed in Lesson 3.

- Have the student read the following sections in the Michigan Commercial Driver License Manual:
  Section 2.2 Basic Control of Your Vehicle
  Section 2.3 Shifting Gears

Unit I

INTRODUCTION TO THE VEHICLE

INSTRUCTOR'S GUIDE FOR LESSON ONE
Introduction to the Vehicle

Lesson objectives:

- Introduce the student to the major components of a school bus.
- Distinguish between the operating features and characteristics of a school bus and smaller vehicles.
- Identify the safety features - emergency equipment of a school bus.
- Develop for the student an awareness of the relationship between the major components of the school bus and safety.

Recommendations on teaching techniques:

- Use the Student Introduction to prepare the student for the lesson.
- Provide an in depth tour of the school bus and identify and describe the function of each of the following:
    - Exterior body of the bus
    - Wheels and tires
    - Engine – oil, coolant, power steering/brake fluids, battery
    - Electrical system controls
    - Cooling system
    - Brakes – (both air and hydraulic)
    - Steering system
    - Bus interior
    - Instruments and controls
    - Lights – interior/exterior
    - Transmission and shifting
    - Emergency equipment
    - Front and emergency doors

- Ask the student to describe the functions and operation of the instruments, controls, exterior lights, and rear emergency exit.

- Ask the student to explain how each major component influences safe operation of the vehicle.

- Close the lesson with the use of the Review Questions in the lesson plan to assess student knowledge and to summarize important concepts.

LESSON PLAN 1

Introduction to the Instructor

This lesson is designed to present the major components of the school bus and to develop an awareness of their relationship to safe driving.

Student Introduction

This lesson will acquaint you with the different systems of a school bus that drivers must operate. A complete tour of the bus will be given, along with a description of the purpose and operation of each system. At the end of the lesson you will be asked to explain how the proper operation of these systems helps to promote safety.

Skill Development

Identify each of the systems listed below on a bus and describe their purpose and operation. Describe the importance of the system in promoting safety.

Competency		Skill
Yes	**No**	**Student defines relationship to safety for each system:**
___	___	Body of bus
___	___	Wheels and tires
___	___	Engine
___	___	Exhaust system
___	___	Electrical system
___	___	Cooling System
___	___	Brakes
___	___	Steering and suspension
___	___	Bus interior
___	___	Instruments and controls
___	___	Lights (interior and exterior)
___	___	Transmission and shifting
___	___	Emergency equipment

Review Questions

4. Explain the importance of maintaining a bus in peak operating condition.

5. How does the driver influence the performance and maintenance of a bus?

6. Identify the three (3) most important systems for safe operation and explain why?

Summary

4. Explain the relationship of one system to another.

5. Explain the importance of the driver as an influence in the life span of the bus and its cost of operation.

6. Describe how the inspection of the of the bus on a daily basis helps to avoid breakdowns and other maintenance problems.

Unit II

PRE-TRIP INSPECTION

INSTRUCTOR'S GUIDE FOR LESSON TWO
Pre-Trip Inspection

Lesson Objectives:

- Demonstrate the proper procedure and sequence for conducting a pre-trip inspection of a school bus.
- Have the student identify the components of the bus in an acceptable sequence.
- Have the student identify the type of defect or deficiency for each component of the school bus being inspected.
- Have the student explain the purpose of employing a standardized sequence for conducting the inspection.
- Establish a habit of inspecting the bus to insure safe operating Conditions.

Recommendations on teaching techniques:

- Use the Student Introduction in the lesson plan to prepare the student for the lesson
- Briefly review the operation of the brakes, instruments, and lights.
- Conduct a pre-trip inspection of the bus using the right front wheel as a starting point for the walk around portion of the inspection. Explain each element of the inspection by identifying each item being inspected, describing its condition as it is inspected. Describe the impact of any defect on safety of the vehicle performance.
- Ask the student to perform a pre-trip inspection of the bus as it was demonstrated. Provide whatever assistance is necessary and have them repeat any part of the inspection where he/she is unsure of the process. Record student performance.
- Use student summary items provided in the lesson plan to reinforce principal concepts

Evaluation:

The review questions in the lesson plan serve as the evaluation of this lesson.

Instructor Materials:

A copy of the pre-trip inspection checklist is included with the lesson. A copy of the checklist should be given to the student to review at the close of the first lesson. The instructor should use the checklist to avoid missing any part of the pre-trip inspection.

Preparation for the Next Lesson:

- Explain the purpose of the next lesson, and if possible, give the student a copy of the operating procedures listed in Lesson 3.

- Have the student read the following sections in the Michigan Commercial Driver License Manual:
  Section 2.2 Basic Control of Your Vehicle
  Section 2.3 Shifting Gears

LESSON PLAN 2

Pre-Trip Inspection

Introduction to the Instructor

This lesson presents a sequence for conducting a pre-trip inspection and explains the procedures used to review each component of the school bus.
Review: Operation of brakes, instruments, and lights

Student Introduction

This lesson will take you through the steps in performing a pre-trip inspection of a school bus. You will be asked to identify the components of the bus to be inspected, to identify any defects or deficiency you are looking for and to identify defects and deficiencies that were found. For each problem you identify, you will be asked to explain how the deficiency can have a negative affect on the safety of the students and others.

Skill Development

Demonstrate pre-trip inspection following the Pre-Trip Inspection Form. Have the student perform a "pre-trip" covering the following:

Competency		Skill
Yes	**No**	
___	___	Check for leaks under vehicle
___	___	Check under hood – fluids, belts, wiring
___	___	Check steering and suspension
___	___	Check front wheels, hubs, and tires
___	___	Check front brakes
___	___	Check safety equipment
___	___	Check switches, gauges, signals, instruments, etc…

Competency		Skill
Yes	**No**	
___	___	Start engine
___	___	Check exterior of bus
___	___	Check exterior lights
___	___	Check interior of bus
___	___	Check doors and glass
___	___	Test stops
___	___	Identifies problems
___	___	Explains effect of problems on safety

Review Questions

1. How would your inspection of the bus differ on a Monday morning from another weekday inspection?

2. What is your responsibility if you discover a problem with the bus?

3. Why is it necessary to inspect the bus before each trip?

Summary

1. Have the student repeat the steps to be followed in conducting a pre-trip inspection.

2. Ask the student to describe the most important parts of the inspection process.

3. Explain how the inspection serves as part of the basic operation of the school bus by assuring that all of the driving systems are in proper operating condition.

4. Explain the level of performance required by the Commercial Driver.

Engine Compartment

Components:

- **Belts/hoses/leaks**
- **Oil level**
- **Coolant level** – do not remove cap if hot
- **Power steering**
- **Water pump/fan**
- **Alternator**
- **Air compressor**

For each component look for:

- **Broken or missing parts** - leaks, broken clamps
- **Condition** - cracks, chaffed, bulges
- **Fluids** - all at proper level
- **Wiring** - not corroded, cut or broken

*If any of these components are belt driven, you must be able to identify them. All components must be securely attached to the vehicle, not damaged and working properly.

Steering

- **Steering play** - no more that 2" of play on a 20" wheel, or no more than 10 degrees of movement. (*this can be checked by turning the steering shaft or by sitting in the driver seat and turning the steering wheel)*
- **Steering box and hoses** – check for leaks, loose connections, broken or missing parts, should be secure to the vehicle, missing/loose nuts or bolts
- **Pitman arm/drag link/ tie rods** – not broken, bent, castle nuts and cotter pins secure/ no missing or damaged parts

Suspension

- **Springs** – cracked, shifting, broken or missing leaves
- **Spring mounts** – both ends attached to the frame, u-bolts attached not broken no missing nuts, bolts or clamps, no broken or missing bushings
- **Shocks** – firmly attached on both ends not rusted thru or leaking no visible damage

Front Brakes

- ***Slack adjuster** – no loose or missing parts – must be at a 90° angle and 1" maximum movement with brakes off and wheels blocked.
- **Air chamber** – firmly attached, not leaking air, no cracks/dents
- **Hoses/lines** – no cracks, bulges, not worn or frayed, no leaks and the coupling is secure
- **Disc/drums/linings** – mounted securely, not cracked, dented or no missing nuts, bolts, or cotter keys. (If linings are covered, point out inspection hole, explain what you are looking for to check the linings, check for oil or grease.)

*** = Air Brakes**

Front Wheel and Tire

- **Rims** – no cracks, dents or welds
- **Inflation** – thump tire with mallet or use a tire gauge
- **Tread wear/condition** – front tires, no less than 4/32" , evenly worn, no bulges, weather checks, cracks, cuts, or distortions and no foreign objects embedded in tires. Valve stem not leaking, stem cap on.
- **Lug nuts** – none loose or missing, rust trails, no evidence of wheel slipping, bolt holes not distorted.
- **Axle/ hub oil seal** –no leaks, cracks, no distortion in wheel axle
- **Mud flap** – securely mounted

Passenger Side/Engine Compartment

Passenger Side Front Suspension

Passenger Side Front Brakes

Passenger Side Front Wheel/Tire

- **Check everything that was not visible from the driver side** - mentioning anything that is unique to this side, or that you may have forgotten to mention on the other side.

Cab Check/Engine Start

- **Driver Compartment**
    - **Gearshift/clutch** – check that vehicle is in neutral or park
    - **Start engine** – make sure engine oil pressure comes up to proper level
    - **Check driver window** – closes and opens
    - **Radio check** – CB operable
    - **Check drivers panel** – heaters/defrosters work on all speeds, wipers/washers operate on all speeds and properly. Make sure wiper blades are secure/make good contact with windshield, rubber is not cracked or torn/good pressure while operating.
    - **Inside rear view mirror/windshield** – clean not cracked no unauthorized stickers
    - **Outside mirrors** – adjusted properly, clean not broken
    - **Gauges** – explain, identify what each gauge is what proper level is (oil gauge, temperature, volts, ammeter, air gauges, RPM's, and fuel gauges.)
    - **Light indicators** – R/L turn indicators, 4 ways, high beam indicator all on the dash, loading lights amber & red, ELMO
    - **Steering play** – maximum play 2"on a 20" wheel or no more than 10°of movement.
    - **Horn** – must work
    - **Seat belt** – no frays or cuts, fastens and unfastens

- **Service door** – opens/closes freely, seals are secure, windows not fogged or broken and clean, no damage.
- **Parking brake** – apply parking brake put vehicle in gear and apply gas, gently pulling against the brake, vehicle should not move with brake set.

Hydraulic Brake Check

- **With engine running** - pump the brake pedal three times then hold it down for five seconds. Pedal should not mush to the floor.
- **Back up system** - should be checked with the key off depress the brake pedal, listen for the sound of the electric motor.

Air Brake Check

- **Check that air pressure** - is at 120/125 psi. Shut engine off
- **Chock wheels**
- **Release parking brake** - after initial drop in pressure, hold brake for one minute, should be no more than 3 psi of loss in that one minute.
- **With key on accessory** - pump brake, between 60-70 psi the warning light on the dash and the warning buzzer should activate.
- **Continue to pump the brake** - between 40-20 psi the parking brake knob should pop off, setting the parking brake.
- **Start the engine** - allow air to build up, check if compressor kicks off at proper range on air gauges.
- **Remove wheel chocks**

Lights

All of the following lights should be checked on the dash or inside of the bus as well as on the outside of the bus:

- **Interior dome lights**
- **Left/right turn signal**
- **Hazard lights**
- **Headlights hi/lo beam**
- **Alternating red /ambers (including monitor inside bus)**
- **Clearance lights/strobe**
- **Brake/tail lights**
- **Back up lights**
- **License plate light**
- **Step well light**

All lights must be working, not broken, and proper color. (Lights are amber in the front and center, red in the back). Lights should be wiped clean if they are dirty.
Ignition may be left on to check lights if they will not work without the key on. Turn off ignition when done with the light check.

Entrance/Passenger Area

- **Passenger Compartment**
    - **Seats** - bottoms & backs for looseness, tears or vandalism
    - **Emergency entrances** - doors, windows, hatches/open and close all of the way and seal securely, buzzers work

- **Entrance Area**

    - **Emergency equipment** - spare electrical fuses (if needed), fusees (3-15 minute fusees minimum) fire extinguisher, three reflective triangles and a nine item first aid kit. Body fluid clean up kits are only recommended, not required.
    - **Handrail** - is secure not broken
    - **Step treads** - are secure/ steps not rusted through
    - **Entrance door** - is secure and seals good/ and in good operating condition/ the glass is not broken or fogged.

Exterior Safety Check

- **Right side / Front**

    - **Check entrance door -** from outside/closes tight, check hinges and window seals
    - **Mirrors/ mirror bracket** - check that all are secure and not broken or loose. Wipe clean if dirty.
    - **Handle and footstep** - in good operating condition.
    - **Tires** - properly inflated, thump with a mallet or use a tire gauge to check inflation. Tread at least 4/32" on the front, no recapped tires, even wear no excessive weather checking, bulges or foreign objects embedded in the sidewall or tread.
    - **Rim** – not cracked, no unauthorized welds
    - **Lug nuts** – tight/ all lug nuts should be present not cracked
    - **Wheel seal** – not leaking, filled properly, all the nuts should be secure

- **Front of Bus**

    - **Lettering in place, windshield not broken or dirty, wipers secure** - not torn and secure to the windshield
    - **Bumper and tow hooks** - secure/ no missing bolts
    - **No leaks, nothing hanging** - underneath the vehicle

- **Driver Side of Bus**

    - **Check all mirrors** - for breaks, cleanliness and that they are secure to the vehicle
    - **Tire** – inflation, condition tread depth (same as other side)
    - **Wheel** – Same as passenger side
    - **Step and handle** – secure in operating condition
    - **Lettering** – not torn or missing / properly secured
    - **Windows** – not broken operate properly
    - **Body condition** – no rust holes dents or tears
    - **Battery/Box** – Box has no holes. Secure to the vehicle. Batteries not leaking, cables secure and not corroded, fluid is at proper level as needed. Battery properly secured in the box. Door closes securely and hinge is in proper working order
    - **Frame** – Long members and cross members are not rusted through, no cracks or welds, the floor has no holes and is secure
    - **Exhaust** – the muffler and exhaust pipes have no visible holes, are secure to the bus. The hangers are in place and there is no black soot present (an indication of exhaust leaks)
    - **Drive shaft** – not bent or broken, hangers are all in place, couplings are secure, hangers not damaged, nothing hanging from driveshaft

- **Rear Suspension**

  Some parts may be observed easier by looking under and across to the opposite side of the vehicle for inspection.

    - **Springs** – not broken or shifted, no missing leaves. Check torque arms for damage or missing parts. Air bags not torn, properly inflated, mounted securely and not leaking air
    - **Spring mounts** – front and rear, securely mounted to axle, no loose bolts, no missing parts. U-bolts are secure, not broken; all nuts are in place and tight
    - **Shocks** – shocks are securely mounted, not dented or leaking oil. Mounts are secure to the frame

- **Rear Brakes** (*Denotes air brakes only)

    - **Hoses/lines** – not cracked, worn or frayed, no bulging or leaks. Couplings are secure
    - ***Air chamber** – not cracked or dented, secure to the vehicle.
    - ***Slack adjuster** – no missing parts, secure to the vehicle, and at a 90º angle to the chamber
    - **Discs/drums/linings** – mounted securely, not cracked, broken or damaged. Linings should be at least ¼" thick, brake components should not have any oil or other contaminants on them

- **Rear Wheels/Rims/Tires**

    - **Tires** –Tread depth at least 2/32" – matched set of tires, (can have recaps on rear of vehicle) evenly worn, no cuts bulges or foreign objects embedded in the tires. Valve stem with caps. Tires properly inflated, either thumped with tire mallet or checked with a tire pressure gauge
    - **Rims** – No cracks, dents, welds or rust holes. Space between tires should be clear of debris/ spacers should not be rusted or have holes and evenly spacing tires apart
    - **Lug nuts** – Tight, not cracked or worn, bolt holes should not be distorted, no rust trails indicating loose nuts
    - **Axle seal** – Check for leaks, full level, no cracks or distortions in the axle/wheel mounting
    - **Mud flap/splash guard** – Firmly attached, not torn, proper length

- **Rear of Vehicle**

    - **Lettering** – Not torn, all in place
    - **Rear glass** – Not broken, clean, not fogged
    - **Emergency door** – Opens smoothly, door open stop works properly, seal is secure all of the way around the door. Buzzer works when door is open. Hinges are secure, no missing bolts

- **Tailpipe** – Extends out past bumper, no soot, hangers are all present and secure
- **Shocks & U-bolts** – These can be seen easily from the rear of the vehicle. They should be secure to the vehicle no leaks and no missing parts

- **<u>Passenger Side of Vehicle</u>**

  This side of the vehicle will be inspected the same as the Driver's side of the bus with the addition of:

  - **Fuel tank** – Frame for tank is secure, not cracked or broken. The tank itself is not leaking, the straps securing the tanks are in place and not broken. The fuel cap is secure, and any breather hoses are clear of dirt and debris

For more information on Pre-trip inspections and minimum requirements, read Chapter 11 in the <u>Michigan Commercial Driver License Manual</u>, 2004.

Unit III

BASIC OPERATING TECHNIQUES

INSTRUCTOR'S GUIDE FOR LESSON THREE
Basic Operating Techniques

Lesson Objectives:

- Review the pre-trip inspection procedure introduced during the previous lesson.
- Introduce the basic concepts of operation and control of the school bus.
- Develop an awareness of the size and maneuverability of a large vehicle
- Demonstrate the concept of rear and front blind spots on the bus
- Develop an acceptable level of performance in starting, stopping, backing, and making turns in a large vehicle.

Recommendations on teaching techniques:

- Use the Student Introduction in the lesson plan to prepare the student for the lesson.
- Begin the lesson by having the student conduct a pre-trip inspection of the school bus.
- Demonstrate the front and rear blind spots on the bus walking around the bus twice at distances of three and ten feet from the vehicle. The student should assume a normal position in the driver's seat and look forward as if driving on a street. As the instructor walks around the bus the student should follow visually using only the mirrors to look in reverse and note when the instructor can and cannot be seen.
    - Refer student to Vehicle Familiarization and Inspection Worksheet as a tool to explore the bus more thoroughly.
- Explain seat adjustment, use of the seat belt, and review the instruments and gauges.

- Demonstrate starting the engine, familiarization of gearshift selector and brakes, putting the bus in motion, and stopping. Let the student perform the same tasks.

- Since visibility is better on the left side of the bus, begin turns by demonstrating the proper technique for left turns and then demonstrate right turns. Have the student perform a series of left turns and then right turns at low speed. Entering turns at an excessive speed is one of the major causes of poor turning performances in beginning drivers.

- The three major visual/perceptual concerns in this lesson are **visual lead**, **visual fix**, and **scanning**.

    - **Visual lead** refers to the distance that the driver looks ahead of the vehicle. It should consist of 12-18 seconds of travel time in distance. When distance in driving is calculated in seconds of travel time, the higher the vehicle speed, the farther ahead the driver must look to maintain an adequate visual lead.

    - **Visual fix** is the process of changing focus to a distant Point to the left when making a left turn or to a distant point to the right when making a right turn. The concept of visual fix can also be defined as “looking into the turn”. The visual fix is changed to a point to the left just before the driver begins to turn the steering wheel to the left to make a turn and after all other traffic checks are completed. This action helps the driver establish a reference point for completing the turn and provides a clearer perspective of the entire turn maneuver and the position of the vehicle. Poor recovery from turns is often caused by failure of the driver to prepare for the turn by establishing a visual fix.
    - **Scanning** the last major visual concept, involves constantly moving or sweeping the eyes across the path of travel in order to identify relevant traffic and environmental characteristics. Scanning is usually combined with visual lead to produce a wide search area for the driver, well ahead of the vehicle.

- The three visual concepts, visual lead, visual fix, and scanning should be employed by the driver at all times and are especially helpful while engaged in any backing maneuver.

Description of key words:

The key words listed in association with the skills on the lesson plan are intended to be used by the instructor to evaluate student performance. Key words are listed below:

Scanning – visually searching the traffic environment.

Comfort – positioning of the driver in the seat, ability to reach the controls.

Head checks – turning the head 90 degrees to the left or right to check for traffic in the blind spots on the bus. This check is always made in addition to using the mirrors.

Gear selection – selection of the appropriate gear lever position.

Flooding – introducing an excessive amount of fuel into the engine during or before the starting process.

Technique – refers to the physical process of completing a specific task; the procedure used in steering or backing.

Visual checks – specific checks of traffic at intersections and during maneuvers, also called traffic checks

Instrument checks – a review of the status of the bus by reading all instruments.

Brakes – use of the foot brake or parking brake.

Hand position – location of the hands on the steering wheel. The recommended position is 10-2 in relation to a clock.

Visual lead – the distance the driver looks ahead and behind the bus while driving.

Speed – the speed at which the bus is traveling.

Visual fix – the direction in which the driver is looking while making a turn.

Lane position – the position of the bus within the lane during travel or in preparation for a maneuver. Lane position consists of left, center, and right.

Reference point – a physical object or point used by the driver that serves as a location to aid in guidance during travel or maneuvers. Reference points are very important while backing.

Mirrors - visually checking the mirrors to identify traffic.

Evaluation:

Most evaluation in this lesson consists of observing the student while performing the skills and maneuvers. The *key words* constitute the essential items to be evaluated for each skill. The *competency* heading allows the instructor to note whether or not the student has successfully completed a task. Three *review questions* are listed in the lesson plan which can also be employed as a form of evaluation.

Route Planning:

The route planning for this lesson consists of preparing a large parking lot or the bus yard for use as an off-street practice area. Driving maneuvers requiring skill areas in this lesson are:

- Straight line driving in forward and reverse
- Right turns
- Two point turns
- Perpendicular, curb, and parallel parking

Diagrams for the areas to practice these skills are provided. Twelve inch or larger cones or flags should be used to delineate the areas. The dimensions of the exercises are set for beginning drivers.

Preparation for the next lesson:

If possible, provide the student with a copy of the procedures listed in Lesson 4 for the skills and maneuvers used in rural driving.

Have students read the following sections in the Michigan Commercial Driver License Manual:

- Section 2.4 Seeing
- Section 2.5 Communicating
- Section 2.6 Controlling speed
- Section 2.7 Managing space
- Section 2.13 Mountain driving
- Section 2.14 Seeing hazards

LESSON PLAN 3

Basic Operating Techniques

Introduction to the Instructor

This less covers the basic operation and control of the school bus intended for an off-street area. Review: Inspection sequences, controls and gauges.

Student Introduction

This lesson will give you some experience in the basic operation and control of the bus. You will gain an awareness of the feel and maneuverability of a large vehicle and have an opportunity to practice your new skills in an off-street area, such as a large parking lot.

Skill Development

Present these skills and maneuvers progressing from the simple to complex.

Competency		Skill	Key Words
Yes	**No**		
___	___	**Use** and adjust mirrors	scan, rear, sides
___	___	Seat adjustment/seatbelt	comfort
___	___	Blind spots	head checks
___	___	Starting engine	gear selection/flooding
___	___	Put vehicle in motion	friction point
___	___	Braking/stopping	technique/visual check
___	___	Securing the vehicle	instrument check, brakes
___	___	Shifting	hand position
___	___	Lateral clearance	visual lead, speed
___	___	Left and right turns	visual fix, speed, position
___	___	Driving in reverse	reference point, speed
___	___	2 point turns	visual check, speed
___	___	Parking	speed, mirrors, position
___	___	Emergency stops	visual checks

Review Questions

1. Why is a good visual lead important in maintaining proper lateral
   clearances?

2. What is meant by changing your visual fix while making a turn?

3. What are three (3) hazards encountered while backing into a parking space and how are they eliminated?

Summary

1. Have the student explain the procedure for several of the maneuvers that caused the most difficulty in the lesson.

2. Review the importance of constant visual checks.

3. Explain why lateral clearances, blind spots, and turns can be problems on rural roads.

VEHICLE FAMILIARIZATION AND INSPECTION
WORK SHEET

Directions: Working in a group, complete the tasks listed below. Completion of the task will include answering a series of questions, collecting and reporting information about a school bus and practicing vehicle inspection techniques. It is important that group members work together to complete all tasks. Remember that you have limited time and all tasks need to be completed so, get on task immediately.

TASK #1: Vehicle Measurements.

1. Measure the school bus from front to rear bumper? ____ft. ____in.

2. Measure the school bus from rear bumper to rear duals, referred to as "overhang" _____ft _____in.

3. Measure the school bus from the hub of the rear dual to the hub of the front tires? ____ft ____in.

4. Give two reasons why a driver must know the overall length of their bus.
   _____.

5. Why is it important for a school bus driver to know the "overhang" length?
   _____.

6. Give two reasons why wheelbase length of the school bus is important for the driver to know
   _____.

7. What is the width of the school bus across the front bumper? ____ft ____in

8. What is the width of the school bus across the front windshield from the outside tip of the left west coast mirror to the outside tip of the right west coast mirror? _____ft _____in.

(Continued)

9. The outside height of the school bus from the pavement to the roof over the driver compartment is? _____ft _____in.

10. The outside height of the school bus from the top of the hood to the pavement in front of the school bus _____ft _____in.

11. The outside height of the school bus from the pavement to the roof over the rear emergency door is? ____ft ____in.

12. The height of the school bus from the pavement to the first step into the bus is? ____ft ____in.

13. The height of the school bus from the pavement to the side body panel (ground clearance) is? ____ft ____in.

14. The height of the school bus from the pavement to the bottom of the side window line is? ____ft ____in. Rear window line? ____ft ____in.

15. Why is knowledge of overall height important to a school bus driver?
_____.

16. How would a bus driver use the information from the pavement to the top of the hood?
_____.

17. Why is knowledge of the height of the first step important?
_____.

18. Why is the height of the body side panels from the pavement important to the bus driver?
_____.

19. If a school bus driver knows the overall height, width, and length of the wheelbase measurements of their bus, what will this information indicate about the handling of the school bus?
_____.

VEHICLE FAMILIARIZATION AND INSPECTION WORK SHEET (Continued)

TASK #2: View from the Drivers' Compartment.

Complete the following measurements as a group activity. First, observe and record what the driver can see with the unaided eye. Second, repeat measurements using the flat and convex mirror(s) as a driver aide. The driver may use the horn to signal the group assisting with exercises.

1. One group member with his/her back to the bus radiator will walk forward until the driver can see the top of that persons head. ____ft ____in Repeat the process indicating when driver can see drivers' feet. ____ft ____in

2. Using only the right side view mirror, measure how wide an area the driver can see away from:

   - Rear duals ____ft ____in
   - Side of the bus near midpoint of bus ____ft ____in
   - Distance from entrance door ____ft ____in

   Repeat, using the right side convex mirrors:

   - Distance for rear duals ____ft ____in
   - Side of bus near midpoint of the bus ____ft ____in
   - Distance from entrance door ____ft ____in

3. With a group member standing with his/her back to the side of the bus, about midpoint, walk away from the bus, measure the distance:

   Right side of the bus:
   - When top of head is visible ____ft ____in
   - When waist is visible ____ft ____in

   Left side of bus:
   - When top of head is visible ____ft ____ in
   - When waist is visible ____ft ____ in

(Continued)

4. Take the same measurements as #2 but this time on the left side of the bus.

   Left side plain view mirror:
   - Distance from rear dual ____ft ____in
   - Distance from side of bus ____ft ____in
   - Distance from entrance door ____ft ____in

   Left convex mirrors:
   - Distance from rear dual ____ft ____in
   - Distance from side of the bus ____ft ____in
   - Distance from entrance door ____ft ____in

5. Have a group member stand directly behind the right or left rear directional signal and walk in a straight line away from the rear of the bus. From the driver's seat, look in the inside rear view mirror only; the driver will sound the horn for the group member to stop when the driver can see from the waist to head of the group member. Measure the distance. ____ft ____in

PRE-IGNITION

The driver will make the necessary adjustments prior to starting the school bus engine.

- The correct sequence needed for the pre-ignition procedure is as follows:
    - Insert key in the ignition
    - Close doors
    - Adjust seat
    - Fasten seat belt
    - Check mirrors. If not properly adjusted, have someone move them to the correct position
    - Check that the parking brake is set

STARING ENGINE

The driver will start a school bus following the appropriate sequential steps outlined below:

- Following are the sequential steps for starting a school bus engine:
    - Check to see that the parking brake is on and can be released
    - Review warning lights and gauges before starting the engine
        - Fuel
        - Voltmeter
        - Ammeter
        - Air pressure
        - Vacuum
    - Turn ignition key to the “on” position and check gauges
        - Air pressure
        - Vacuum
    - Wait for pre-heat indicator light to come on (diesel engine buses)
    - If engine is cold:
        - Press accelerator to floor, release completely and press half way if necessary for carbureted engines
        - Do not press accelerator for fuel injected engines
    - Place gear selector in neutral or park
    - Turn key and release when the engine starts

READING VEHICLE STATUS

The following steps enable the driver to successfully determine if critical systems are functioning on the school bus.

- The basic engine status indicators and their interpretation follows:
    - Oil pressure light or gauge. To indicate if there is sufficient pressure to circulate oil in the engine. If insufficient pressure,
        - Warning light will flash red
        - Gauge will register in 15 pounds per square inch oil pressure position
    - Temperature light or gauge. To indicate proper temperature of the water circulating in the engine. Water is too hot when,
        - Red indicator light is showing
        - Gauge registers 220 and above
    - Alternator light or gauge. To indicate if there is sufficient energy to run the electrical system. If energy is not sufficient,
        - Red indicator light is showing
        - Gauge will register on discharge side
    - Power brake support is sufficient if,
        - Vacuum gauge at 12-20” of mercury
        - Air pressure gauge is between 60-125 pounds
    - Fuel gauge should show adequate supply to complete trip

PUTTING VEHICLE IN MOTION

The driver will put a school bus in motion safely, accelerating smoothly from a standing point.

- Following is the correct sequence of steps necessary for putting a school bus in motion:
    - Press brake
    - Shift to drive
    - Release parking brake
    - Check traffic and blind spot(s)
    - Use proper signal (if necessary)
    - Release foot brake
    - Accelerate smoothly

STOPPING

The bus driver will concentrate on appropriate procedure to make a safe stop.

- Following is the correct sequence of steps for stopping a school bus:
    - Check traffic
    - Position vehicle appropriately
    - Release accelerator
    - Brake to a smooth stop, slowly release the brake at the stop to prevent jerking

Note: If possible practice on both air brake and hydraulic brake systems

SECURING THE VEHICLE

The driver will learn how to properly secure a school bus.

- Following is the correct sequence of steps for securing a school bus:
    - Shift to an appropriate gear position
    - Set parking brake
    - Turn off all accessories and ignition
    - Remove key
    - Conduct bus “walk through”
    - Close windows
    - Close door

DOWNSHIFTING

The driver will understand why the school bus may require downshifting and when it is appropriate to use this procedure.

- The correct sequence the steps for downshifting a school bus follows. This skill is necessary for certain road grades, mechanical failures, and may also be used in extreme weather conditions.
    - Automatic Transmission
        - Release accelerator
        - Slow to required speed
        - Place gearshift lever into the next lower gear range

STEERING/TRACKING

The driver will learn to maintain proper lane position in the traveled lane.

- Techniques:
    - Aim high in steering, focusing well ahead in your lane
    - Place hands on upper half of steering wheel, at the 10 o'clock and 2 o'clock position
    - Keep eyes moving
    - Make early steering adjustments in order to stay in the center of the lane

BACKING

The driver will back a school bus safely and smoothly.

- The correct sequence of steps for backing a school bus is below:
    - Check mirrors
    - Assure yourself that the area is clear
    - Secure visual assistance whenever possible to maintain the safest environment
    - Press brake
    - Shift to reverse
    - Gradually accelerate
    - Steer as necessary
    - Use mirrors to monitor the direction of the bus
- Following are the techniques necessary to safely back a school bus:
    - Physically get out and check behind the bus
    - Use helper for assistance, if possible
    - For straight backing, hold steering wheel in the 10/2 position
    - Use hand over hand steering for either right or left backing
    - Back slowly
    - Use two (2) vertical outside rearview mirrors
    - Use inside rearview mirror when possible

BACKING (continued)

- Use two (2) convex mirrors for obstructions (*not for judging distance)*.
- Keep eyes moving to all five (5) mirrors
- If still unsure while backing, stop and check outside again

TWO-POINT TURN

The driver will complete a two-point turn with the school bus and successfully turn the bus around.

- Correct sequence of steps for completing a two-point turn follows:
  - When using a driveway:
    - Drive past the driveway
    - Stop
    - Check for traffic front and to the rear
    - Back into the driveway
    - Stop when completely off the roadway
    - Check for traffic to the left and right
    - Enter roadway when safe to do so

PARKING – ANGLE

The driver will angle park a school bus safely and legally.

- Following is the correct sequence of steps for angle parking a school bus:
    - When preparing to forward park in a 45° angle space, position the bus as far out in the driving lane as practical
    - Check left then right mirror
    - Signal for right turn
    - Drive forward past the right edge of the angle space and turn sharply so that the front bumper clears the left edge of the angle space
    - Move forward slowly watching the right mirror to see that the bus clears the right edge of the angle space
    - Position bus in center of the space with the front bumper 8 feet from the curb (so you can leave the space driving forward with the right front wheel missing the curb).

    Note: Use a helper when backing

PARKING – PERPENDICULAR

The driver will back a school bus into a perpendicular parking stall on the left safely and legally.

- Correct sequence of steps for backing into a perpendicular parking stall on the left:
    - Drive past the parking stall
    - Check left mirror
    - Shift into reverse
    - Turn wheels to the left
    - Back slowly toward the stall observing the left mirror and then the right mirror for dual wheel positions
    - Keep left rear wheel close to the front corner of the stall
    - Begin to straighten wheels
    - Use mirrors to monitor direction of the bus

PARKING – PARALLEL

The driver will parallel park a school bus safely and legally.

- Correct sequence of steps for parallel parking a school bus:
    - When preparing to parallel park, position the bus next to and about 3 feet from the vehicle parked in front of the space to be occupied
    - Stop when rear of the bus is even with the rear of the front vehicle
    - Check left mirror, then right mirror and then left again
    - Shift into reverse
    - Back slowly while turning steering wheel slowly to the right until the right rear wheel is in line with the rear of the front parked vehicle
    - Straighten steering wheel when the entrance door is in line with the rear of the vehicle parked in front of the space
    - Back straight in until the front bumper reaches the rear bumper of the front vehicle
    - Continue backing slowly while turning the steering wheel sharply to the left when the front of the bus clears the rear of the front parked vehicle
    - Check left mirror to position the bus
    - Stop bus just short of the vehicle parked behind
    - Shift into drive
    - Center bus in space no more than 1 foot from the curb

    Note: Use a helper when backing

PARKING – HILL

The driver will turn the wheels of the school bus in the correct direction when parking on a hill.

- The following describes which way to turn the wheels when parked on up and down grades with and without curbs:
    - Upgrade with a curb
        - Turn wheels to the left until resting against the curb
    - Upgrade without a curb
        - Turn wheels to the right
    - Downgrade with or without a curb
        - Turn wheels to the right
        - Rest wheels against the curb when one is present

PARKING – PROHIBITIONS

The driver will not park a school bus where it is prohibited by law.

- Regulations prohibiting parking:
    - On a sidewalk
    - In front of a public or private driveway
    - Within an intersection
    - Within 15 feet of a fire hydrant
    - On a crosswalk
    - Within 20 feet of a crosswalk, or if there is not a crosswalk, then within 15 feet of the intersection or property lines at an intersection of highways
    - Within 30 feet of the approach to a flashing beacon, stop sign, or traffic-control signal located at the side of a highway
    - Between a safety zone and the adjacent curb or within 30 feet of a point on the curb immediately opposite the end of a safety zone, unless a different length is indicated by an official sign or marking
    - Within 50 feet of the nearest rail of a railroad crossing
    - Within 20 feet of the driveway entrance to a fire station and on the side of a street opposite the entrance to a fire station within 75 feet of the entrance if properly marked by an official sign
    - Alongside or opposite a street excavation or obstruction, if the stopping, standing, or parking would obstruct traffic

PARKING – PROHIBITIONS (continued)

- On the roadway side of a vehicle stopped or parked at the edge or curb of a street
- Upon a bridge or other elevated highway structure or within a highway tunnel
- At a place where an official sign prohibits stopping or parking
- Within 500 feet of an accident at which a police officer is in attendance, if the scene of the accident is outside a city or village
- In front of a theater
- In a place or in a manner which blocks immediate egress from an emergency exit conspicuously marked as an emergency exit of a building
- In a parking space clearly identified by an official sign as being reserved for use by special needs individuals which is on public property or private property available for public use, unless the person is handicapped or unless the person is parking the vehicle for the benefit of special needs individuals
- Within 500 feet of a fire at which fire apparatus is in attendance, if the scene of the fire is outside a city or village
- In violation of an official sign restricting the period of time for or manner of parking
- In a space controlled or regulated by a meter on a public highway or in a publicly owned parking area or structure, if the allowable time for parking on the meter has expired
- On a street or highway in such a way as to obstruct the delivery of mail to a rural mailbox by a carrier of the United States postal service

PARKING – PROHIBITIONS (continued)

- In a place or in a manner which blocks the use of an alley

- More than 12 inches from the curb

Note: Parking is inappropriate on any public street in a position where motorists would be prone to interpret the bus position as a bus loading location.

LEAVING A PARKING SPACE

The driver will safely and legally exit a parking space in a school bus without obstructing other vehicular or pedestrian traffic.

- The correct sequence of steps for leaving a parallel parking space:
    - Back up as far as possible without hitting the parked vehicle (requires exceptional depth perception skills).
    - Check left mirror
    - Put into drive
    - Turn steering wheel sharply to the left
    - Enter travel lane when clear
    - Check mirrors for clearance of front and right side of the school bus
    - Steer bus into the proper lane position
- List the correct sequence of steps for leaving an angular or perpendicular parking space
    - Forward motion
        - Move forward until the rear of the bus has cleared other vehicles using mirrors continuously
    - Backward motion
        - Back when traffic permits until the front of the bus has cleared obstacles

          Note: Use a helper when backing if possible.

SCHOOL BUS SKILLS TEST

The skills test described and illustrated in this section covers the basic maneuvers of a school bus that were presented in the lesson plans. Every driver should be able to successfully perform these tasks before scheduling the on-street test with an examiner. The purpose of the testing is to insure that the student has attained the level of driving skill necessary to safely operate the school bus.

All of the testing is designed for an off-street area such as a large parking lot or a bus yard. If a school parking lot is used for the testing, be certain that students are not permitted in the vicinity. Each test exercise can be set up individually or, if space permits, the entire course can be prepared. Allow the student time to practice or warm-up before the test is administered and make every attempt to control traffic during this time.

Scoring should be kept as simple as possible and limited to a pass/fail system that is based upon competence. Keep in mind that the driver is a novice and that it is unreasonable to expect perfection during the first test of driving skill. It is necessary, however, to demand that the exercises be performed properly and within the acceptable range of safety.

The skills test will consist of the following maneuvers and exercises:

- Pre-trip inspection
- Starting the engine
- Putting the bus in motion
- Driving in a straight line and stopping at a point
- Backing in a straight line and stopping at a point
- Right and Left turns
- Two-point turns
- Perpendicular parking

Place emphasis in the evaluation on the concepts of driving that have been stressed during the training program. These should include:

- Visual skills
    - Is the student using mirrors properly?
- Positioning of the bus
    - What is the student doing right/wrong?
- Speed and steering control
    - Less speed, more control
- Checking vehicle status

At the end of the test, review the results with the student on a skill-by-skill basis. The review will help the student recognize the test areas where additional practice is necessary.

Schedule a time to retest any deficient skills and allow additional practice time. Provide the student the option of supervised or unsupervised practice if possible.

Keep a record of the test results in the student's file in the event there is any question about driving competence and the training provided. The record is also valuable as a means of monitoring the student's progress.

It is recommended that the instructor refer to the Michigan Rodeo workbook for diagrams to assist in the set-up of range exercises.

Unit IV

RURAL DRIVING SKILLS

INSTRUCTOR'S GUIDE FOR LESSON FOUR
Rural Driving Skills

Lesson Objectives:

- Introduce the student to driving a school bus in highway traffic situations and to interact with other roadway users.
- Transfer the basic driving skills from Lesson 3 to the rural driving environment.
- Allow student to practice driving skills in an environment where the intensity of traffic situations is low and where speed can be safely held to a minimum.
- Introduce and practice the technique of commentary driving.
- Develop perceptual skills, and increase the student's hazard and risk assessment abilities.
- Apply the three major visual/perceptual concepts while driving; visual lead, visual fix, and scanning.
- Identify the differences between the operation of a school bus and other vehicles in a rural environment.

Recommendations on Teaching Techniques:

- Use the Student Introduction in the Lesson Plan to prepare the student for the lesson.
- Begin the lesson by having the student conduct a pre-trip inspection of the school bus.
- Have the student demonstrate the proper procedures for starting the bus, shifting, and backing.
- If the school bus garage is not located in a rural area, the instructor should drive the bus to a rural area to begin the driving phase of the lesson.

- Drive the route that has been developed for this lesson and have the student perform the skills required in the lesson. Provide an evaluation of each skill based upon the *key words* listed. Do not expect the student to perform the skills perfectly during the first attempt and continue to assist the student with short comments on their performance.

- Give directions to the student well in advance of a turn or maneuver in order to allow adequate preparation time.

- Be specific and direct students where to do something before telling students what to do. Avoid using street names whenever possible. Directions such as, “At the next intersection, turn left,” or “At the second street, turn right,” are very precise and easy to understand and eliminates the need to look for a street name sign.

- Avoid having the lesson become only a series of directions to the student. Ask questions when time allows and have the student comment on the traffic situation. The instructor should keep commentary to a minimum while the student is preparing for and performing a maneuver. Unnecessary comments and questions can create serious distractions when the student should be concentrating on the immediate driving task.

- Commentary while driving is a technique in which the student verbalizes all important driving actions and thoughts. It is employed by asking the student to say aloud everything that is done, thought, and seen while executing a maneuver or during normal driving. Commentary driving is important to the instructor because the thinking process of the student can be evaluated. The instructor can also evaluate the student’s visual lead and scanning by considering the distance and placement of the subjects or objects the student identifies.

  The student benefits from the commentary in that they must consciously describe a maneuver as it is performed and there is a greater likelihood that a sequence will be established for the skill or maneuver.

Using commentary driving will require practice by the student and a commitment from the instructor to make the technique work. Initially, most students are reluctant to perform the commentary but the instructor should insist upon its use. As the student becomes more proficient in using the technique, move away from simple identification of problems and have the student explain what their reaction to the problem will be as a driver of a bus.

- Another useful tool for the instructor is called SIPDE (Scan, Identify, Predict, Decide, Execute). SIPDE is actually a driving strategy employed by a driver to avoid problems.

    - Scan refers to constantly moving or sweeping the eyes across the path of travel to identify relevant traffic and environmental characteristics.
    - Identify refers to searching for problems or situations in the driving environment that could become problems.
    - Predict is used by the driver to determine possible ways in which the problem or potential problem could become an influence on his or her driving.
    - Decision involves selecting an appropriate course of action to be taken to avoid the problem or reduce the risk.
    - Execute refers to putting the decision into action.

    The elements of *Predict* and *Decide* are the most complex and should receive emphasis from the instructor. Ask the student to perform SIPDE on a regular basis; especially in situations where several problems exist.

Description of Key Words:

- **Signal** – use of the appropriate turn signal by the driver.

- **Gap** – the space between vehicles into which the driver must merge the bus when entering traffic. Evaluation is based on the ability of the student to judge and merge into the gap.

- **Constant speed** – maintaining smooth and consistent speed control to improve efficiency and comfort.

- **4 second rule** – the recommended following distance between vehicles.

- **Traffic volume** - in relation to following distance, this refers to the driver's ability to maintain an adequate following distance despite dense traffic volumes.

- **Slipping** – allowing the bus to move backward when starting on a grade.

- **Response time** – the delay between when the driver sees a hazard and when action is initiated.

Evaluation:

During any on street lesson the instructor must constantly assess the student's performance as related to both perceptual and motor skills. In this lesson the instructor has several options available for the purpose of evaluation.

- First, the instructor should utilize the **Key words** and **Competency check** during the actual driving phase of the lesson to evaluate and record performance.

- Second, general questioning can be used during the lesson to determine the student's reaction to traffic situations.

- Finally, the **Review questions** in the lesson plan serve as both an evaluation and reinforcement of essential lesson concepts.

Careful evaluation is crucial during the on street phase as the instructor is required to make an assessment of the student's progress for the purpose of advancing to the next concept.

Route Planning:

Before teaching this lesson, design and drive a training route in a rural area. Plan the route for an area, rather than specific streets and roads, to allow the flexibility necessary to repeat portions of the route or maneuvers when the student experiences difficulty.

Establish an average between having turns and maneuvers too close together and having them so far apart that the student does not receive sufficient practice. When possible, plan a short series of maneuvers (3-4) followed by a period of straight driving. A pattern of this type allows the student and the instructor time to review the skills while driving to another skill or maneuver.
The rural lesson route should include the following characteristics:

- A series of left turns
- A series of right turns
- Yield and stop intersections
- Intersections with obstructed vision
- Limited vehicle, pedestrian, bicycle interaction
- A variety of traffic signs and pavement markings
- A straight road segment in which to practice speed control
- Curves and hills at low and moderate speeds
- Uncontrolled intersections

Preparation for the next lesson:

In summary of this lesson, ask the student to identify a few of the traffic characteristics that can be expected in a residential area.

Provide the student with copies of the skill and maneuver descriptions that are found in Lesson 5 to use as preparation for driving.

Ask the student to practice the commentary driving introduced in this lesson in a residential area.

Have the student read the following sections in the Michigan Commercial Driver License Manual:

- Section 2.8 Driving at Night
- Section 2.17 Accident Procedures
- Section 2.18 Fires

LESSON PLAN 4

Rural Driving Skills

Introduction to the Instructor

This is the first on-street driving lesson for the student covering specific rural situations as well as concepts from the previous lesson. Review: Pre-trip, visual checks, backing and shifting.

Student Introduction

The first actual on-street driving is in a rural area and the emphasis is placed on interacting with other vehicles. In addition to knowing how to operate and maneuver the bus, you will be expected to demonstrate and explain the "thinking process" that is involved in rural driving.

Skill Development

Emphasize that safe maneuvering, control, perception and risk assesment are important to the prevention of losses to property and injury to people. Progress from simple skills to complex skills.

Competency		Skill	Key Word
Yes	**No**		
___	___	Entering traffic flow	signal, visual check, gap
___	___	Lane position/usage	center, left, right
___	___	Speed control	constant speed
___	___	Left and right turns	signal, visual check, fixed speed
___	___	Following distance	4 sec. Traffic volume
___	___	Curves, hills	visual lead, speed
___	___	Yielding, right of way	visual checks
___	___	Leaving traffic flow	signal, visual check
___	___	Lateral clearance	visual lead/steering
___	___	Being passed	lane position, checks
___	___	Starting/stopping hill	slipping, visual checks
___	___	Hazard risk assessment	visual lead/response time

Review Questions

1. When approaching an intersection, which visual checks need to be made?

2. How do you maintain lane position that avoids hazards while driving on a residential street?

3. What are the two (2) major problems you must consider when you turn a bus and how do you compensate for these problems?

Summary

1. Have the student describe several of the major hazards encountered in a residential area and ways to avoid them.

2. Review the situations in which sight distance is a problem for bus drivers.

3. Ask the student to identify problems found in residential areas that may also be found in urban areas.

SIPDE

Scan — **Look ahead into traffic.**
scan the area for potential hazards.

Identify — **See dangers in your immediate area as well as sighting further ahead.**
Identify other vehicles that have potential to cross your path of travel.

Predict — **Will hazards increase if nothing changes?**

Decide (actions to avoid hazards)

Change speed
Change direction
Change speed and direction

Execute (operational action – what and when)

Control devices
Informational devices

CDL DRIVER BEHAVIOR STANDARDS

Left Turns

- **Approach**
  - Traffic Check: Look for any indication the driver is observing the traffic environment ahead, to the left, right, and rear (through the mirrors). Observe head/body movements to the left and right. Observe eye contact with other drivers and pedestrians. Make sure student uses mirrors.

  - Signal: Driver activates left turn signal (not too early or late). Examiner observes left signal indicator light flashing; hears indicator clicking.

  - Deceleration: Driver takes foot off accelerator – brakes gradually as necessary to keep proper control.

  - Coast: Vehicle does not coast but slows the vehicle down smoothly.

  - Lane: Vehicle in left-most lane at appropriate time, but not over lane markings.

- **If Stop**

  - Gap: Driver must stop at a point where he/she is able to see rear wheels of vehicle in front.

  - Stop Line: Vehicle not out in intersection – not over stop line on pavement or not past sidewalk, stop sign, or other marker.

  - Full Stop: Driver does not coast – vehicle comes to a full stop – does not roll.

  - Wheels Straight: Wheels straight ahead (examiner observes when moving away from the stop).

- **Turning**

    - Traffic Check: Driver makes head/body movements to left and right – especially movement to the left (mirror) – demonstrates regular eye contact with other drivers, pedestrians – uses mirrors.

    - Both Hands: Driver has both hands on wheel (no palming) – does not let steering wheel slide through hands after completion of turn.

    - Speed: There should be little noticeable lateral acceleration – no unnecessary stops during turn – driver maintains smooth even speed.

    - Wide/Short: Too wide – vehicle is over or touching curb – turn unnecessarily wide – vehicle is in lane of oncoming traffic at completion of turn causing other traffic to back up, or vehicle unnecessarily crosses center line of road it is turning onto.

    - Yield: Driver yields to pedestrians and other traffic during the turn.

- **Complete Turn**

    - Traffic Check: Driver makes regular head/body movement to left and right – especially movement to the right (mirror) – establishes eye contact with other drivers, pedestrians – uses mirrors.

    - Correct Lane: Vehicle finishes in left-most lane.

    - Signal Off: Driver cancels turn signal upon completion of turn.

    - Accelerate, Move Right: Driver accelerates smoothly – checks traffic, activates signal and moves to the right lane when traffic is clear.

Right Turns

- **Approach**

    - Traffic Check: Look for any indication the driver is observing the traffic environment ahead, to the left, right, and rear (through the mirrors) – driver makes regular head/body movements to the left and right – establishes eye contact with other drivers and pedestrians – uses mirrors.

    - Signal: Driver activates right turn signal (not too early or late) – examiner observes right signal indicator light flashing – hears indicator clicking.

    - Deceleration: Driver takes foot off accelerator – brakes gradually, slows down evenly to keep control.

    - Coast: Vehicle does not coast – vehicle should slow down smoothly.

    - Lane: Vehicle in right-most lane, but not over markings on left side of lane unless necessary – blocks traffic from coming up on right side.

- **If Stop**

    - Gap: Driver must stop at a point where he/she is able to see rear wheels of vehicle in front.

    - Stop Line: Vehicle not out in intersection – not over stop line on pavement nor past sidewalk, stop sign, or other marker.

    - Full Stop: Driver does not coast – vehicle comes to a full stop – vehicle does not roll.

    - Wheels Straight: Wheels should be straight ahead (examiner observes steering when moving away from the stop).

- **Turning**

    - Traffic Check: Driver makes regular head/body movements to left and right – especially movement to the right (mirror) – establishes eye contact with other drivers and pedestrians – uses mirrors.

    - Both Hands: Driver has both hands on wheel (no palming) – does not let steering wheel slide freely through hands at completion of turn.

    - Speed: There should be little noticeable lateral acceleration – no unnecessary stops during turn – driver maintains smooth even speed.

    - Wide/Short**:** Too short – rear wheels over or touching curb. Too wide – vehicle is in lane of oncoming traffic at completion of turn – turn unnecessarily wide – causes other traffic to back up – driver does unnecessary buttonhook turn.

    - Yield: Driver yields to pedestrians and other traffic during the turn.

- **Complete Turn**

    - Traffic Check: Driver has head/body movements to left and right – especially movement to the right (mirror) – establishes eye contact with other drivers and pedestrians – uses mirrors.

    - Correct Lane: Vehicle finishes in the right-most lane. Signal is canceled upon completion of the turn.

    - Accelerate, Move Right: Driver accelerates smoothly – if driver finishes in incorrect lane, driver must activate signal and move to right lane when traffic clears.

Intersections

- **Stopping**

    - Traffic Check: Driver has regular head/body movements to left and right – establishes eye contact with other drivers and pedestrians – uses mirrors.

    - Deceleration: Driver takes foot off accelerator – brakes steadily – examiner should feel the vehicle slowing down smoothly.

    - Coast: Vehicle does not coast.

    - Gap: Driver must stop at a point where he/she is able to see rear wheels of vehicle in front.

    - Stop Line: Vehicle not out in intersection – not over stop line on pavement or past sidewalk, stop sign, or other marker.

    - Full Stop: Vehicle must come to a full stop – vehicle must not roll forward or backward.

- **Driving Through**

    - Traffic Check: Driver has regular head/body movements to left and right – establishes eye contact with other drivers and pedestrians – uses mirrors.

    - Yield: Driver yields to pedestrians and other traffic at or in intersection.

    - Lane: Driver does not change lanes in intersection.

    - Hands**:** Driver has both hands on wheel.

    - Accelerate: Driver does not stall engine – does not allow vehicle to drift back – does not cause disruption in traffic flow – does not lug or rev engine.

Urban/Rural

- **Straight Section**

    - Regular Traffic Checks: Driver watches for hazards at road side or from entrances – searches traffic environment 7 to 15 seconds ahead of the vehicle (anticipates lane changes, slows for hazards or obstructions as soon as they are seen) – makes regular head/body movements to left and right, scanning all mirrors.

    - Selects Proper Lane: Driver selects right lane if clear – selects center lane only if right lane is obstructed by tree branches, utility poles, etc. – selects center lane only if there is a high volume of entering/exiting traffic.

    - Keeps Vehicle in Lane: Driver keeps vehicle in center of lane – vehicle does not wander over lane markings.

    - Speed: Vehicle keeps up with traffic flow (never exceeding posted speed limit) – driver times approach to hazards or obstructions to avoid continual slow downs, stopping, and accelerating – maintains steady speed.

    - Following Distance: Driver maintains a minimum of 1 second per 10 feet of vehicle length when under 40 mph; adds 1 second if over 40 mph – avoids having view blocked by large vehicles in front.

- **Lane Changes**

    - Traffic Check: Driver checks front and rear – especially blind spot.

    - Signal: Examiner sees signal indicator light flashing (not too early or late) – driver cancels signal after lane change.

    - Space: Driver does not tailgate while waiting to change lanes – waits for adequate gap.

- o Smooth Change: Vehicle blends smoothly with other traffic – driver does not change lanes abruptly – maintains speed – moves to center of lane – maintains adequate gap front and rear after lane change.

Stop/Start

- **Approach**
  - o Traffic Check: Examiner looks for any indication the driver is observing the traffic environment ahead, left, right, and to the rear (through the mirrors). Signal On: driver activates right turn signal (not too early or late) – examiner observes right signal indicator light flashing – hears indicator clicking.
  - o Correct Lane: Vehicle is in right-most or curb lane.
  - o Deceleration: Driver takes foot off accelerator – brakes steadily – examiner feels vehicle slowing down smoothly.
  - o Not Coast**:** Vehicle does not coast.
- **Stop**
  - o Parallel: Vehicle parallel to curb.
  - o Not Roll: Vehicle does not roll forward or backward.
  - o Blocking: Vehicle does not block driveways, fire hydrants, signs, etc.
  - o Signal Off; 4-Ways On/Neutral: Driver puts parking brake on – put gear shift in neutral – releases foot brake.
- **Resume**
  - o Traffic Check: Driver makes head/body movements to left and right – especially movement to the left (mirror) – establishes eye contact with other drivers and pedestrians.

- 4-Ways Off/Signal On: Driver turns 4-way flashers off – activates left turn signal.

- Parking Brake Off: Driver releases parking brake – puts vehicle in gear – does not turn wheel before vehicle moves.

- Not Stall Engine: Driver does not stall engine when pulling away.

- Traffic Check: Driver checks traffic, especially to left (mirror), but also to the right.

- Accelerate: Driver does not let the engine stall.

- Smooth Merge: Vehicle blends smoothly with other traffic – no hard (sharp) turns – driver maintains speed – moves to center of lane – adequate gap front and rear after merge.

- Cancel Signal: Driver cancels turn signal after merging into traffic lane.

Curve

- **Speed: Enter, Through:** Driver reduces speed before curve – does not have to brake or change gears while in curve – maintains speed during curve – no strong lateral accelerations.

- **Stay in Lane:** Driver keeps all vehicle wheels in lane.

- **Traffic Checks:** Driver makes continual traffic checks – makes extra effort to keep track of following vehicles when coming out of curve.

Expressway

- **Merge On**

    - Traffic Check: Driver checks both front and rear upon entry, especially to the left (blind spot).

    - Signal On: Driver activates signals as soon as expressway traffic can see signal.

- Spacing: Driver does not tailgate – does not cause following traffic to slow down.

- No Stop: Driver merges without stopping.

- Lane: Driver keeps vehicle within all lane markings.

- Merge: Driver does not exceed ramp speed – accelerates to traffic flow in acceleration lane – no hard (sharp) turn onto expressway lane – does not lug or rev engine – moves to center of driving lane (right-most).

- Cancel Signal: Driver cancels turn signal as soon as merge is complete.

- **Expressway Straight**

  - Regular Traffic Checks: Driver checks surrounding traffic conditions – driver searches traffic environment 7 to 15 seconds ahead of vehicle (anticipates lane changes, merging traffic, slows for hazards or obstructions as soon as they are seen) – makes regular hand/body movements to left/right scanning all mirrors.

  - Selects Proper Lane: Driver moves vehicle to proper lane as required by law.

  - Keeps Vehicle in Lane: Driver keeps vehicle in center of lane.

  - Speed, Following Distance: Driver keeps up with traffic flow but does not exceed posted speed limit – maintains steady speed – driver maintains a minimum of 1 second per 10 feet of vehicle length when under 40 mph; adds 1 second if over 40 mph – avoids having view blocked by large vehicles in front. Note: The school bus speed limit on limited access highway or freeway is 60 mph.

- **Lane Changes**

    - Traffic Check: Driver checks front and rear – especially blind spot.

    - Signal: Examiner must see signal indicator light flashing.

    - Spacing: Driver does not tailgate while waiting to change lanes – waits for adequate gap.

    - Smooth Change: Vehicle blends smoothly with other traffic – no hard (sharp) turn – maintains speed – moves to center of lane – adequate gap front and rear after lane change.

    - Cancel Signal: Driver cancels turn signal as soon as lane change is completed.

- **Exit Expressway**

    - Traffic Check: Driver checks traffic, especially to the right (blind spot).

    - Signal: Examiner sees signal indicator light flashing.

    - Smooth Merge to Exit Lane: No hard (sharp) turn onto deceleration lane – vehicle enters exit lane at start of exit lane.

    - Decelerate in Exit Lane: Driver decelerates in deceleration lane – does not drop below legal expressway speed while on expressway.

    - Ramp Speed: Driver does not exceed ramp speed – no noticeable lateral acceleration on ramp curve – appropriate gear and brake usage – no coasting.

    - Spacing: Driver did not tailgate on ramp.

    - Lane: Driver keeps vehicle between all lane markings.

    - Cancel Signal: Driver cancels turn signal on ramp.

Driving Up Grade

- **Proper Gear:** Driver changes to proper gear if needed; keeps both hands on wheel.

- **Keep Right:** Driver keeps vehicle in right-most lane.

- **4-Ways if Slow:** Driver uses 4-way flashers if moving too slowly for traffic.

- **Traffic Checks:** Driver checks traffic, especially to left and rear (mirrors).

Driving Down Grade

- **In Proper Gear:** Examiner sees driver change to lower gear before grade – engine not racing – vehicle must be in gear (vehicle not coasting in neutral).

- **Test Brake:** Driver checks brakes before starting down grade – examiner sees driver's foot on the brake – feels braking – hears an air release.

- **Safe Speed:** Driver increases following distance and selects a "safe" speed, one that is not too fast for the weight of the vehicle, length and steepness of the grade, weather and road conditions. Once the "safe" speed is reached, the driver applies the brakes hard enough to feel a definite slowdown – when the vehicle speed has been reduced to 5 miles per hour below the "safe" speed, the driver releases the brakes – once the vehicle resumes the "safe" speed, the procedure is repeated.

- **Keep Right:** Driver keeps vehicle in right-most lane.

- **4-Ways If Slow:** Driver uses 4-way flashers if moving too slowly for traffic – cancels 4-ways at end of down-grade.

- **Traffic Check:** Driver checks traffic, especially to left and rear (mirrors).

Railroad Crossing

- **Traffic Check:** Examiner looks for any indication that the driver is looking and listening for the presence of trains – driver makes head/body movements to left and right.

- **Stop Law:** If bus or truck with hazardous goods, vehicle must stop no closer than 15 feet and no further than 50 feet from the nearest rail – school bus drivers must also activate hazard lights, open door, open window, shut off fans, heaters and radio before proceeding across tracks.

- **Gears:** Driver does not change gears or stop while on the tracks.

- **Hands:** Driver keeps both hands on wheel.

Off-Road Simulated Student Stop (School Bus Only)

Note: According to Michigan Law (Public Act 187 of 1990), school bus drivers are not allowed to activate the alternately flashing lights when operating a school bus on a public highway of private road when transporting passengers primarily other than school pupils. Therefore, this exercise must be completed off-road.

- Follow the 17-Step System published in the Beginning School Bus Drivers Manual.

Bridge/Overpass/Sign

- **Bridge:** After passing over bridge, the examiner asks the driver to identify the posted weight limit.

- **Overpass:** After driving underneath an overpass, the examiner asks the driver to identify the posted clearance (height).

- **Sign:** After passing a designated road sign, the examiner asks the driver to identify what the sign said.

General Driving Behavior

- **Brake Usage:** Driver rode brake – did not brake smoothly using steady pressure – pumped brake or used brake harshly – did not use parking brake at stop/start and/or simulated student stop – could not explain/demonstrate proper brake usage or "safe speed" technique for upgrade/downgrade.

- **Steering:** Driver did not keep both hands on wheel – palmed, under or over steered – let steering wheel slide freely through hands upon completion of turn – turned wheels while stopped for turns.

- **Missed Traffic Checks (Search):** Driver did not maintain awareness of the entire traffic environment – did not regularly check surrounding traffic conditions with head/body movements to the left and right – did not use all mirrors – missed bridge/overpass or sign recognition.

- **Following Distance / Gap / Yield / Spacing / Merge / Blocking:** Driver followed vehicle ahead too closely – did not allow a minimum of 1 second per 10 feet of vehicle length when under 40 mph (add 1 second if over 40 mph) – was unable to see the rear wheels of the vehicle in front when stopped – was not prepared to yield at intersections and turns (foot off accelerator, shadowing brake, etc.) – poor spacing during lane changes or during expressway merge/exit – blocked driveway, traffic sign, etc., during stop/start exercise.

- **Speed / Throttle Control:** Driver failed to accelerate properly – stalled engine – allowed vehicle to drift back – caused disruption in traffic flow – failed to decelerate properly – vehicle was not slowed down smoothly – poor throttle control resulting in uneven vehicle speeds – speed too slow or too fast in turns or curves.

- **Lane Usage:** Driver put vehicle over curbs, sidewalks, or lane markings – encroached on crosswalks stop lines or stop signs – turned into incorrect lane – did not move to or stay in right lane when driving on a multiple-lane road or during the upgrade/downgrade exercises – turned too wide or short.

- **Signal Usage:** Driver was early or late with signal – did not cancel signal – did not use/verbalize 4-ways during upgrade/downgrade.

- **Traffic Violation:** Driver did not obey all signs, signals – violated speed or other laws (including driving illegally too fast or slow for conditions), rolled through stops – violated top law at railroad crossing – failed to use proper signal – at any point after the vehicle began to move, driver did not use safety belt in a safe and legal manner.

ENTERING TRAFFIC STREAM

The driver will enter the traffic stream without interfering with other vehicles safely and smoothly.

- Following are the correct sequence of steps for entering traffic from a stopped or parked position:
    - Observe traffic to the front and rear
    - Look for gap in traffic approaching from the rear
    - Yield right-of-way to all vehicles and pedestrians
    - Actuate turn signal
    - Accelerate smoothly into gap in the traffic lane
    - Straighten steering wheel
    - Check to see that the directional signal has been canceled
    - Accelerate quickly to the speed of traffic

LANE USAGE

The driver will select the appropriate lane for driving.

- Following are the regulations regarding appropriate lane usage**:**
    - Drive on the right half of roadway except
        - When overtaking and passing another vehicle proceeding in the same direction
        - When the right half of the roadway is closed to traffic while under construction or repair or when an obstruction exists making it necessary to drive to the left of the center of the highway
    - Follow posted traffic control devices for appropriate lane usage
    - May drive in any lane of a freeway having three or more lanes for travel in the same direction

SPEED CONTROL

The driver will adjust school bus speed appropriately for existing traffic conditions including traffic flow and legal speed limits

- Regulations regarding speed requirements follow:
    - Basic Speed Law: Drive at a careful and prudent speed not greater than nor less than is reasonable and proper for all traffic and road conditions. Do not drive at a speed greater than will permit a safe stop within the clear distance ahead.
    - Absolute Speed Laws:
        - 60 mph – Maximum on expressways
        - 45 mph – Minimum on expressways
        - 55 mph – Maximum on highways
        - 50 mph – Maximum on secondary roads
        - 45 mph – Designated work area for highway construction, maintenance or surveying activities
        - 25 mph – Business, residential and public park areas unless otherwise posted
        - 25 mph – School zones
- State those techniques which will enable the driver to adjust speed appropriately for existing conditions
    - Periodically observe speedometer to check speed
    - Adjust speed to that of other traffic by accelerating, decelerating, braking and/or downshifting

FOLLOWING DISTANCE

The driver will maintain an adequate following distance with appropriate separation between the school bus and the vehicle ahead.

- Rules follow which assist the driver in determining an adequate following distance:
    - Under ideal conditions, maintain at least a four (4) second following distance
    - Look ahead 12-15 seconds. By scanning the road that far ahead, trouble can be seen well in advance and can often be avoided
- Greater following distances are required,
    - When increasing speed
    - When driving on wet or icy roads
    - When driving at night or during weather conditions that adversely affect your ability to see the roadway and traffic conditions ahead
    - When fatigued
    - When following emergency vehicles
    - When following dual-wheeled vehicles, which may cause damage to the bus by the thrust of debris thrown from between the wheels
    - When following two-wheeled vehicles that can stop within shorter distances

    Following Distances are determined by counting, “one thousand one, one thousand two, one thousand three, one thousand four” as the rear of the vehicle ahead passes a stationary object. If at least four (4) seconds have passed before the front of the bus has reached the same object, a proper following distance is being maintained.

CURVES

The driver will safely negotiate curves.

- The following techniques will enable the driver to safely negotiate curves.
    - Approach curves at speeds that will enable the curve to be negotiated safely by:
        - Observing roadway ahead for signs indicating maximum safe entering speed
        - Reducing speed, if necessary, to attain posted speed limit
    - When entering and driving through a curve,
        - Look well ahead to anticipate the need for steering corrections
        - Maintain position within the lane. Do not change or “cut across” lanes
        - Maintain speed throughout the curve by keeping slight pressure on the accelerator
        - Reduce speed by removing foot from accelerator and applying foot to brakes lightly. Reduce speed,
            - Whenever the initial speed proves too great for the rate of curvature
            - Whenever visibility is restricted by darkness, fog, vegetation or other obstructions
        - Accelerate slightly during curve if the entry speed proves to be slower than necessary
        - When leaving curve, resume original or other safe speed

HILLS

The driver will negotiate hills safely and effectively.

- The following techniques will enable the driver to safely negotiate upgrades
    - Select far right lane or auxiliary climbing lane (if available)
    - Maintain constant speed on upgrades by
        - Applying accelerator pressure
        - Shifting to lower gear
    - When approaching the crest on a narrow roadway, keep far to the right
    - Slow down slightly when approaching the crest to compensate for limited sight distance and for an anticipated increase in speed upon reaching the crest
- Test brakes before going down the grade
- The following techniques will enable the driver to safely negotiate downgrades
    - Look for signs indicating the length and/or gradient of the downgrade
    - Shift into lower gear before beginning a long and/or steep downgrade
    - Maintain constant speed on downgrades by,
        - Applying brakes just hard enough to feel a definite slowdown
        - When the speed has been reduced to approximately five (5) mph below the “safe” speed, release the brakes. This brake application should last for about three (3) seconds.

- When the speed has increased to the "safe" speed, repeat the previous two (2) steps

Example: If the "safe" speed is 40 mph, apply the brakes until your speed reaches 40 mph. Now apply the brakes hard enough to gradually reduce speed to 35 mph; release the brakes. Repeat this as often as necessary until reaching the end of the downgrade.

Escape Ramps: There are escape ramps made to stop runaway vehicles safely without injuring drivers and passengers.

o Brake Problems may occur and be noted by:

- Odors that suggest hot brakes
- Increased brake pressure which may affect brakes
- Loss of air pressure

LEAVING TRAFFIC STREAM

The driver will safely leave a line of traffic with minimal interference to vehicles behind and/or to the side of the school bus.

- The sequential steps to be followed when leaving a line of traffic:
    - Scan roadside for suitable place to stop
    - Observe shoulder for obstructions, such as trees, poles, sign posts
    - Look for spot with no obstructions where vehicle can be seen by traffic
    - Check mirrors
    - Signal intention to leave traffic stream at least 100 feet before doing so
    - Reduce speed
    - Guide school bus gradually off the roadway
    - Brake gently to a complete stop
    - Activate hazard lights

BEING PASSED

The driver will drive a school bus safely while being passed by another vehicle with the ability to adjust speed and/or position as necessary for the other vehicle to complete the pass quickly.

- The driver will understand and be competent to follow necessary procedures explained below enabling other vehicles to pass a school bus safely
    - Maintain position in center of lane, or move slightly to the right, if possible
    - Maintain or reduce speed; do not accelerate
    - Watch traffic ahead for signals that the traffic is slowing or stopping
    - Watch for signals that the passing vehicle plans to cut back in front of the school bus
        - Driver looks back over shoulder
        - Turn signal flashing
        - Front wheels begin to angle back to the right
    - Prepare to slow down to provide a larger space for the passing vehicle as it reenters the lane or to obtain additional following distance needed if the passing vehicle cuts in after passing

BEING FOLLOWED

The driver will drive a school bus safely when followed by another vehicle and maintain adequate separation between the bus and the vehicle following.

- Following are the techniques needed to maintain an adequate separation between the school bus and following vehicle by the school bus driver
    - Signal intended maneuvers
    - Check mirrors every 3-5 seconds (frequently)
    - Watch for indications that following vehicles intend to pass
    - Observe roadway ahead to anticipate the need to stop
    - Use the four (4) second following distance method

STARTING ON GRADES

The driver will put a school bus in motion on either upgrade or downgrades.

- Following are the sequential steps for putting a school bus in motion on an upgrade
    - Press brake
    - Set parking brake
    - Place gearshift lever in drive, or low if on a steep upgrade
    - Simultaneously release brake and gradually press accelerator
- Following are the sequential steps for putting a school bus in motion on a downgrade
    - Press brake
    - Place gearshift lever in drive, or low if on a steep downgrade
    - Release brake and accelerate if necessary

Unit V

RESIDENTIAL DRIVING SKILLS

INSTRUCTOR'S GUIDE FOR LESSON FIVE
Residential Driving Skills

Lesson Objectives:

- Introduce the student to increased vehicle pedestrian interaction in a residential area.
- Develop the residential driving skills and maneuvers required of a school bus driver.
- Enhance the student's ability to perform hazard and risk assessment in a residential environment.
- Assist the student in developing the skills necessary to operate a large vehicle in a limited space environment.
- Develop perceptual skills unique to residential diving.

Recommendations on Teaching Techniques:

- Review the following concepts from Lesson 4 with the student:
  - Follow distance rule.
  - Visual/perceptual requirements for turns.
  - Entering and exiting the traffic flow.
  - Lateral clearances.
- Use the Student Introduction in the lesson plan to prepare the student for the lesson.
- Have the student conduct a pre-trip inspection using complete commentary to describe the process.
- Drive the residential route prepared for this lesson. Begin by having the student drive at a slow speed and then gradually increase to the speed limit or a safe speed. Driving at a slow speed early in the lesson gives the student a period of time to become reacquainted with operating a large vehicle. Emphasize the increased traffic interaction that can be expected and ask the student how driving should be adjusted to account for the increase.

- Constantly evaluate the student's visual lead and reaction to possible problems. Other important skills to emphasize are lane positioning for turns and frequent starting and stopping. Give the student multiple directions to follow rather than constantly interrupting the driving to issue new directions. Also, give directions well in advance. When multiple directions are given well in advance, the instructor can evaluate the student's preparation for turns and maneuvers in a more realistic manner. An example of giving multiple directions would be, "At the second intersection turn right; then proceed to the first traffic light and turn right again".

- At this stage in the training program, the instructor can increase the use of commentary driving with the student. The commentary should become more fluent and provide a better basis for evaluation of the student. The use of more difficult driving situations should also be selected and used in order to continually challenge the student.

- With greater traffic interaction in a residential area the instructor must also become more active visually and perceptually in order to identify possible conflicts. An increased awareness of the changes in the traffic environment should be accomplished through more constant intense traffic checks. The traffic situation can change much faster in a residential area than in a rural area.

- Private driveways and other areas should not be used for school bus maneuvers without permission from the property owner. The areas should not be used for instructional purposes if occupied by another party.

- Providing an explanation of the problems with large vehicles in residential areas is often necessary with new drivers. Do not assume that the student will gain this information independently. Ask questions about differences that the student experienced at the close of the lesson.

- Make every attempt to include more student use of the SIPDE concept during the residential driving preparation for urban traffic. Instilling this concept at the residential level will help reduce the problems the student encounters as a result of increased traffic in the urban environment. Combine the concepts of visual lead, scanning, and SIPDE to help develop an improved awareness of the driving environment.

- At least half of the commentary in this lesson should be initiated by the student in response to situations in the traffic scene. With increased competency as a school bus driver, the driver should become more active as an evaluator of the situations that are being encountered and in defining the alternatives. The instructor now assumes the role as a moderator in the lesson; one that provides help only when necessary. Begin the process of moving the student toward a more independent role that is similar to the one they will occupy when functioning as a regular driver. The instructor gradually assumes less control and the student accepts more.

- Demand precision in the maneuvers and skills that the student performs. Allowing sloppy performance reflects poorly on both the instructor and the student. Turns, lane changes, intersection travel, parking and all other skills are to be performed precisely as intended and the student should be made to feel a sense of pride in a high level of quality. Use positive reinforcement when a skill or maneuver is executed especially well. Assist the student to correct errors when performance is not up to par.

- Well presented reinforcement involves two elements:
    - Identify for the student that the skill or maneuver was performed well.
    - Explain to the student why the skill or exercise was especially well done.

- Feedback to the student that is intended to define performance that is not acceptable to the instructor should consist of three distinct elements:
    - Identify for the student each skill or maneuver that could be improved.

- Describe the elements that were not done properly and why they were not acceptable.
- Describe for the student or have the student describe, the action necessary to correct the error.

- The third element in the process of giving feedback to correct a problem is essential if the student is expected to improve the performance. Quite often the student is not aware of why performance is unacceptable or how to improve. Practice without proper feedback rarely yields improvement.

Description of Key Words:

- **Response** - the action of the driver receiving the information.

- **Obstructions** – physical objects limiting visual distance. Assess the drivers reaction to visual obstructions and the technique used to eliminate the problems caused by these obstructions.

- **Commentary** – The driver's use of verbal descriptions of the traffic environment and the ways in which the diver intends to interact with other road users.

- **Evaluation** – In addition to the standard evaluation features included in the Lesson Plan, the residential area demands additional emphasis from the instructor. The basic driving skills should no longer be a problem for the student. If basic skills still pose a problem, the instructor should rectify the situation before advancing to the next lesson.

Special Considerations:

- Three items deserve special consideration at this stage of the training program. The items are crucial because lack of student competence in this regard at the residential level can translate into serious driving errors in urban traffic.
  - Evaluate the student's ability to respond accurately and promptly to a variety of traffic conflicts.
  - Assess consistency in the student's performance of skills and maneuvers.

- Evaluate the student's ability to predict traffic problems well in advance of the immediate driving scene.

Route Planning:

- Plan a residential route that encompasses the following characteristics or situations:
  - An area that is relatively free of children (the time of day is often more of an indicator of the presence of children than the location of the route.)
  - Intersections with signs or signals
  - Moderate cross traffic at a number of intersections
  - Obstructions to visibility
  - Stop on a hill
  - An intersection with turn lanes or bays
  - Avoid areas or intersections with excessively sharp turns

Preparation for the Next Lesson:

Ask the student to practice commentary driving in an urban setting and to consider the problems that a bus will encounter in urban traffic.

Provide the student with a copy of the detailed skill and maneuver descriptions that are included in Lesson 6 in order to prepare for urban driving.

Have the student read the following sections in the Michigan Commercial Driver License Manual:

- Section 2.15 Emergencies
- Section 2.16 Skid Control
- Section 2.19 Staying alert and fit to drive
- Section 2.20 Hazardous materials rules for all commercial drivers

LESSON PLAN 5

Residential Driving Skills

Introduction to the Instructor

This lesson involves the operation of the school bus on streets with limited space, increased vehicular and pedestrian traffic, and frequent conflicts. Review: Following distance, lateral clearances, turns, entering traffic flow.

Student Introduction

This lesson is devoted to the skills necessary to drive in a residential area. You will encounter problems with space, vehicle and pedestrian traffic, visual obstructions, and traffic conflicts.

Skill Development

Perception and risk assessment are the primary topics in this lesson. Skill development builds upon the skills introduced in lesson 4.

Competency		**Skill**	**Key Words**
Yes	**No**		
___	___	Signs, signals, markings	visual lead, response
___	___	Parked vehicle	lateral clearance, position
___	___	Oncoming vehicle	lateral clearance, position
___	___	Yield right of way/stop	visual checks, obstruction
___	___	Pedestrian/cycle	lane position, response
___	___	Approaching intersection	visual check/speed obstructions
___	___	Through intersection	visual check/speed obstructions
___	___	Right turns	visual fix, speed, position
___	___	Left turns	visual fix, speed, position
___	___	SIPDE	scanning, visual lead commentary

Review Questions

1. When traveling through an intersection, which visual checks need to be made?

2. How do you maintain proper lane position while driving on a residential street?

3. What are the two (2) major problems in making turns with a bus and how do you compensate for the problems?

Summary

1. Have the student describe several of the major hazards encountered in residential areas and ways to avoid them.

2. Review the situations in which sight distance is a problem for bus drivers.

3. Ask the students to identify problems found in residential areas that may also be found in urban areas (Lesson 6).

SIGNS, SIGNALS AND MARKINGS

The driver will identify the various signs, signals and pavements markings, understand their meaning, and appropriately react to them as a school bus driver.

- Description and proper driver reactions are described for each of the various shapes and colors of the following traffic signs:
    - **Signs/Shapes**:
        - Octagon. Stop. Must come to a complete stop. Yield right-of-way to pedestrians. Stop behind the stop line, marked, or unmarked crosswalk. Without a stop line or crosswalk, stop at the point nearest the intersecting roadway where the driver has a view of approaching traffic on the intersecting roadway.
        - Inverted Triangle. Yield. Slow down and be ready to stop if needed. Give right-of-way to traffic and pedestrians.
        - Diamond. Warning. These alert drivers to possible dangers ahead. Adjust driving to avoid these dangers.
        - Vertical Rectangle. Regulatory. Inform drivers about traffic laws and regulations.
        - Horizontal Rectangle. Guide. Provide drivers with directional and distance information.
        - Round. Railroad. Warns of a railroad crossing. Slow down and prepare to stop.
        - Pennant. No passing. Found on left side of road.
        - Pentagon. School. Slow down and watch for children.

- Triangle. Slow moving vehicle. Vehicle carrying this sign cannot travel faster than 25 mph.
- Shields. Guide. Identifies highway by number and symbol as part of national, state, or local system.

- **Colors:**
  - Red. Stop, yield or a prohibition.
  - Yellow. Warning.
  - Orange. Construction and maintenance warning.
  - Green. Indicated movements permitted and direction guidance.
  - White. Regulation.
  - Black. Regulation.
  - Blue. Motorist services guidance.
  - Brown. Public recreation and scenic guidance.

- The driver will understand the meaning and proper driver reaction to the following traffic control signals
  - **Traffic Control Signs:**
    - Traffic Signals:
      - Red. Stop. Stop behind a crosswalk or stop line.
      - Yellow. Caution. Slow down and be prepared to stop.
      - Green. May proceed with caution if the way is clear. Yield to vehicles and pedestrians in the intersection.

SIGNS, SIGNALS AND MARKINGS (continued)

- Arrow:
    - Steady Green. May turn in the direction shown by the arrow. Yield to pedestrians and other traffic using the intersection.
- Flashing Signals:
    - Red. Come to full stop. May proceed when the road is clear.
    - Yellow. Caution. Drive carefully through the intersection.
- Lane Signals:
    - Green. A steady green arrow pointed downward indicates drivers are permitted to drive in that lane.
    - Yellow. A steady yellow X indicates that drivers should clear that lane as the signal is to change to red.
    - Red. A steady red X indicates that drivers should not drive in that lane.

- The driver will understand the meaning and proper driver reaction to the various pavement markings.
    - **Pavement Markings**:
        - Yellow Lines: Separate traffic lanes moving in opposite directions.
            - Broken Yellow lines on your side of the road indicate passing is permitted when safe.

- o Solid Yellow lines on your side of the road indicate do not pass. On four-lane divided roads they will mark the left edge of the pavement.

- o Double Solid Yellow lines on two-lane roads indicate do not pass for either direction.

- o Double Solid Yellow lines on roads of four (4) or more lanes indicate center of road.

- o Center lane, left turn only. Marked on both sides by solid yellow and broken yellow lines – Use only when turning left. Do not use for passing.

- White Lines: Separate traffic lanes moving in the same direction.

  - o Broken White Lines. Separate traffic lanes moving in the same direction on roadways having more than one lane moving in one direction.

  - o Solid White Lines. Mark the edge of the pavement. When used to separate lanes of traffic moving in the same direction, do not change lanes.

  - o Crosswalk Lines. Indicate where pedestrians are to cross. Stop behind crosswalk and yield to pedestrians.

  - o Stop Lines. Indicate where a vehicle must stop at intersections.

- Symbols:

  - o White Arrows. Lanes marked with white arrows indicate the direction in which the driver must proceed.

PARKED VEHICLES

The driver will drive safely by parked vehicles.

- Following is a list of the greatest hazards in passing parked vehicles
    - Spaces between parked vehicles through which pedestrians and animals may dart into the street
    - Parked vehicle which may suddenly move into the path of the school bus
    - Occupants of parked vehicles who may suddenly open doors
- Following is a list of cues which can indicate that a parked vehicle is about to enter the driving lane
    - Exhaust fumes coming from the vehicle
    - Back up lights on
    - Brake lights one
    - Front wheels turned toward the traffic lane
    - Driver looking back over shoulder
    - Turn signal flashing
- Following are techniques enabling the driver to pass parked vehicles safely:
    - Maintain reasonable speed
    - Maintain lane position leaving reasonable clearance between the bus and parked vehicles
    - Be ready to stop
    - Change lanes if necessary and traffic conditions permit it

ON-COMING VEHICLES

The driver will drive a school bus safely when meeting on-coming vehicles on a two-lane roadway.

- Following are techniques which will enable the driver to safely meet on-coming vehicles on a two-lane roadway
    - Maintain position to the right of the center line
    - Observe roadway for slow moving or stopped vehicles or obstructions which might force on-coming vehicles across the center line
    - Be prepared to stop
    - Look for a place to steer to the right

YIELDING (RIGHT-OF-WAY)

The driver will yield to other vehicles and pedestrians when required to do so.

- Following is the correct driver action when encountering yielding situations:
    - At or approaching intersections:
        - Yield the right-of-way to a vehicle which has entered the intersection from a different highway
        - When reaching an intersection at approximately the same time as another vehicle, yield the right-of-way to the vehicle on the right.
        - When approaching a yield sign, slow down to a reasonable speed and yield the right-of-way to any vehicle in the intersection and to approaching traffic on another highway so closely as to constitute an immediate hazard while moving across or within the intersection
        - When approaching a stop intersection, stop and yield the right-of-way to a vehicle which has entered the intersection from another highway or which is approaching so closely as to constitute an immediate hazard while moving across or within the intersection
        - When approaching a main highway which is appropriately marked with merge signs, yield the right-of-way to a vehicle close enough to constitute an immediate hazard on the highway about to be entered
        - When intending to turn left, yield the right-of-way to a vehicle approaching from the opposite direction which is within the intersection or so close as to constitute an immediate hazard

YIELDING (RIGHT-OF-WAY) [continued]

- Stop and then yield the right-of-way:
  - When entering or crossing a highway from an alley, private road, or driveway
  - When turning on a red light, where turns are permitted
- Emergency Vehicles:
  - Yield the right-of-way to emergency vehicles that are sounding an audible signal and exhibiting a flashing blue or red warning light by pulling as far as possible to the right clear of an intersection and stopping
- Pedestrians:
  - Yield right-of-way to pedestrians:
    - At Stop Signs. After coming to a complete stop, give the right-of-way to pedestrians crossing the street
    - At Traffic Signals. After a light turns green, yield to pedestrians still crossing the street. Also, yield to pedestrians walking with a green light or a “walk” signal
    - At Crosswalks. When pedestrians are crossing the street at a crosswalk, slow down or stop before reaching the crosswalk
    - When Turning. Yield to pedestrians when turning at intersection or when entering an alley or driveway
    - When Entering A Street. Yield to pedestrians in your path when driving onto a street or highway from a driveway or alley

- Yield at all times when a collision with pedestrians is possible

- When Approaching Blind Persons. When approaching a crosswalk or any other pedestrian crossing take all necessary precautions to avoid an accident or injury to a blind pedestrian whether or not the person is carrying a cane or using a guide dog

- Yield to Funeral Processions

- Yield when directed to do so by a police officer who is guiding, directing, controlling or regulating traffic

PEDESTRIANS, CYCLISTS AND ANIMALS

The driver will safely react to pedestrians, cyclists and animals.

- Regulations regarding yielding to pedestrians that school bus drivers must know is listed as follows:
    - Yield right-of-way to pedestrians,
        - At stop signs
        - At traffic signals
        - At crosswalks
        - When turning
        - When entering street from a driveway or alley
        - When approaching blind pedestrians
    - Techniques which will enable the driver to interact safely with cyclists follows:
        - Leave plenty of room for cyclists
        - When approaching cyclists, give a short beep on the horn at least 200 feet prior to passing to warn them that you are near
        - Watch for cyclists at night as they may not have proper lighting
        - Provide at least 12 feet of side clearance when passing

PEDESTRIANS, CYCLISTS AND ANIMALS (continued)

- Techniques which will enable the driver to deal safely with animals follows:
    - Watch for animals on or along the roadway
    - Slow down when entering “animal crossing zones” or when seeing animals on or along the roadway
    - If and when animals enter the roadway,
        - Check mirrors
        - Hit animal if stopping or maneuvering would jeopardize own safety or that of passengers, other motorists or pedestrians
        - Prepare to stop or maneuver if traffic permits

INTERSECTIONS – APPROACHING

The driver will approach intersections, reacting appropriately to other traffic and traffic controls, properly and safely.

- Sequential procedures follow that enable the school bus driver to safely approach intersections:
    - When approaching an intersection, slow down in sufficient time to avoid stopping in the intersection or on the crosswalk
    - Observe signs providing lane information and enter the correct lane as early as possible, but no later than 100 feet before reaching the intersection
        - When intending to turn, enter the far right lane for a right turn or far left authorized lane for a left turn, unless otherwise directed
    - Check mirrors (every 3-5 seconds)
    - Signal intention to turn as soon as possible without causing confusion, but not later than 100 feet before reaching the intersection
    - If conditions do not permit entering the correct lane for the turn, proceed to the next intersection
- Description of regulations enabling the school bus driver to safely observe and follow traffic controls at intersections follows:
    - If an officer and control devices are in conflict, follow the officer's directions
    - Prepare to stop if the light is red, flashing red, yellow, or if facing pedestrian crossing signal is flashing. Proceed with caution although ready to stop if light is flashing yellow
    - Slow and prepare to stop if the traffic light is changing from green to yellow

INTERSECTIONS – APPROACHING (continued)

- Proceed through the intersection when the light changes from green to yellow, if stopping would cause a conflict with other vehicles

- Description of Regulations (continued):

  - Slow in preparation for stopping at an intersection controlled by a stop sign

  - Slow sufficiently to stop, if necessary, at an intersection controlled by a yield sign and proceed cautiously only when the intersection is clear

- The safety precautions enabling the school bus driver to properly observe and react to other traffic when approaching intersections follows:

  - Observe oncoming traffic for an indication of a left turn and prepare to stop quickly if an oncoming vehicle suddenly makes a left turn

  - Reduce speed to enable a left-turning vehicle in the intersection to complete the turn, and be ready to stop if the vehicle does not complete the turn

  - Observe path ahead of a left or right turning vehicle to anticipate a forced stop by the turning vehicle

  - Slow down or stop to permit a vehicle approaching from the right to clear the intersection if the vehicle is close and rapidly approaching the intersection

  - Observe the path of a vehicle approaching from the right to anticipate the vehicle entering the intersection

  - When a vehicle approaches from the left and the bus is on a major road, observe other vehicle for an indication of slowing down and prepare to stop if the vehicle does not yield the right-of-way

INTERSECTION – THROUGH

The driver will safely proceed through intersections, properly reacting to changing traffic conditions.

- Following is a description of appropriate procedures for proceeding through intersections:
    - Observe the path of traffic ahead to anticipate any stops and prepare to stop should the lead vehicle stop suddenly
    - Stop if oncoming traffic suddenly makes a left turn across the path of the bus
    - Observe traffic from the left. If a vehicle signals for a right turn, do not pull out until the vehicle begins to turn
    - Observe traffic from the right before entering an intersection and enter it only when safe passage is assured
    - Slow down and proceed cautiously if pedestrians are near the corner, yielding the right-of-way or stopping if a pedestrian enters the street
    - Observe oncoming traffic preparing to turn left and prepare to stop should a left turn be initiated
- Proper responses to various traffic control devices used at intersection follows:
    - Enter intersection, after checking for cross traffic, if the light is green or flashing yellow
    - Come to a complete stop before proceeding through the intersection if there is a flashing red light
    - If a green arrow governs the lane, proceed only in the direction indicated by the arrow

INTERSECTION – THROUGH (continued)

- When the intersection is controlled by a stop sign, come to a complete stop, proceeding only when it will not interfere with cross traffic

- When encountering a “yield” sign, proceed only when it will not interfere with cross traffic

ENTERING OFF-STREETS

The driver will approach and enter off-street areas in a safe and efficient manner.

- A list of correct sequential steps follows for approaching and entering an entrance to an off-street area on the left:

  - Check mirrors for traffic flow

  - Signal for a left turn

  - Position bus in the lane just to the right of the center line or in the left turn only lane

  - Keep wheels aimed straight ahead

  - Yield to oncoming traffic

  - Watch for other traffic entering or exiting off-street areas

  - Check left mirrors for rear dual and passing vehicles

  - Complete turn

  - Maintain safe entrance speed when turning into an off-street area entrance

  - Stop only after the bus is completely through the entrance way and well off the main roadway

ENTERING OFF-STREETS (continued)

- A correct sequence of steps for approaching and entering an entrance to an off-street area on the right follows:
    - Check mirrors for traffic flow
    - Signal for a right turn
    - If intending to turn into an off-street area immediately beyond an intersection, activate turn signal when halfway through the intersection so that other drivers do not interpret the signal as an indication to turn at the intersection
    - Position vehicle in the appropriate lane
    - Look for signs or entryway markings indicating direction of travel
    - Adjust position of the bus to provide proper clearance for entering the off-street area
    - Check right mirror for passing vehicles and obstructions
    - Complete turn
    - Maintain safe entrance speed when turning into the off-street area entrance
    - Stop only after the bus is completely through the entrance way and well off the main roadway

INTERSECTIONS – RIGHT TURNS

The driver will safely make right turns at intersections.

- The correct sequential procedure for making a right turn at an intersection follows:
    - Check mirrors
    - Signal intention to turn well in advance of the turn
    - Both the approach for a right turn and the right turn shall be made as close as practicable to the left edge of the right turn lane
    - Observe traffic controls before attempting to make a right turn
    - Check cross traffic to the left and if there is a line of traffic wait for a gap of sufficient size before proceeding
    - Check cross traffic to the right to make sure there are no vehicles blocking passage in the intended lane
    - Check right mirror
    - Enter travel lane nearest the curb, turning sharply enough to avoid blocking or entering the left lane, if possible. If necessary, use opposing traffic lane of the street into which you are turning (when not in use) to complete the turn
    - When making the turn, use the hand-over-hand technique and turn the steering wheel all the way to the right
    - Avoid shifting gears or using hands for any other activities other than steering while making the turn
    - Check mirrors for clearance of right rear duals as you turn
    - Accelerate slightly during the turn

INTERSECTIONS – RIGHT TURNS (continued)

- After turn has been completed, check to see that the directional signal has been canceled

- Adjust vehicle speed to conditions

- Regulations regarding right turns:

  - Both the approach for a right turn and a right turn shall be made as close as practicable to the right curb or edge of the roadway. For a school bus, this is the far left side of the right turn lane

  - Vehicular traffic facing a steady red signal, after stopping before entering the crosswalk on the near side of the intersection or at a limit line when marked, or if none, then before entering the intersection shall be privileged to make a right turn from a one-way to two-way street into a two-way street or into a one-way street carrying traffic in the direction of the right turn unless prohibited by sign, signal, marking light, or other traffic control device

    The vehicular traffic shall yield the right-of-way to pedestrians lawfully within an adjacent crosswalk and to other traffic lawfully using the intersection

INTERSECTIONS – LEFT TURNS

The driver will safely turn left at intersections.

- The correct sequential procedures follow for making a left turn at an intersection**:**
    - Observe traffic controls before making the turn
    - Check mirrors
    - Signal intention to turn well in advance of the intersection
    - Reduce speed of the bus
    - Check cross traffic and wait until there is a sufficient gap in traffic from the left and right before proceeding to turn
    - Observe traffic and pedestrians for a gap in which to turn
    - Yield to oncoming traffic
    - When making the turn, use hand-over-hand technique and turn the steering wheel all the way to the left
    - Avoid shifting gears or using hands for any other activities other than steering while making the turn
    - Enter lane to the right of the center line
    - When turning into a one-way street, turn into the left lane unless otherwise marked
    - Check to be sure that the directional signal has been canceled after completing the turn
    - Adjust vehicle speed to conditions

INTERSECTIONS – LEFT TURNS (continued)

- Regulations regarding left turns:

    - The approach for a left turn shall be made in that portion of the right half of the roadway nearest the center line, and after entering the intersection, the left turn shall be made so as to leave the intersection to the right of the center line of the roadway being entered

    - The approach for a left turn from a two-way roadway into a one-way roadway shall be made in that portion of the right half of the roadway nearest the center line and by passing to the right of the center line where it enters the intersection

    - The approach for a left turn from a one-way roadway into a two-way roadway shall be made as close as practicable to the left curb or edge of the roadway and by passing to the right of the center line of the roadway being entered

    - Where both streets or roadways are one-way, both the approach for a left turn and a left turn shall be made as close as practicable to the left curb or edge of the roadway

    - Vehicular traffic facing a steady red signal, after stopping before entering the crosswalk on the near side of the intersection or at a limit line when marked, or if none, then before entering the intersection, shall be privileged to make a left turn from a one-way or two-way street into a one-way roadway carrying traffic in the direction of the left turn unless prohibited by sign, signal, marking light, or other traffic control device

      The vehicular traffic shall yield the right-of-way to pedestrians lawfully within an adjacent crosswalk and to other traffic lawfully using the intersection

EVALUATING YOUR STUDENT

YOUR PROGRAM

AND YOU

EVALUATING YOUR STUDENT

1. Pre-Trip
   - Thorough vehicle inspection
     - Cover ALL systems
     - Use a Standardized Sequence
2. Range Pre-Trip
   - Operate all controls
     - Safety
     - Convenience devices
   - Control vehicle speed and direction
     - Forward
     - Backward
   - Maneuver the vehicle in close quarters
     - Forward
     - Backward

EVALUATING YOUR ROUTE AND PROGRAM

- Evaluation Route
  - Routes should be long enough in time and distance to allow the driver to drive as they normally do.
  - Include a Lead-in period to allow the driver to get acclimated to the vehicle as well as the evaluation process.
  - The route should contain every day driving situations.
  - The final evaluation route must consist of ALL driving environments.

EVALUATING YOUR ROUTE AND PROGRAM

- **Program – Evaluation Sequences and Situations**
  - **Sequences should be planned as *short sections* of roadway in which the driving tasks are highly interrelated.**
  - **The more complex the problems**
    - **Better assessment of the driver's**
    - **Safe driving performance**

GIVING DIRECTIONS

1. **Direction should be**
   - **Written**
   - **Standardized**
   - **Given Verbatim**
2. **Directions should contain**
   - **A plan consisting of precise exercises within the route to be performed by the student.**
   - **First step to last step**
3. **Directions should be**
   - **Simple**
   - **Short and Concise**
   - **Easy to State**
   - **Easy to understand and follow**
   - **Consistent**

GIVING DIRECTIONS (continued)

4. **Giving Directions…**
   - **Avoid street/road names**
     - **Say… At the next corner….**
   - **Use highway and Interstate Numbers**
     - **"Take I-94 East to…."**
     - **"Take US-23 North to…"**
   - **Do not give "Leading" information**
     - **At the next stop sign….**

GIVING DIRECTIONS (continued)

5. **Give Directions at a Safe, Consistent Location**
   - **The location is easy to remember**
   - **Location and directions will not change**
   - **At a place that gives the driver time and distance to prepare to execute**
   - ➢ **Do not give driver directions when the driver is busy performing a maneuver or must attend to traffic.**

GIVING DIRECTIONS (continued)

6. **When giving directions…**
   - **Loudly**
   - **Clearly**
   - **At a normal speaking rate**
   - ➢ **Pause between directional locations and what the driver is expected to do!**
     - ➢ **At the next intersection (pause) "Turn Left"**

GIVING DIRECTIONS (continued)

- **Make sure to include….**
  - **Varying road surfaces**
  - **Varying shoulder conditions**
  - **Limited space**
  - **Obscured visibility**
  - **GAP selection**
  - **Hidden driveways**
  - **Dense traffic**
  - **Limited time and distance**
  - **High speed traffic**
  - **Merging traffic**

EVALUATION ROUTE SHOULD CONTAIN

- **1-2 sequences for each driving environment**
- **2-4 evaluation situations for each sequence**
- **16-20 evaluation situations for each route**
- **The sequence should range from simple to complex**

EVALUATION ROUTE SHOULD CONTAIN (continued)

- **Document your test route**
  - **Draw a map for each sequence**
  - **Write a route description**
  - **Show each sequence and it's components**
    - **Streets…Roads…Number of Lanes…Traffic signs, signals and road markings…path of travel…speed…direction**
    - **Include: Speed control… Direction control… Search… Fixed Hazards – Hills, Curves, Trees, Bushes, Poles, Signs… Potential Hazards – Other vehicles, animals, pedestrians.**

EVALUATION ROUTE SHOULD CONTAIN (continued)

- **Evaluate Driver Performance Elements**
  - **Maneuvering Skills**
  - **Ability to identify and avoid potential hazards**
  - **Performance reliability**
    - **Do they respond to you appropriately?**
    - **Do they possess good driving habits?**

EVALUATION ROUTE SHOULD CONTAIN (continued)

- **Evaluate driver response to:**
  - **Time and distance**
  - **Direction control**
  - **Speed control**
  - **Search**
  - **Identifying potential hazards**
  - **Identifying fixed hazards**
  - **Identifying environmental hazards**
  - **Understanding and responding to Instructor directions**

Evaluation Do's and Don'ts

- **DO NOT**
  - **Eat or Drink… Use a radio or tape player… Criticize… Discuss driver performance… Try to trick a driver… Compare one driver with another…**
- **DO**
  - **Take Notes – State facts only!**
  - **Repeat instructions when asked**
  - **Answer questions about directions**
  - **Review driver performance after the evaluation is complete**
  - **Use uniform rating sheets**
  - **Rate – satisfactory/unsatisfactory**
  - **Record other events as needed…**
    - **Traffic violation… Near misses… Failure to recognize potential hazards… Etc.**

EVALUATION RESULTS

- **When performance is acceptable**
  - **Cite one example of unacceptable performance**
  - **Review major strengths**
  - **Encourage drive to improve shortcomings and continue strengths**

EVALUATION RESULTS

- **When Performance is Unacceptable**
  - Cite one example of acceptable performance
  - Review major weaknesses and their importance
  - Encourage driver to get additional instruction/practice
  - Announce evaluation results

ABORTING TRAINING

- **State only facts, not feelings!**
  - Tell the driver why????
  - Tell the driver the policy regarding
    - Ending the training
    - Preparation for a retake
- **Evaluation you Decision**

➢ **Quick Reference Check List**

  - Driver is not doing what he/she should be doing
    - What is the performance discrepancy?
    - Is it Important?
    - Is it a skill deficiency?

ABORTING TRAINING (continued)

- **Yes, it is a Skill Deficiency**
  - Could he/she do it in the past?
  - Is the skill used often?
  - Is there a simpler solution?
  - Does he have what it takes?
- **No, it is NOT a Skill Deficiency**
  - Is the desired performance punishing?
  - Is non-performance rewarding?
  - Does performance really matter?
  - Are there obstacles to achieving the performance?
  - Is there a lack of motivation?
  - Does he/she have what it takes?

ABORTING TRAINING (continued)

- **Before you talk to the Student**
  - **Talk with your supervisor**
  - **Use specific reasons for your recommendation to abort this person as a driver**
  - **What specific skills did they fail?**
  - **How did you rate his/her overall performance?**
  - **What specific attitudes were displayed?**
  - **Relate specific incidents, discussions**

➢ **Document legitimate reasons in writing. Attach copies of rating forms and/or evaluation sheets and be prepared to give to your supervisor.**

Review from Previous Class Days

Unit VI

URBAN DRIVING SKILLS

INSTRUCTOR'S GUIDE FOR LESSON SIX
Urban Driving

Lesson Objectives:

- Introduce the student to a complex and intense traffic environment
- Develop the skills necessary to drive a school bus in an urban area
- Introduce the student to higher speeds of operation of the bus on an urban expressway
- Enhance the perceptual skill of the student in order to accommodate the increased level of traffic inputs.

Recommendations on Teaching Techniques:

- Review intersection travel, scanning, SIPDE and vehicle interaction with the student before the lesson begins and stress the importance of these items in the urban environment.
- Use the Student Introduction in the Lesson Plan to prepare the student for the lesson.
- Ask the student to perform a pre-trip inspection of the school bus and to describe the special concerns in preparing to drive in an urban area.
- Before taking the student on the designated route, drive in a residential area for a short time to allow the student to become familiar with the bus. This is especially important if the student has not driven a bus for several days. Evaluate the student's residential skills closely and move to the urban route only when they are comfortable with the bus. Taking the student directly to the urban route does not permit the reorientation that is necessary before new skills and situations are introduced.

- Between the residential and urban areas, allow for a gradual transition from light to heavy traffic. This can be accomplished by entering the urban route via secondary and less congested streets. Practice the urban skills during this transition period to accommodate student needs and to eliminate indecision.

- When preparing the urban route, the instructor should practice giving the instructions and directions for the lesson much the same as a student employs commentary driving. In areas where confusion or uncertainty is anticipated on the part of the student, map out and discuss the traffic situation and review the driving strategy before the lesson. Remind the student of the map exercise as the particular location is approached and observe the preparation of the student to determine whether the proper approach is taken.

- Both the instructor and the student need to increase the number and the integrity of traffic checks throughout this lesson. Since urban driving changes rapidly, both must be aware of the constantly changing traffic situations.

- The increased traffic volume encountered will frequently cause the student to decrease the visual lead in an attempt to accommodate a greater number of inputs. When the visual lead decreases though, the student actually produces the opposite effect than the one intended. Because the visual lead decreases, the time available to process the information also decreases, and the student is left trying to process a large number of inputs in a shorter period of time. Use commentary driving to evaluate the visual lead and scanning.

  There is also a tendency for the student to drop visual fix when making a turn in heavy traffic. Reinforce the importance of this skill. Loss of visual fix will result in a deteriorating performance cycle in which the student's attempts to compensate for one problem, causes the problem to become worse.

  A remedy for these two situations involves constant attention to visual skills during the lesson by the instructor. When the first symptoms of visual lead and visual fix problems occur (erratic steering and improper or inconsistent lateral clearances) employ commentary driving to assess the situation and to get the student to move the visual lead further ahead.

- If precision has been demanded in the practice and performance of skills and maneuvers, the payoff will occur in the high density traffic environment. On the other hand, this lesson is difficult for the student and the instructor and any earlier errors of each will be magnified as the traffic situation becomes more complex.

- Clarify several points with the student early in the lesson
    - When in doubt about a direction, maneuver or skill, ask to have the comment repeated.
    - Keep speed of the bus down through at least the first half of the lesson
    - Employ all visual skills on a consistent level

These three simple recommendations can go a long way in reducing student and instructor error.

- Give all directions well in advance to allow the student enough response time. Think through the traffic situation before each maneuver and assess how indecision on the part of the student will influence safety and performance. Do not expect a student traveling in the far right lane to cross four lanes of traffic within a distance of one block in order to make a left turn. When there is any doubt as to whether the student understands a statement or direction, repeat it or ask them if they understand what they are to do.

- Lane changing in heavy traffic is probably one of the most dangerous maneuvers any vehicle operator can make. Exercise strict control over lane changes by requiring permission to do so until the student has demonstrated competence in this maneuver at least three times.

- The concept of <u>perceptual overload</u> is especially important during this lesson. Every driver has a limit to the number and intensity of the traffic inputs they can handle. As a general rule, the less experienced driver, the lower the limit or threshold.

Errors appear and performance deteriorates rapidly when the limit is exceeded. Most new drivers are near their threshold when first encountering heavy traffic situations. An overload can occur by a sudden or serious traffic conflict, unnecessary or conflicting instructor commentary during complex situations, and momentary inattention to the traffic scene.

When overload occurs, it is best to move to a less complex area and then gradually work back into the normal traffic flow.

- The decrease in the visual lead is a major cause of perceptual overloads because the student does not have an adequate amount of time to process all of the relevant information.

- Student frustration increases as the overload continues which then presents the instructor with two problems to solve.

- Overloads are best avoided with a carefully planned progression through the required levels of skill. A sudden and dramatic increase in traffic inputs will certainly reveal any student deficiencies. If the instructor feels the student is overloaded,
  - reduce speed
  - try to increase the visual lead
  - move to a less complex area

Description of Key Words:

- **Timing** - in relation to communication, this refers to giving adequate notice to other roadway users of the driver's intentions. Example; using the turn signal at the appropriate time when preparing for a turn.

- **Method** – employing the proper means of communicating with other drivers, use of horn, lights, brake pedal, lane position, eye contact or reducing speed.

- **Communication** – the act of transmitting one drivers intentions to other road users.

Evaluation:

There are several special evaluation needs in the urban lesson in addition to the standard evaluation process.

- Consider the student's response to traffic situations, especially the approach of complex situations. Evaluate whether or not the preparation and the approach reduced the problems the student could have encountered.
- Assess all visual skills. Performance is acceptable only when the student is comfortable and competent with the use of visual skills.
- Constantly judge lateral clearances as they are indicators of several potential problems
- Be aware of the possibility of perceptual overloads with beginning drivers.

Route Planning:

Unlike the residential environment, the urban environment presents constant and dramatic changes. This lesson should progress from a residential area at the start, to a transition area, to urban streets, to an urban expressway. The student may not be able to complete the entire progression in one lesson, much less attain complete competency. The following situations are required in this lesson:

- A transition area between residential and urban areas
- Lane changing
- Railroad crossing
- Enter, merge, and exit areas on an expressway
- Passing on expressway
- Complex urban intersections
- Bridge travel
- Traffic circles
- Lane selection areas

LESSON PLAN 6

Urban Driving Skills

Introduction to the Instructor

The final lesson in the on-street driving sequence acquaints the students with concepts and situations unique to urban areas. Topics covered include: Increased interaction, distractions, space restrictions, and driving strategies. Review: Interaction, intersections, scanning, SIPDE.

Student Introduction

Urban traffic demands a higher level of concentration on the part of the bus driver because the number of events occurring in the driving environment has increased. You can expect more traffic conflicts, pedestrian and cycle interaction, and complex maneuvers, than in any other area.

Skill Development

Competency		Skill	Key Words
Yes	No		
___	___	Turn movements	signal, speed, position, visual checks
___	___	Communicating	timing, method
___	___	Bridges/tunnels	position, speed, visual check
___	___	Pedestrians/cycles	visual checks, position, communication
___	___	Railroad crossings	visual, speed, position
___	___	Enter and merge (expressway)	visual checks, gap speed, head check
___	___	Exiting (expressway)	visual checks, speed, position
___	___	Traffic circles	visual checks, position, speed
___	___	Lane changing	head and visual checks, communication
___	___	Passing (expressway)	head/visual checks, speed, communication
___	___	SIPDE	scanning, visual lead, commentary

Review Questions

1. How will peak hour traffic affect the driving strategy for the operator of a school bus?

2. Of all the maneuvers performed by a school bus in an urban area, which is the most complicated, contains the greatest risk and why?

3. Which part of a driving strategy is most effective in reducing problems and conflicts in urban areas?

Summary

1. Ask the student to describe the steps for either a lane change or a merge.

2. Review the value of the SIPDE elements of “predict” and “decide” in urban areas.

3. Have the student discuss several major differences between urban and expressway traffic conditions and how to handle the differences.

4. Have the student explain what is meant by “complex maneuvers”.

BRIDGES AND TUNNELS

The driver will drive through tunnels and across bridges safely and expeditiously.

- Techniques which will enable the driver to approach a tunnel or bridge safely:
    - Slow down for better control and remain to the right to provide clearance with traffic in the adjacent lane
    - Look for signs regarding:
        - Lane availability and usage
        - Clearance
        - Load limit
        - Speed limit and passing restrictions
        - Use of nonuse of lights in a tunnel
- Techniques which will enable the driver to drive through a tunnel or across a bridge safely follow:
    - Observe other traffic and structures alongside the lane
    - Remove sunglasses in the tunnel, if worn
    - Adjust speed to grade changes and observe speedometer frequently
    - Stop only if the traffic flow requires it or if an emergency exists
    - Turn lights on in the tunnel if necessary

BRIDGES AND TUNNELS (continued)

- Techniques follow which will enable the driver to leave a tunnel or bridge safely**:**
    - Observe posted signs regarding exit information and speed limit
    - Continue to use headlights as usual after leaving a tunnel

RAILROAD CROSSINGS

The school bus driver will safely cross railroad crossings.

- The correct sequence of steps for a single railroad crossing follows:

    1. Check mirrors for traffic
    2. Inform students to be quiet because there is a railroad crossing ahead
    3. Turn on hazard lights well in advance of the crossing
    4. Stop no less than 15 feet and no more than 50 feet from the nearest rail
    5. Place bus in neutral or in parking gear (as per district policy)
    6. Shut off all electrical switches, such as heaters, fans, wipers, defrosters and radios
    7. Open driver's window
    8. Look both ways and listen carefully
    9. Check traffic situation and recheck tracks before crossing
    10. Close service door
    11. Cross the tracks in a gear that does not require shifting while crossing the track or tracks
        - Michigan law states, "The driver shall not shift gears while crossing the track or tracks"
    12. Continue to check for trains and traffic
    13. Turn off hazard lights
    14. Close window and turn on electrical switches as needed

- The following additional steps are needed for multiple track crossings:

    - After completing steps 1 through 10, noted above:

        1. Use extreme caution to assure that one train is not hidden by another train that may be parked on a side rail or approaching from the opposite direction
        2. Determine if you must stop for a second set of tracks. You must stop if there is room for the bus PLUS 15 feet in front and 15 feet behind the bus to the nearest track
        3. Complete steps 11 through 15 (from above)

RAILROAD CROSSINGS (continued)

- Regulations that must be understood regarding stopping for railroad crossings:

    - All school bus drivers, whether loaded or empty, must stop for a railroad crossing.

    - The driver shall stop the school bus not more than 50 feet, but not less than 15 feet from the nearest rail of the railroad, and shall not proceed until the driver can do so safely

    - The driver of a school bus shall cross only in a gear of the vehicle that does not require changing gears while traversing the crossing.

    - The driver may not drive any vehicle through, around, or under any crossing gate or barrier at a railroad crossing while the gate is closed or is being opened or closed.

    - A stop need not be made at a railroad track grade crossing where a police officer or a traffic control signal directs traffic to proceed.

    - A stop need not be made at an abandoned railroad track grade crossing. An abandoned track must meet <u>all</u> the following requirements:
        - The track has been abandoned
        - The track has been covered or removed
        - All signs, signals, and other warning devices are removed

    - A stop shall not be made at a railroad track grade crossing on a freeway or limited access highway where the crossing is protected by a clearly visible signal, crossing gate, or barrier at a time when the signal, crossing gate, or barrier is not activated.

ENTRANCE RAMPS

The school bus driver will safely enter a main roadway from an entrance ramp.

- The correct sequence of steps follows for entering a main roadway from an entrance ramp:
    - When approaching the entrance ramp, observe information signs indicating correct lane or ramp usage, speed limits and warnings
    - When entering the entrance ramp, check for:
        - An acceleration lane at the end of the entrance ramp
        - An exit ramp which shares a portion of the entrance ramp (weave lane)
    - Observe entrance ramp/main roadway configuration to aid in judging the merging distance and pattern
    - Check mirrors carefully
    - Look back briefly over your left shoulder to check location and speed of traffic on the main roadway. If possible, look over your right shoulder if entering the roadway from the left
    - Check the location and speed of lead vehicles on the entrance ramp acceleration lane
    - Make initial speed adjustment based on the entrance ramp/roadway configuration and traffic conditions
    - Prepare to enter the acceleration lane
    - Enter the acceleration lane
    - Follow merging procedure (see following task)

MERGING

The school bus driver will merge with traffic on another roadway.

- Following is the correct sequence of steps for merging with traffic
    - Check mirrors
    - Look for a gap in the merging lane
    - Signal intention to merge
    - Adjust speed as necessary to merge safely
    - Recheck traffic in the merging lane with mirrors and head check
    - Merge with traffic
    - Adjust speed to traffic

EXIT RAMPS

The school bus driver will safely exit a main roadway on an exit ramp.

- Exit a main roadway on an exit ramp using the following sequential steps:
    - Look for correct exit
    - Check mirrors
    - Get into proper lane
    - Watch for deceleration lane
    - Check mirrors
    - Signal intention to turn
    - Reduce speed on deceleration lane (when possible)
    - Watch for exit ramp speed limit sign
    - When deceleration lane is part of an acceleration lane, watch for entering vehicles
    - Observe speed limit signs
    - Drive in the center of the appropriate lane and stay clear of barriers
    - Watch for other vehicles changing lanes
    - Observe signs on cross roadways giving information on alternate destinations
    - Check speed
    - When nearing the end of the exit ramp, slow down and prepare to stop. Watch for traffic that may be stopped or waiting in line at the end of the ramp

TRAFFIC CIRCLES

The school bus driver will understand and properly negotiate traffic circles.

- Safely negotiate traffic circles using the following techniques and information:
    - Enter the traffic circle in a counterclockwise direction
    - Yield to vehicles already in the circle
    - Remain in the outer lane at a consistent speed
    - To leave the traffic circle, follow right turn procedure:
        - Check mirrors
        - Signal intention to turn right
        - Check right mirror
        - Enter travel lane nearest the curb
        - Use hand-over-hand steering
        - Check mirrors for clearance of right duals as you turn
        - Accelerate slightly during turn
        - After turn has been completed, check to see that direction signal has been canceled
        - Adjust vehicle speed to conditions

LANE CHANGING

The school bus driver will change lanes safely and without obstructing the flow of traffic.

- Follow the sequential steps listed for changing lanes:
    - Check mirrors to see if other vehicles are about to enter your new lane
    - Check for vehicles in your blind spots with convex mirrors
    - Signal intention to change lanes
    - Head check for blind spots
    - Just before changing lanes, accelerate to new traffic lane speed, if there is sufficient space ahead to do so
    - Turn steering wheel sufficiently to slowly enter the new lane
    - Position bus in the center of the new lane
    - Check to see that the directional signal is canceled
    - Adjust speed to that of traffic in the new lane
- Regulations regarding lane changing:
    - The driver of a vehicle upon a highway before stopping or turning from a direct line, shall first see that the stopping or turning can be made safely and shall give a signal by means of the hand and arm or by a mechanical or electrical signal device
    - Do not change lanes when prohibited by regulatory signs

LANE CHANGING (continued)

- Conditions which might warrant a lane change follows:
    - Lane blocked by another vehicle
    - Accident
    - Detour
    - Road construction
    - Slow moving vehicle
    - Bicyclists and pedestrians
    - Road defects
    - Debris in lane

PASSING

The school bus driver will safely pass other vehicles moving in the same direction.

- Following are sequential steps for safely passing another vehicle
    - Using rearview mirrors, check that traffic following the bus is clear for passing; on a two-lane road, check for on-coming traffic and traffic signals
    - Activate turn signal well in advance of passing
    - Move into the passing lane increasing the speed of the bus to make passing smooth and safe
    - Check for clearance and signal before returning to the original lane
    - Move into the original lane
    - Cancel turn signal
    - Resume safe and authorized speed
- Passing on the left is permitted:
    - When overtaking other traffic moving in same direction where passing is permitted and safe
    - When the right half of road is blocked. Yield to on-coming traffic
    - When using a street with two or more lanes for one-way traffic, and when there is slower traffic in the right lane

PASSING (continued)

- Passing on the left is prohibited:
    - On a 2-way roadway when approaching the crest of a grade or upon a curve in the highway where the driver's view is obstructed within a distance as to create a hazard in the event another vehicle might approach from the opposite direction
    - On a 2-way roadway when the view is obstructed upon approaching within 100 feet of a bridge, viaduct or tunnel
    - When there is on-coming traffic close enough to be a danger
    - When there is a solid yellow line in your lane
    - When there is a no passing sign
- Passing on the right is permitted:
    - When vehicle being overtaken is making or about to make a left turn
    - Upon a street or highway with unobstructed pavement of sufficient width for two (2) or more lanes of moving vehicles in each direction and when the vehicles are moving in substantially continuous lanes of traffic
    - Upon a one-way street, or upon a roadway on which traffic is restricted to one (1) direction of movement, where the roadway is free from obstructions and of sufficient width for two (2) or more lines of moving vehicles and when the vehicles are moving in substantially continuous lanes of traffic
- Passing on the right is prohibited:
    - The driver of a vehicle shall not overtake and pass another vehicle upon the right by driving off the pavement or main-traveled portion of the roadway

EVALUATION OF STUDENT
Program Completion

Evaluation of student progress through the training program is essential. Every step of the training must be appropriately documented. As each lesson is completed, written documentation must include:

- Description of the lesson
- Dates and times of the training
- Date the lesson was successfully completed
- Signatures of the trainer and trainee indicating successful completion of the task

Student Evaluation Topics:

- Pre-Trip
  - A thorough vehicle pre-trip is necessary. Cover all systems. Use a standardized sequence.

- Range Pre-Trip
  - Operate all controls, safety and convenience devices
  - Control vehicle speed
  - Control direction
  - Ability to drive forward and backward
  - Maneuver the school bus in close quarters

- Route
  - Set up the route to include enough time and distance to allow the student to become comfortable behind the wheel. This will allow the instructor to evaluate the student's "normal" driving behavior.
  - The route must include ALL driving environments.
  - Make sure the route provides those "everyday" driving situations that occur to every driver while driving a route.

- Sequences and Situations
    - Make up a sequence of driving instructions. The instructions need to be short and concise with no more than 1-2 steps with a new driver student.
    - As the driver proves ability, more complex assessments can be added to determine the student ability to cope with problems, perform safe driving skills and make sound decisions.
        - Include:
            - Varying road surfaces
            - Varying shoulder conditions
            - Limited space
            - Obscured visibility
            - Gap selection
            - Hidden driveways
            - Dense traffic
            - Limited time and distance
            - High speed traffic
            - Merging traffic
            - Night driving

- Driver Performance Elements
    - Maneuvering skills
    - Ability of identify and avoid potential hazards
    - Good driving habits
    - Reliability

- Driver Response to:
    - Time and Distance
    - Direction Control
    - Speed Control
    - Search
    - Identify Potential Hazards
    - Identify Fixed Hazards
    - Environmental Conditions
    - Instructor Directions

EVALUATION OF INSTRUCTOR ROUTING

The instructor must research and disseminate a route for training all student drivers. The same route should be used with each student. It is important that each student driver is trained consistently and a published route provides this stability in training.

Although consistency is extremely important it is advisable to have a alternate route in case there are extenuating circumstances on a training day which might prevent the primary route's use.

- **Evaluation Route contains:**
  - 1-2 sequences for each driving environment
  - 2-4 evaluation situations for each sequence
  - 16-20 evaluation situations for each route
  - Each route should range from simple to complex situations

- **Document The Test Route**
  - Draw a map for each sequence
  - Write a route description
  - Show each segment and its contents which **include:**
    - Streets
    - Roads
    - Number of lanes
    - Traffic signs, signals and road markings
    - Path of travel
    - Speed
    - Direction

  - Also, **include:**
    - Speed control
    - Direction control
    - Search
    - Fixed hazards; hills, curves, trees, bushes, poles and signs
    - Potential hazards; other vehicles, animals and pedestrians

- **Evaluation Parameters (for the Instructor)**
  - DO NOT
    - Eat or drink
    - Use a radio or tape player
    - Discuss driver performance
    - Try to trick a driver
    - Compare one driver to another

  - DO
    - Repeat instruction when asked
    - Answer questions about directions
    - Review driver performance after the evaluation is complete
    - Use uniform rating sheets
    - Rate – satisfactory or unsatisfactory
    - Record other events during the evaluation; such as:
      - Traffic violations
      - Near misses
      - Failure to recognize potential hazards
      - Etc.

- **Evaluation Follow-Up**
  - Driver Performance is Acceptable
    - Cite one example of unacceptable performance
    - Review major strengths
    - Encourage driver to improve shortcomings and continue strengths
    - Announce evaluation results
  - Driver Performance is Unacceptable
    - Cite one example of acceptable performance
    - Review major weaknesses and their importance to safe driving
    - Encourage driver to get additional instruction and/or practice
    - Announce evaluation result

INSTRUCTOR LIABILITY ISSUES

Almost any time an instructor teaches a student how to drive a school bus, the instructor assumes a high degree of responsibility for the performance of the student during the lessons and a reduced amount for a period of time after training. Liability can be placed on the instructor if he/she makes a mistake during the training that leads to an accident, teaches a skill or concept improperly, or fails to teach the student a necessary skill. The chance of liability being imposed on an instructor is fairly remote; but the chance does exist. The following recommendations are presented for instructors in order to reduce this possibility:

- Planning, to anticipate and eliminate possible problems, can never be done in excess. Through route planning the instructor can eliminate traffic problems the student is not capable of handling by selecting another route.

- Think through exercises, maneuvers, and other requests that will be made of the student to avoid misunderstanding and conflicts.

- Try to anticipate student error. Stay well ahead of the student visually to anticipate possible problems and avoid them.

- In addition to teaching, the instructor should perform all the mental processing that the driver performs in a traffic situation in order to fully comprehend the driving and teaching requirements.

- Progress from simple to complex, let the student become proficient before moving on to the next task.

- Provide diligent supervision

- Plan for and know what to do in case of an emergency.

- Be certain that the student is covered by liability insurance before training begins.

CONCLUSION

This program is designed as a reference manual to assure the school bus driver training program is complete and consistent throughout the State of Michigan.

When properly incorporated into each district every new school bus driver will have received comprehensive on and off road training.

This training manual also serves as an extensive step by step instructional guide for each trainer instructor in the State of Michigan.

At the conclusion of this training, it is intended that each trainer instructor with the support from the school district transportation director will develop an internal district manual which includes all pertinent information presented to assist with developing local district policies and procedures as needed.

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