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INTRODUCTION

Welcome to Alberta Transportation Professional Bus Driver Training Program. Alberta Transportation is committed to enhancing road safety for new bus drivers and other road users. The goal of this course is to enhance the quality of bus driver training, create a foundation for safe and responsible driving, and foster the development of positive driving attitudes and behaviours in new professional bus drivers.

Driver education and training are important to learning many special skills required to safely operate a commercial vehicle. Delivery of the training in a supervised environment helps entry-level drivers to develop the confidence and skills to operate commercial vehicles on public roadways.

The purpose of this manual is to provide individuals seeking to obtain a Class 2-S driver’s licence with basic driving skill procedures. The course reinforces driving theory, skills practice and promotion of positive driving attitudes.

The curriculum is expected to assist entry-level bus drivers to develop safe driving skills, knowledge and be aware of their duties. The curriculum discusses minimum content and creates the foundation for safe driving skills. Continued on-the-job training and supervision by an experienced professional driver will assist drivers in developing advanced driving skills after successful completion of this course.

This course has both classroom and practical components that will be delivered in three learning environment - in-class, in-yard (around the vehicle) and in-vehicle (behind-the-wheel). Minimum instruction hours are broken down as follows:

- 18.5 hours Classroom instruction
- 11 hours of in-yard instruction
- 24 hours of behind-the-wheel training

Daily instruction should not exceed eight hours. Combination of different training components may be incorporated within the eight hours.

All participants are encouraged to become familiar with the course content, take notes, and ask questions.

PREREQUISITES FOR PARTICIPATING IN THE COURSE

Prior to taking this course, participants must:

- Be at least 18 years of age, and
- Hold an Alberta non-probationary driver’s licence

Note: It is strongly recommended for participants to complete a successful medical assessment through a physician prior to participating in the MELT program. Medical forms are available from a registry agent, or a doctor.
OVERVIEW OF COURSE DELIVERY STANDARDS

1. Approach to Course Delivery

Learning Environment

The Professional Bus Driver Training (Class 2-S) course is divided into two sessions and will be delivered in three (3) learning environments.

Classroom session
In-class refers to the classroom environment. Learning in this environment is supported by instructional aids to facilitate large training sessions. This component of training must be conducted in a classroom approved by Alberta Transportation. All activities performed must be supervised by a licenced instructor.

Practical session
In-yard refers to activities that occur around the vehicle when the vehicle is not in motion, such as vehicle inspection. This is conducted outside the classroom, in an approved area where the vehicle is parked. This component of training does not involve actual operation of the vehicle or any of the components. All activities performed must be supervised by a licenced Driving Instructor.

In-vehicle refers to the activities that occur when the trainee is behind-the-wheel either in-yard or on-road. This includes backing. All activities performed must be supervised by a licenced Driving Instructor.

Course Structure

Driving Instructors are required to address all competencies as outlined in the curriculum. It is important to continually reinforce driving theory, practical skills and promote positive attitudes in all learning environment using a variety of instructional strategies and methods. There should be an assessment of trainees at the end of training sessions delivered in each learning environment.

All topics should be presented in a logical sequence allowing for the development of knowledge and skills throughout the different stages of learning to ensure all prerequisites are met.

Daily instruction should not exceed eight hours. A combination of different training components may be incorporated within the eight hours. A meal break of at least 30 minutes but not exceeding 60 minutes should be included. It should be recognized that lessons of increased duration may cause trainee fatigue and a decreased ability to learn. One 15-minute break is required if a lesson exceeds two hours. It should be provided near the mid-point of the lesson and may not be provided more than two hours into the lesson. Behind-the-Wheel training should not exceed six (6) hours in a day for each trainee.
Course Hours

The total instructional hours represent 1:1 direct instruction between trainee and instructor. Time spent by one trainee observing another trainee is not calculated.

The following minimum required instructional hours must be adhered to:

<table>
<thead>
<tr>
<th></th>
<th>Classroom</th>
<th>In-Yard (Around the Vehicle)</th>
<th>In-vehicle (Behind-the-Wheel)</th>
<th>Total Training Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 2-S</td>
<td>18.5 hours</td>
<td>11.0 hours</td>
<td>24.0 hours</td>
<td>53.5 hours</td>
</tr>
<tr>
<td>Air brake</td>
<td>6.5 hours</td>
<td>2 hours (including practical training and testing for a group of 3 trainees)</td>
<td></td>
<td>8.5 hours*</td>
</tr>
</tbody>
</table>

Trainee to Instructor Ratio

In-class: a maximum ratio of 15 trainees to one instructor will be permitted. The time allotment is calculated at 1:1.

In-yard: a maximum of four trainees will be permitted. Example: If one hour of in-yard time is required for 1:1 instruction, and provided the instructor is giving direct instruction to a trainee while the other three observe, it is considered 1:1 for all four trainees. However, with four trainees who are working alone or together, without the instructor present, the in-yard time is not credited to the overall time.

In-vehicle: a maximum of three trainees will be permitted. The behind-the-wheel (BTW) time allotment is calculated by the number of trainees. Example: If one hour of BTW time is required, with three trainees in the vehicle, the time increases to three hours; one hour of BTW and two hours of observation. Observation time is not calculated toward completion of the mandatory training hours.

General Facility Requirements

The facility where the training is to take place must meet all Occupational Health and Safety Act (OHSA) requirements, local municipal by-laws and adhere to the Alberta Transportation’s requirements. The facility must have the following:

- Appropriate seating and tables for the number of trainees and instructors
- Washrooms
- Easily accessible emergency exits
- Adequate lighting
- Heating/cooling systems
- Appropriate facility for in-yard training. This facility must be located away from public roadways. A yard size of at least 55 metres wide by 73 metres long for the in-yard training is recommended.

Classroom Equipment

Driver training schools and employee driver training agencies must provide the following required equipment when delivering this course:

- Computer to deliver the presentation
- A Projector and Screen, or a TV/monitor large enough for the class size
- Speaker(s)

Training Vehicle Configuration

A school bus with a seating capacity exceeding 24 passengers. The vehicle must be mechanically sound and must meet the requirements of the *Vehicle Equipment Regulation* and the *Commercial Vehicle Safety Regulation*. 
CURRICULUM CONTENT DESCRIPTION

This course is organized in a modular format, with 9 modules. Each module must be successfully completed in order to graduate from the course. There is statement of purpose at the beginning of each module which indicates its importance to the completion of this course. In addition, learning objectives have been outlined for each module. These objectives indicate what each trainee should have learned at the end of each module.

**Module 1 - Employment in the Busing Industry** - This module is delivered in the classroom. It focuses on the overview of the busing industry and employment expectations, responsibilities and duties. It further discussed the laws governing the operation of commercial vehicle on public roadway and the consequences of traffic laws violations.

**Module 2 – Vehicle Component and Inspection Activities** - This module incorporates classroom and in-yard training. Identification and functions of basic vehicle components and systems will be discussed in the classroom. It also involves discussion around preventative maintenance and how identify if a bus is safe for the road by inspecting components and systems to determine if they are functioning properly. At the end of the classroom session, trainees will proceed to the yard for actual identification of components and systems and perform vehicle inspection activities.

**Module 3 - Basic Driving Techniques** – This module incorporates classroom, in-yard, and behind-the-wheel training. The focus will be on development of basic safe driving skills and to understand how to control the vehicle when in motion.

**Module 4 – Professional Driving Habits** - This module is delivered in the classroom. It includes information on visual search patterns, hazard identification, speed management, space management, sharing the road other road users (including vulnerable road users), driving in adverse weather conditions and other defensive driving techniques.

**Module 5 - Off-Road Tasks and Manoeuvres** – This module incorporates classroom, in-yard and behind-the-wheel training. It focuses on allowing trainees to learn and practice safely moving a bus in reverse motion- back up a bus in a straight-line, parallel parking (Adjacent Parking Lane) and the country turnaround.

**Module 6 - Documents, Paperwork and Regulatory Requirements** – This module is delivered in the classroom. It focuses on outlining the regulatory documentations that a driver must have when driving a bus. It further provides information on trip planning and how to cope with difficult situations that drivers may encounter.

**Module 7 - Hours of Service Compliance** – This is module is delivered in the classroom. It focuses on federal and provincial laws regarding Hours of Services requirements. It further discusses driver’s responsibilities in recording and maintain drivers’ hours of driving.

**Module 8 – Passenger Management, Loading and Unloading Passengers**- This module incorporates classroom, in-yard and behind-the-wheel training. It focuses on teaching drivers
the skills for delivering excellent customer service to passengers. This module also outlines the general/basic procedures for loading and unloading passengers, including passengers with mobility devices.

**Module 9 - Handling Emergencies** – This module incorporates classroom and in-yard training. Module 9 focuses on procedures to follow in emergency situations, such major and minor collisions, and fire outbreaks.
GUIDE TO PROVIDING CLASSROOM INSTRUCTION

INTRODUCTION

Effective communication of ideas and concepts is the core of all education programs. As such, this section has been prepared to help the Instructor improve his or her communication skills.

This document is not intended as a substitute for formal communication training but, rather, is meant to provide some guidance and reference for bus driver instructors.

ADVANCE PREPARATION FOR EFFECTIVE COMMUNICATION

A carpenter cannot build a house without first acquiring the necessary knowledge, developing the skills for reading blueprints and gathering the necessary tools and supplies.

Likewise, a Driving Instructor must "lay the groundwork" in order to effectively communicate lessons to the class. It is therefore essential that instructors begin preparing well in advance of the actual classroom date.

Advance preparations must include four primary areas:

1. Instructor,
2. Classroom,
3. Required Equipment, and
4. Supplies

Instructor Preparations

Study and review the course materials to be presented. If the course uses videos, these are to be reviewed prior to showing them in the classroom. Viewing the videos beforehand will ensure the instructor is familiar with the content.

For each lesson, make note of the key topics and phrases you will be addressing. Use these notes to "prompt" you in your discussions with the class. Also, write down questions you are going to ask the class concerning lesson (and video) content.

All the questions you prepare in advance should be directed to:
Generate class participation in a discussion of the topic;
Determine if the class has understood and accepted the information provided; or
Stimulate trainee thought with respect to the topic of discussion.
Know how to use any reference materials you will have available and know the names, telephone numbers and addresses of all key resource persons so that you can contact them for clarification or advice if necessary.
Classroom

As a Driving Instructor, you must ensure that you have an appropriate facility in which to instruct.

- The classroom should be well lit, well ventilated and large enough to comfortably accommodate the number of expected trainees. The classroom temperature should be cool, yet comfortable and the room should be distraction free. If the room has large windows overlooking a busy street, drapes or blinds should be used to minimize outside distractions.
- The classroom must contain sufficient seating for the class and a writing surface for each trainee as stipulated in Section 2.00.01 C(2) of the Alberta Transportation Licence Driver Training School Policy and Procedures Manual.
- Make sure the classroom is clean and uncluttered.
- Ensure that washrooms and electrical outlets are conveniently located and available.

Required Equipment

Visual aids and audio/visual equipment are valuable teaching tools. In addition to the equipment listed above (see overview of course delivery standard), it is important that the training room has access to the internet. Internet is needed to access additional information that are not provided by this curriculum. Flip charts or a white/whiteboard may also be useful.

Pre-test all electronic equipment to ensure there are no malfunctions. It can be frustrating and time consuming to have equipment failure delay the class.

Supplies

Standard supplies you should have on hand include:

- Writing paper
- Spare pens/pencils
- Reference materials
- Whiteboard markers
- Felt markers (if using a flip chart); handout materials
- Name tags and name plates
- Spare projector bulbs

Handout materials should be prepared in advance, so that no delays are encountered. Reference materials should be conveniently located so that the class may refer to them during breaks and before or after class.

COMMUNICATION SKILLS

In order to teach, you must be able to communicate with the trainees and hold their attention. Most of us, at one time or another, have had the misfortune to listen to a poor communicator.
Generally, poor communicators:

- Are ill-prepared (not knowledgeable regarding their topic)
- Read word for word from a prepared text
- Have memorized their speech and get "stuck" in the middle when their memory fails them
- Tend to mumble and refuse to look at the audience

This section will provide you with some ideas to better equip you to communicate with your audience and hold their attention.

Remember the three golden rules of learning:
1. Hear
2. See
3. Do

Whenever possible, use these three actions in your instruction by:
1. Telling the class
2. Showing the class
3. Allowing the class to actually demonstrate their understanding

**SPEAKING TECHNIQUES**

When you speak, speak clearly, distinctly and with enough "volume" to reach your entire audience.

- *Pause a second or two after making a key point.* This will allow your audience time to mentally absorb what you have just finished saying

- *Make sure each person in your audience feels as if you are talking directly to them.* To do this, make brief eye contact with each person and periodically shift your gaze from one person to another as you speak

- *Be selective in reading course material to the class.* Few people can read word for word and still be natural and effective. Unless the subject matter is very detailed, most of its use will be far more effective if we speak about specific key points and phrases that we have extracted from the course materials. (Refer to the notes you have prepared in advance or use "cue cards" as an aid.)

- *Be natural with both your voice and your body.* Let your enthusiasm and emotions come through in the same way they would if you were discussing the subject with a group of friends. Let your voice rise and fall naturally. If you would normally gesture in your description, DO SO! If you would lean with your hands on the speaker's table or sit on the corner of the desk while facing the class, it is okay, but do not assume any one
position for too long. Periodically move from one position to another as you speak to the class.

- Use the trainee’s name when you have the opportunity to do so. Everyone likes the sound of their name and this will help make individuals feel a part of the course. (e.g., “You have a question, John?”; “Frank, would you turn off the lights please?”; “That is a good suggestion, Mary.”).

USE LEARNING AIDS

Use examples, displays, and diagrams to help make your point. Relate appropriate personal experiences that help to reinforce your topic to the class.

You may use video clips or DVD’s as teaching tools, but do not just let the class “watch the video”. If there’s a particular point you wish to discuss, pause the clip or film and begin a short discussion on the point, without letting it get too drawn out. When the film or clip is over, discuss the content with the class. Ask questions about what was shown and solicit their opinions and views. Perhaps some trainees would like to relate a personal experience on the topic. If so, encourage them to share it with the class.

USE QUESTIONS TO REINFORCE LEARNING

Be sure to periodically ask pertinent questions about the course content and actively encourage the class to raise their own questions and concerns. Keep the class members involved!

Keep your questions “open”, unless you are interested in receiving only a specific reply. For example, when you’re trying to determine whether the class has understood the topic of discussion, ask:

“Would someone please explain, in their own words, what this means?”
Do not ask: “Does everyone understand what we have just covered?”

A “closed” question should only be asked if you wish to receive a specific piece of information (e.g., “How many school buses/motorcoach/transit buses operate within Canada?”).

In order to keep the entire class involved; generally ask your questions to the entire class, rather than to specific persons. When the question is asked to the class, everyone will begin to “think” of how to answer. This keeps all trainees involved and their “thought reinforces their learning”.

If a question is raised during discussions to which you do not know the answer, do not try to bluff. Be honest and admit that you do not know, but advise the trainee that you’ll find out and let them know later. Then, at the first available opportunity, do some research and provide the answer. Alternately, ask if anyone in the class can provide the information.
CONTROL, CRITICISM AND PRAISE

While you want to remain friendly, you must not lose control. Allow only one trainee to speak at a time. If several discussions are occurring at the same time, you might try raising your hand to chest level, with your palms facing out in a "stop motion", while addressing the class with: "Could I please have your attention? We're all talking at once and cannot hear everybody's point of view. Let's take turns. Who is first?" Then recognize one trainee and let that trainee make their point to the group.

Give "sincere praise" freely whenever the opportunity is presented. Do not, however, confuse praise with flattery. Praise is genuine and truthful. Flattery is phoney and transparent.

Never embarrass anyone, or "put them down" in front of the class. If you are having a problem with an individual, discuss it with that trainee away from the rest of the class.

If you must give criticism, be sure to do so in a constructive manner and precede any criticism with a compliment (e.g., "You know, George, you have some excellent points and I want everyone in the class to hear them. Please wait until I acknowledge you so that you can have the floor to yourself.").

LEARNING ACTIVITIES

Instructors are required to incorporate various supplemental learning activities and exercises when delivering this course. Incorporating various supplemental learning activities and review questions or exercises during and at the end of each module will enhance effective delivery of the training.

LEARNING ASSESSMENT

The following are examples of ways an instructor can assess that a trainee is acquiring the knowledge, skills and attitude required to operate the vehicle safely:

- Knowledge: quizzes, case studies, problem solving, scenarios
- Skill: demonstration, practical, hands on, problem solving
- Attitude: demonstrated through discussion, action, display

MAINTAINING TIME FRAMES

Because your time with the class is limited, you must have the class "live" within the available time frames established for the course. This means at certain points you may have to tactfully cut off discussion in order to move on. You do have some leeway, but if you allow one portion to go substantially "overtime", you may find you have to "rob time" from another, equally important, session.

If you do find yourself in the position where you must take time from a lesson in order to "catch up", be sure you at least cover that lesson's key points.
SUMMARIZE AND REVIEW
At the end of each lesson, save a brief period of time to quickly review with the class all the major points. This will help to reinforce the learning process.

Similarly, at the end of the course, summarize the main points of each lesson.

Reminder
One final reminder... not even the best Driving Instructor can teach a topic they are not familiar with. Read and study your course material and lesson plans. Review and familiarize yourself with all additional reference materials.

If you are well prepared ahead of time, you’ll find teaching the class a much more enjoyable and relaxed experience.
GUIDE TO DELIVERING PRACTICAL TRAINING

Knowledge
As an instructor, you need to have a comprehensive understanding of traffic rules, safe driving principles, and problem-solving ability combined with effective teaching techniques that are essential to meeting learning outcomes. As a driver training provider, you must continually enhance your instructor development programs to ensure their programs are current in terms of how people learn and how effective teachers teach.

Communication
Teaching someone to safely operate a vehicle can be a complicated task that requires a conscientious and well-informed instructor.

Instructors must communicate effectively to ensure the message is understood by each trainee. An effective communicator enhances understanding with demonstrations, illustrations, observations, and verbal description to teach new activities and processes.

Communication involves active listening while receiving feedback, as well as providing information to ensure learning outcomes are achieved and the teaching process is effective.

An effective instructor will balance timely instruction relative to the current traffic situation, with important general information provided when the conditions are safe, such as when the vehicle is not moving or is parked in a quiet location.

Observation and Awareness
It is imperative that instructors are aware of the traffic situation to be able to provide information to their trainee to proactively handle potential hazards by avoiding or minimizing risk.

Patience
Teaching the complex task of driving can be challenging and demanding. It requires an understanding of the challenges that new drivers must overcome. The instructor must be prepared and able to adapt to each individual and to each situation.
IN THE CLASSROOM

First Day
Immediately Before Class

- Arrive at least one hour prior to the start of the session.
- If possible, post directions to the room being used for the training.
- Check to see that there are sufficient tables and chairs and that the TV and DVD (or any other Audio-Visual equipment) is present and functioning.
- Set up the room according to your “Room Set” up diagram (if applicable).
- Place the flipchart(s) at the front of the room and make sure that you have your prepared pages with you.
- Make sure you have pens, pencils, masking tape and flipchart markers.
- Check that Participant Workbooks are present (if applicable).
- Verify you have sufficient copies of handout materials.
- Ensure your training vehicle is pre-tripped, fuelled and available.
- When everything is ready, take a walk or give yourself a little quiet time to settle your nerves.

WELCOME TO CLASS 2-S DRIVER EDUCATION PROGRAM

Be prepared so that you have time to greet each trainee as they enter.
- Verify trainees identity by checking their government-approved photo identification card or a valid driver’s licence.
- Greet the class and introduce yourself. Briefly talk your background and experience.
- Write your name on a flip chart or white board.
- Ask each person to make a name tag and name plate and have everyone introduce themselves to the group.
- Provide a brief overview of the purpose and content of the course, advising trainees what they should expect to have learned after having completed the course.
- Review information and policies of your driver training school- including distribution of studying materials, location of washrooms, fire exits, turning off cell phones and other electronic devices.
- Make sure trainees carry their driver’s licence, as this required for the in-vehicle component of the course. Commercial and law enforcement agencies may request for the trainee’s and instructor’s driver’s licence.
• Instructor must ensure that trainees are dressed in appropriate clothing, footwear, gloves etc., for the weather conditions. Clothing type should be appropriate for safe performance of tasks and duties during the training
• Provide course structure and curriculum overview by modules
• Establish the "ground rules" for all trainees including attendance, punctuality, participation, homework, testing, smoking and facilities

**Punctuality is expected**
Example: “Classes will start at 9:00 a.m. each morning. We will break for 15 minutes at 10:30 a.m. and for lunch between 12:00 and 1:00 p.m. Because we have a lot of material to cover in a short time, I would ask that everyone be in class and ready to proceed at the scheduled times.”

**How to ask questions or make comments**
Example: “We encourage your questions and comments, however, I would ask that anyone wishing to say or ask something, raise their hand and wait for my acknowledgement. This way we can be sure that everyone hears what is being said or asked.”

**Homework Requirement**
If homework is required or desirable, advise the class as to what is expected.

**Testing**
If tests are to be given after a lesson or course completion, advise the class and tell them the passing grade required.

**Facilities**
Advise the trainees of the location of:
• Washrooms;
• Restaurants; and
• Smoke area, etc.

*You are now ready to begin the actual lesson*
MODULE 1 - EMPLOYMENT IN THE BUSING INDUSTRY

Purpose

The purpose of this module is to introduce trainees to the busing industry and familiarize them with various government regulations and standards. The module will outline the licensing requirements and legal responsibilities of a bus driver. A bus driver must be aware of the laws governing the busing industry. It should take 1 hour and 15 minutes to cover the materials in this module.

General Learning Outcomes

At the end of this module, the trainees should be able to:

- Have basic knowledge of the busing industry and employment requirements
- Understand their roles and responsibilities as professional drivers
- Understand the requirements and process of obtaining Class 2-S driver’s licence in Alberta
- Understand the regulations that govern driving on public roads and highways in Alberta
- Understand the federal and provincial laws governing the operation of buses

Habits of Minds

Trainee will:

- Recognize their roles and responsibilities as professional drivers
- Recognized the impact of traffic laws convictions on current and future employment opportunities

Knowledge and Understanding

Trainee will:

- Know the requirements to and process of obtaining a Class 2-S driver’s licence
- Know the regulations that govern driving on public roads and highways in Alberta
- Know the federal and provincial laws governing the operation of buses
- Know the type of vehicles a Class 2-S driver’s licence holder can operate

Skills and Processes

Trainee will be able to:

- Demonstrate their knowledge of responsibilities and roles as professional bus driver
- Demonstrate understanding of Class 2-S licencing requirements and the types of vehicle a Class 2-S driver can operate
Overview of the Busing Industry and Career Opportunities

The busing industry plays an important role in transporting passengers. As of 2016, over 127,000 jobs have been created through the busing industry, of which over 86,000 (68%) are drivers. The industry offers jobs for qualified bus drivers. While some drivers transport passengers locally, others transport passengers on regional and long distance basis.

In 2016, of the 76,000 passenger bus and urban transit vehicles in Canada, 67,000 (88%) are motor coaches, school buses and transit buses. The industry accrued approximately $12.0 billion in total operating revenue in 2016.

While buses are generally used to transport all types of passengers, for this purpose of this course, they have been categorized into three broad categories based on their mode of operation: Transit busing, motor coaches and school bus. The types of buses used by each category are specifically designed based on their usage.

- Transit Busing - these are buses designed for short distance transportation of passengers.
- Motor Coaches - are often used for long distance passenger transportation and are equipped with features that would improve comfort during long trips e.g. a lavatory.
- School bus - these are buses designed specifically to transport students to and from schools. They are equipped with specific mandatory features to support safe transportation of trainees.

Employment in the Busing Industry

Irrespective of your level of training and work experience as a bus driver, a driver with clean driving records has higher opportunity to be employed than another bus driver with records of traffic and criminal violations.

In addition to having the required driver’s licence, prior to employment, employers may request for the following:

- Personal driver’s abstract and commercial driver’s abstract (dated with a specified period of time)
- Submission of a medical fitness certificate
- A criminal record check (dated with a specified period of time)
- Drug testing
The request for the above outlined employment requirements may be conducted by employers periodically. Failure to successfully provide any of the periodic employment requirements may affect the status of your job.

After employment, employers are required to provide additional training to their drivers. Training may be specific to operation of specialized equipment/features on vehicle and workplace, occupation health and safety rules, company’s policies (such as dress codes, code of conduct and ethics etc.), duties and scope of your position, condition of employment etc. Your success as a professional bus driver goes beyond your driving skills, your interpersonal skills are also important.

Employers often expect you as a professional driver to have basic knowledge and understanding of the laws and other compliance requirements that govern the operation of commercial vehicles.

**Role and responsibilities of a Professional Driver**

Driving a motor vehicle in a professional capacity is a great responsibility and requires specialized skills. Professional drivers set high expectations for themselves and have the moral responsibility to conduct themselves in a safe, respective and professional manner at all times. Professional drivers also treat other road users with respect, courtesy and patience, even if this respect is not always reciprocated. A positive attitude towards the employer, co-workers, passengers and other road users will contribute to a successful career as a professional bus driver and enhances the reputation of bus drivers among other road users.

The following points emphasize responsibilities of professional drivers:

- Driving with the wrong licence Class is against the law. It is also an offence for a vehicle’s owner to allow the vehicle to be driven by someone who does not have the correct Class of licence to drive that vehicle.
- A professional driver must have sound knowledge of the laws and other regulatory standards governing the operation of a commercial vehicle. This would assist the driver to comply with regulatory requirements.
- It is required of all drivers to drive responsibly. Dangerous or careless driving may result in unforeseen circumstances such as damage to property, causing death or injury, etc.
- In addition to developing advanced driving skills, a professional driver is expected to maintain a positive and professional attitude.
- As a professional driver you must ensure that you are physically and emotionally fit to operate a motor vehicle. You must avoid things that may impair your judgment and ability to responsibly and safely operate a vehicle such as alcohol, drugs (legal and illegal), some medications, stress, fatigue (mental, emotional and physical), and lack of sleep.

**Licensing**

A driver’s licence is required to operate a motor vehicle in Alberta. The following are the requirements to obtain a Class 2-S driver’s licence in Alberta.
After successful completion of this course, trainees will be required to complete an enhanced knowledge test at any registry agent office in Alberta.

To participate in the test, trainees must present a copy of the course completion form to the registry agent office.

After successful completion of the Class 2-S knowledge test, trainees can schedule their Class 2-S road test.

Road tests will be conducted by licensed Alberta Driver Examiners.
- The road test will include the following components:
  - the pre trip inspection, backing manoeuvres and the behind-the-wheel tests.
- Class 2-S road test clients are required to provide a bus with seating capacity exceeding 24 passengers excluding the driver for a road test.

Note: The Air brake or Q-endorsement is required prior to operating or testing in a vehicle equipped with air brakes.

A Class 2-S driver's licence will be issued after successful completion of the road test.

The holder of a Class 2-S driver's licence can operate the following vehicles:
- Any bus
- Any motor vehicle or a combination of vehicles that the holder of a Class 3, 4 or 5 driver's licence may operate.
- Class 1 and 6 type vehicles for learning only

Condition Codes are placed a driver's licence when it is determined that a driver's licence holder's driving privileges require limitations or restrictions. Some Codes will appear on the driver's licence and some do not. For more information on Condition Codes, go to [http://www.transportation.alberta.ca/1930.htm](http://www.transportation.alberta.ca/1930.htm).

Medical Condition

Your medical condition may affect your ability to operate a commercial vehicle. Drivers are legally responsible to report any disease or disability that may interfere with safe operation of a motor vehicle to any Alberta registry agent office or to Alberta Transportation.
- The registry agent office can request a medical report from any driver, in any licence Class, if they have concerns about the driver's medical condition.
- A medical report is required to upgrade a driver's licence to a Class 1, 2, 2-S or 4.
  - Medical forms are available from a registry agent, or a physician. This form must be completed by a physician.
- A medical report is required when the applicant first applies for a driver’s licence; and
  - Every 5 years after that, until 45 years of age
  - Every 2 years from age 45 to 65
  - Every year after you turn age 65

Note: The Air brake or Q-endorsement is required prior to operating or testing in a vehicle equipped with air brakes.
Traffic Laws

Traffic Safety Act

The Traffic Safety Act (TSA) is a provincial legislation that governs the operation of motor vehicle on public roadways. This Act promotes safety on the highways, the definition of which includes any street, road, sidewalk or bridge that the public is ordinarily entitled or permitted to use. The Act is divided into 7 parts.

The TSA has about 19 associated regulations. The following are examples of applicable regulations governing the operation of all motor vehicles on public roads and highways in Alberta - Use of Highway and Rules of the Road Regulation, Operator Licensing and Vehicle Control Regulation, Distracted Driving Regulation, and the Traffic Control Device and Vehicle Equipment Regulation.

i. Use of Highway and Rules of the Road Regulation

This Regulation governs the utilization of highways and the use and operation of vehicles in respect of speeding, signalling, passing, turning, yielding, stopping, parking and other matters. Rules regarding the driving and operation of school buses, emergency and maintenance vehicles, motor cycles and other cycles are established.

ii. Operator Licensing and Vehicle Control Regulation

This Regulation sets standards and procedures for obtaining driver’s licenses, Air Brake endorsement as well as providing a classification of licenses and the requirements for each type of license and provisions for their renewal, expiry, and suspension. The Regulation additionally provides for the registration of vehicles, providing classifications and outlining permitted uses for each class of vehicle. Related to the registration of vehicles, the Regulation provides rules for types, conditions, and uses of license plates. The Regulation additionally outlines the authority of the Registrar of Motor Vehicle Services with respect to licensing and registration, and provides for a number of fees related to licensing and registration.

iii. Distracted Driving Regulation

This Regulation applies to all motor vehicles as defined in the Traffic Safety Act. It prohibits a driver from performing other functions that may affect their ability to safely operate a vehicle. The Regulation exempts individuals who hold radio operator certificates under the Radiocommunication Act (Canada) and others from those sections of the Traffic Safety Act that prohibit distracted driving. The manner in which a cellular phone or a radio communication device may be used in “hands-free mode” is specified.

iv. Traffic Control Device Regulation

Under this Regulation, traffic control devices placed, marked, or erected under the authority of the Traffic Safety Act must conform with the design standards prescribed

v. **Vehicle Equipment Regulation**

This Regulation sets out equipment standards with which vehicles in Alberta must comply. In some cases, these standards are specific to Alberta, in other cases the Regulation directly incorporates federal regulations or is harmonized with national standards. In addition to creating requirements for all vehicles, the Regulation additionally sets standards for specific vehicles and examples (e.g. tow trucks, wide loads, or fire fighting vehicles).

vi. **Demerit Point Program and Service of Documents Regulation**

This Regulation provides the legislative framework, timelines and process for the administration of demerit points for driving offenses. The Regulation provides for notice provisions for accumulating points, as well as for the ultimate suspension of a driver's license for accumulated demerit points.

The following are some of the regulations that govern the operation of a commercial driver-

**Commercial Vehicle Dimension and Weight Regulation, Commercial Vehicle Safety Regulation, Driver Hours of Service Regulation, Vehicle Inspection Regulation, and Commercial vehicle Certificate and Insurance Regulation:**

i. **Commercial Vehicle Dimension and Weight Regulation**

The *Commercial Vehicle Dimension and Weight Regulation* regulates the weights, dimensions and configurations of commercial vehicles being operated on Alberta’s highways. The Regulation balances road infrastructure impacts, road safety, and public safety concerns with efficiencies related to the commercial transportation industry.

ii. **Commercial Vehicle Safety Regulation**

The *Commercial Vehicle Safety Regulation* adopts specified national standards relating to the safe condition and operation of commercial vehicles, including specified National Safety Code for Motor Carriers Standards, Society of Automotive Engineers Standards, Underwriters’ Laboratory of Canada Standards, Canada Motor Vehicle Safety Standards, and Canadian Standards Association Standards. Compliance these and other safety and maintenance standards set out in regulation is required. The Regulation also creates inspection and reporting obligations, and contains a section that is specific to school buses.

**General Prohibitions for Buses**

*Section 13(1) of the Commercial Vehicle Safety Regulation*

A bus shall not be operated with

(a) a greater number of persons being transported than the seating capacity of the bus is designed to carry,

(b) an object being transported that extends beyond the extreme width of the body of the bus or above the height of the bus, or
(c) a trailer attached to the bus.
Section 13(2) Subsection (1)(a) does not apply to a transit bus.

iii. **Driver Hours of Service Regulation**
This Regulation enhances safety on Alberta’s roads by limiting the on-duty hours of the drivers of certain vehicle types, and by specifying the number of off-duty hours between shifts. The Regulation applies generally to buses and to vehicles having a gross weight of 11,794 kg or more and includes provisions exempting certain vehicles and activities from the Regulation’s application. The Regulation also articulates the specific recording obligations of drivers.

iv. **Vehicle Inspection Regulation**
This Regulation ensures that only vehicles that are safe to operate can continue operating on Alberta’s highway network. This is achieved through: designating certain vehicles as salvage vehicles; regulating the sale of salvage, out-of-province and used vehicles, and; creating a comprehensive vehicle inspection program. The Regulation requires vehicle inspection facilities and technicians to be licensed and to adhere to strict standards.

v. **Commercial Vehicle Certificate and Insurance Regulation**
This Regulation prescribes the insurance requirements for specific types of commercial vehicles. It also seeks to achieve high levels of compliance with transportation legislation by providing for certification processes that are associated with the issuing of Safety Fitness Certificates and Operating Authority Certificates. One or both certificates must be applied for and acquired to operate most commercial vehicles lawfully on Alberta’s highways. The Regulation requires the Registrar of Motor Vehicle Services to establish and maintain driver profiles to monitor the activities and safety records of carriers and other persons.

**National Safety Code**

On April 1, 1989, each province and territory in Canada agreed to a set of performance and safety standards for commercial motor carriers and the National Safety Code (NSC) came into effect. Alberta, like other Canadian jurisdictions, has passed legislation to put these standards into effect.

A person or company operating a commercial truck or bus is commonly referred to as a “motor carrier”, or “carrier” for short. There is both provincial and federal NSC legislation that may require a carrier to obtain a Safety Fitness Certificate (SFC). Only one piece of legislation will apply to a carrier at any given time.

Federal law applies to carriers wishing to operate outside of Alberta and requires carriers to obtain an SFC if they operate:
A truck, tractor, or trailer or any combination of these vehicles registered for or weighing in excess of 4,500 kilograms, or
A commercial passenger vehicle with an original manufacturer’s seating capacity of 11 or more persons including the driver.

Provincial law applies to carriers operating solely within Alberta and requires carriers to obtain an SFC if they operate:

- A truck, tractor, or trailer or any combination of these vehicles registered for a weight of 11,794 kilograms or greater, or
- A commercial passenger vehicle with an original manufacturer’s seating capacity of 11 or more persons including the driver.

- Traffic-related laws and regulations are based on Alberta Traffic Safety Act, which can be found at [http://www.qp.alberta.ca/documents/Acts/t06.pdf](http://www.qp.alberta.ca/documents/Acts/t06.pdf)
- Other Canadian jurisdictions have their laws regarding operation of vehicles on public roadways.
- Individual municipalities in Alberta can also pass traffic by-laws.
- It is your responsibility as a driver to be aware of by-laws and other regulations in other Canadian jurisdictions before traveling outside the province or out of your municipality.
- Violation of these laws and regulation may result in various consequences.
- Under these laws and regulations, some infractions can lead to a criminal conviction.

**Criminal Code of Canada**


- Examples of infractions that can lead to a criminal conviction include
  - Impaired driving
    - Impaired driving regardless of blood alcohol content
    - Blood alcohol level over the legal limit
    - Drug or drug-alcohol combination or toxicological sample. For more information, go to: [https://www.alberta.ca/impaired-driving-law-changes.aspx](https://www.alberta.ca/impaired-driving-law-changes.aspx)
  - Leaving the scene of a collision
  - Failure to provide a breath or blood sample
  - Impaired driving causing bodily harm
  - Impaired driving causing death
  - Driving while suspended or disqualified
- Convictions under the Criminal Code of Canada vary with gravity of the offence and frequency of traffic violations.
A police officer has the authority to enforce the Traffic Safety Act, the Criminal Code of Canada and any municipal by-laws. It is illegal to refuse a lawful request from a police officer.

Consequences of Traffic Convictions

Some of the consequences of traffic convictions include:

- **Fines** - a driver may receive fines for traffic violation. Amount of fine varies with the gravity of the traffic violation.
- **Demerit points** – demerit points are recorded against your driving record when you are convicted of an offence. You are convicted when you:
  - Pay the fine assessed on your ticket voluntarily
  - Appear in a court and are found guilty
  - Fail to appear in a court and are convicted (guilty) in absence.
- **Driver’s licence suspension** - driving privileges can be immediately suspended for a specific period of time for various reasons including accumulation of 15 or more demerit points within two years, impaired driving, refusal to comply with a lawful demand of a peace officer, etc. Period of suspension may vary with the frequency of the offence.
- **Jail time** - If you are found guilty under the Criminal Code of Canada to cause bodily harm or death while impaired, you may face a time in jail.
- **Criminal record** - Criminal convictions may affect an individual’s employment status and/or future employment opportunities. The employer may require employees and job applicant to disclose criminal record history in order to maintain their jobs or prior to employing new employees.
- **Insurance cost** - drivers with records traffic convictions and incidents may face increased insurance premiums.
- **Travel restrictions** - Individuals with criminal history may be refused entry into some countries.

It is important to note that traffic convictions and incidents are retained on individual driver’s records and will appear on your driving abstract. These may affect the status of your driver’s licence as well as your ability to operate a bus.
Key points in Module 1

- Professional drivers must act in a safe and responsible manner while operating a motor vehicle.
- Professional drivers must be aware and abide by all the laws governing the operation of a vehicle.
- Professional drivers must have the appropriate class of driver’s licence prior to operating any type of vehicle.
- Violations of laws may result in traffic convictions.
- There are several consequences for traffic violations including fines, driver’s licence suspension, jail time, travel restrictions, criminal record, increase in insurance premiums, and accumulation of demerit points.
- Traffic convictions may affect the status and future employment of a professional driver.
MODULE 2 – VEHICLE COMPONENTS AND INSPECTION ACTIVITIES

Purpose

The purpose of this module is to familiarize trainees with the basic components and systems of bus. The module will outline the location and functions of these components and systems. This module also outlines the process of vehicle inspections. Pre and post trip inspections ensure the early detection of problems or defects that are signs of major mechanical failures. This module is organized as follows, 2 hours and 30 minutes of classroom session and 4 hours of in-yard session. It should take a total of 6 hours and 30 minutes to complete this module.

General Learning Outcomes

At the end of this module, the trainees should be able to:

- Identify the basic components and systems of a bus
- Understand the function of the components and systems
- Locate the vehicle components and systems
- Proficient in conducting pre trip, en route and post trip inspections
- Knowledgeable in the general components of bus engine components and typical controls, gauges, and instruments so that the driver can properly conduct a pre trip, en route and post trip inspection
- Knowledgeable in the basic operational functions of bus and school bus vehicle components so that the driver can properly conduct a pre trip, post trip inspection, en route and general maintenance tasks

Habits of Minds

Trainee will:
- Recognize the importance of being able to identify and locate basic vehicle components and their functions
- Professional Bus drivers will:
- Recognize the importance of inspecting a bus
- Recognize the importance of maintaining a bus
- Understand the importance of pre-trip checklist

Knowledge and Understanding

Trainee will:
- Know the functions of outlined vehicle components and systems
- Know the components and how systems work
- Know the reason for conducting an inspection prior to each trip
  - Ensuring the bus is in a safe operating condition
  - Identifying signs of potential problem
- Know the pre-inspection trip procedure using the circle check

Skill and Processes

Trainee will:
- Demonstrate the ability to operate some of the components and systems
- Demonstrate the ability to the location and usage of driver-related electrical systems, door controls and vehicle controls such as switches, adjustments
- Demonstrate the location and accessibility to fluids system
- Demonstrate the ability to locate and operates all typical primary and secondary controls, gauges and instruments.
- Demonstrate the ability to read the instrument panel indicators displaying important vehicle operating information, warnings and safety system status.
- Demonstrate the ability to locate fuel tanks and filler caps, and apply proper fueling methods.
- Demonstrate an understanding of the correct under the hood procedure
- Demonstrate an understanding of correct engine start-up and interior inspection procedure
- Demonstrate an understanding of the correct general inspection of the vehicle’s exterior
- Demonstrate the proper use of the pre-trip checklist

<table>
<thead>
<tr>
<th>Learning Environment</th>
<th>Classroom</th>
<th>In-yard</th>
<th>In-Vehicle</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deliver</td>
<td>2 hours</td>
<td>30 minutes</td>
<td>1 hour</td>
<td>3 hours</td>
</tr>
<tr>
<td>Apply</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess (show, do, quiz, test etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe Trainer (watching instruction)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply (practice, performance etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-Road (driving along)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Off-road (backing)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Components and Systems in a Bus

It is important for you as a professional bus driver to know the basic components of your vehicle, where they are located, their functions, and how they operate. You should understand the layout of your vehicle. The layout and locations of vehicle components and system may vary from one bus to another. For better understanding of the function, layout of your vehicle’s components and systems, consult your vehicle owner’s manual.

The section has outlined some base components and systems that may be present in a bus. Before you start driving, ensure that you familiarize yourself with the basic components and systems of the vehicle.

As you develop professional driving skills, you will see the importance in knowing the functions of all controls, systems and instruments found in a vehicle. Some controls, systems and instruments are unique to a bus and may not be found in other types of vehicles.

The components and systems of a bus are divided into thirteen broad categories.
a) **Primary Vehicle Controls** - These are the main components that allow the driver to move and control the vehicle.

b) **Secondary Vehicle Controls** – These components do not affect the movement of the vehicle but contribute to the safety-related issues.

c) **Lubricating System** – this is a system that assists with the distribution of oil to various parts of the engine.

d) **Cooling System** - Heat is generated in the vehicle engine and may destroy the engine if not controlled. The Cooling system assists in keeping the temperature of the engine down.

e) **Suspension System** – this system provides support to the vehicle by distributing and carrying its weight.

f) **Hydraulic Brakes System** – this system enables the driver to stop or slow down the vehicle’s tire rotation through creating a friction of the tires against the road surface.

g) **Air Brakes** (for buses with air brake system) - this is a system that use pressure from compressed air to increase braking force.

h) **Auxiliary Equipment** - Equipment used during emergencies.

i) **Electrical System** – This system is important to start the engine, run the light, or to utilize vehicle instruments and gauges

j) **Vehicle Body and Frame**

k) **Tires and Wheels** – Tire with the support of the wheels assist in providing traction between the vehicle and the road surface and also support in absorbing shock when the vehicle is driven over uneven surface.

l) **Gauges** – there are devices on the vehicle’s instrument panel. The use of a needle or pointer that moves along a calibrated scale to indicate the measurement of a monitored system.

m) **Switches** – these are used to control the vehicles electrical system. They are binary controls- either on or off. They vary in style, type and configuration depending on the vehicle manufacturer. They come in various forms - rocker, toggle, button etc.

**Note:** The position of the components and systems may be different on different bus models.
<table>
<thead>
<tr>
<th>VISUAL REPRESENTATION</th>
<th>NAME</th>
<th>FUNCTION/PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Accelerator Pedal/Throttle Actuator</td>
<td>This component controls the flow of fuel entering the vehicle’s combustion chamber. It is an important component in moving a vehicle and is also used to adjust the speed to the corresponding gear of a vehicle. When the pedal is pushed down, the vehicle speed increases and speed is reduced when the pedal is eased off.</td>
</tr>
<tr>
<td>Transmission</td>
<td>This involves the use of the clutch, the accelerator and the gear lever to move through the shift pattern.</td>
<td></td>
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<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Clutch and Clutch Pedal</td>
<td>This is a vehicle component that has to be disengaged in order to start the engine and shift the gear of a vehicle. The clutch unit is a disc used to transfer power from the engine to the transmission. Therefore, to shift gears you must disconnect the engine from the transmission.</td>
<td></td>
</tr>
<tr>
<td>Power Steering System</td>
<td>This is a component of the engine that enhances easy movement of the steering wheel. It assists the driver to steer the wheel with less effort. Fluid pressure from the pump is used to push against a piston. When the wheel is turned, pressure flows to one side and the piston moves. The piston is attached to the steering gears. Hydraulic pressure does the work, and the driver controls the direction by turning the steering wheel.</td>
<td></td>
</tr>
<tr>
<td>Steering</td>
<td>This allows the driver to make various types of manoeuvres in order to move a bus from one point to another. It is used to determine the direction of travel of a vehicle in motion.</td>
<td></td>
</tr>
<tr>
<td><strong>Gear lever</strong></td>
<td>This is manually controlled by the driver to select vehicle speed by disconnecting the motor from the drive wheels. To do this, push down on the clutch to disengage the motor from the wheels so that you can move the lever to another gear. Gear lever is used to change gears.</td>
<td></td>
</tr>
<tr>
<td><strong>Brake Pedal/Actuator</strong></td>
<td>This is used to slow down the speed or stop a vehicle. It is located to the left of the accelerator pedal.</td>
<td></td>
</tr>
</tbody>
</table>
### SECONDARY VEHICLE CONTROLS

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking brake</td>
<td>This keeps the vehicle in a motionless state when it is parked. It can also be used for emergency stop.</td>
</tr>
<tr>
<td>Windshield wiper/washer</td>
<td>These components play important roles in safety issues relating to vision.</td>
</tr>
<tr>
<td>Defroster</td>
<td></td>
</tr>
<tr>
<td>Air vents</td>
<td>These components play important roles in safety issues relating to comfort of the driver and passengers.</td>
</tr>
<tr>
<td>Air conditioner and heater</td>
<td></td>
</tr>
<tr>
<td>Horn</td>
<td>These components play important roles in safety issues relating to communication.</td>
</tr>
<tr>
<td>Radio</td>
<td></td>
</tr>
<tr>
<td>Lights</td>
<td>The lights play important roles in safety issues relating to communication and vision.</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Exterior lights on the bus (stop/tail light, back up light, turn signal lamps, licence plate light, hazard warning lamps, clearance lights, low beams, high beams, strobe light) Reflex Reflector Retro-Reflective Marking (if it is on the bus)</td>
<td>Front and rear side marker lamps and reflex reflectors indicate the vehicle’s presence and length. School bus strobe light is a bright, flashing light that is on the roof of the bus, usually towards the rear. It is activated by using an on/off switch on the instrument panel of the bus. Its purpose is to make the bus more visible in periods of poor visibility. Examples of this are thick fog, blizzard conditions and heavy smoke.</td>
</tr>
<tr>
<td>Instrument Panel Lamp Interior Lamps on a Bus including stepwell lights</td>
<td>These lamps illuminate the interior of the bus and the dashboard or instrument panel when driving in the dark. The instrument panel lamps are activated once the exterior lights are turned on.</td>
</tr>
</tbody>
</table>
### LUBRICATING SYSTEM

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil dip stick</td>
<td>This used to indicate the level of oil in the engine.</td>
</tr>
<tr>
<td>Applicable hoses and</td>
<td>Hose clamps are used to attach a hose to a fitting. Hoses are used to</td>
</tr>
<tr>
<td>clamps</td>
<td>convey fluid or air from one part of the engine to another.</td>
</tr>
<tr>
<td>Oil filter</td>
<td>Oil circulating through the engine collects dirt and bits of impurities</td>
</tr>
<tr>
<td></td>
<td>which can damage the engine if not removed. The oil filter removes these</td>
</tr>
<tr>
<td></td>
<td>impurities before they circulate to all the moving components.</td>
</tr>
</tbody>
</table>

### COOLING SYSTEM

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiator</td>
<td>A vehicle cooling system keeps the temperature down to prevent Intense heat</td>
</tr>
<tr>
<td></td>
<td>from damaging the vehicle engine. Radiator is the largest part of the</td>
</tr>
<tr>
<td></td>
<td>cooling system. It is a</td>
</tr>
<tr>
<td>Component</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Radiator Cap</td>
<td>On top of the filler neck is the radiator cap. This seals the radiator. The cap assists in maintaining the pressure on the coolant. This should be removed only when the engine is cold.</td>
</tr>
<tr>
<td>Exhaust System</td>
<td>This system assists in removing or expelling burned gases and fumes to the rear of the vehicle and reduce the sound of the engine combustion.</td>
</tr>
<tr>
<td>Fan Belt and blades</td>
<td>A belt transfers motion from the drive shaft to the radiator fan and the alternator. This must be well tightened and replaced as needed.</td>
</tr>
</tbody>
</table>

**SUSPENSION SYSTEM**

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspension &amp; Frame Attachments</td>
<td>The body of the bus is connected to and strengthened by the frame. The frame rests on the suspension system. The suspension reinforces and distribute the weight of bus. The suspension system also supports the axles by enabling axles’ movements when surface or ground changes.</td>
</tr>
<tr>
<td>Axle</td>
<td>Axle is a shaft on which two or more wheels revolve. The wheel is connected to the rest of the vehicle by the axle. Buses have front axle and one or more rear axles.</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Air Suspension</td>
<td>This is a type of vehicle suspension which requires an electric or engine-driven air pump or compressor for operation.</td>
</tr>
<tr>
<td><strong>Shock Absorber</strong></td>
<td>This assists in reducing the motion of the vehicle body when the wheel moves over on uneven surface.</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>

**HYDRAULIC BRAKE SYSTEM**

<table>
<thead>
<tr>
<th><strong>Hydraulic brake System</strong></th>
<th><strong>Hydraulic Brakes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Hydraulic brake applies instantly</td>
</tr>
<tr>
<td></td>
<td>• Hydraulic brake is held in reservoir and brake lines so the system is constantly full</td>
</tr>
<tr>
<td></td>
<td>• Brake fluid cannot be compressed as opposed to the air brake system</td>
</tr>
<tr>
<td></td>
<td>• Brake fluid transfer pressure rather than flows</td>
</tr>
<tr>
<td></td>
<td>• The force applied to the brake is immediate</td>
</tr>
</tbody>
</table>
### BUSES WITH AIR BRAKES

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Air Compressor</strong></td>
<td>This pressurizes air and pumps it into storage tanks. It is directly driven from the internal gearing of the engine. They can either be single or multiple piston pump. It takes in air from the atmosphere and compresses (pressurizes) it.</td>
</tr>
<tr>
<td><strong>Air Tank</strong></td>
<td>This stores the air pressure and its size depends on the air volume required for the brake chamber.</td>
</tr>
</tbody>
</table>
Fire Extinguisher

This equipment used to put fire out in case on any fire outbreak. According to Section 17(1) of the Commercial Vehicle Safety Regulation, a bus shall not operate unless the bus carries at least one fire extinguisher. The fire extinguisher must meet the following conditions.

Pressure designed - it must be equipped with a pressure gauge or indicator that shows whether or not the fire extinguisher is fully charged, or

Cartridge operated design - the design must permit, without the use of special tools, visual inspection of the gas cartridge seal to see that it is intact, and the agent container to see that it is fully charged.

The fire extinguisher must be in charged condition and located in the forward end or near the entrance doors of the vehicle for easy access by the driver. The fire extinguisher must be store in a compartment and the compartment must display “FIRE EXTINGUISHER INSIDE” or securely mounted in a bracket that has a quick release retaining band to prevent falling out during vehicle movement.

All extinguishers require an annual re-certification which includes a 14-point inspection. All extinguishers expire 6 years from manufacturer date, which is stamped on the bottom of the extinguisher.
<table>
<thead>
<tr>
<th>Overhead hatches</th>
<th>This is located on the bus roof and functions as a roof ventilator and emergency exit.</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Aid Kit on a Bus</td>
<td>According to Section 16(1) of the <em>Commercial Vehicle Safety Regulation</em>, a bus shall not be operated unless the bus is equipped with safety kit as prescribed under the <em>Occupational Health and Safety Act</em>. The kit must be located in way that is easily accessible by the driver.</td>
</tr>
<tr>
<td>Advance Warning Triangle</td>
<td>These are emergency warning devices. The devices are safety placed on the roadway by a driver to warn other road users in advance of any emergency.</td>
</tr>
<tr>
<td>Child Safety Alert Systems (school bus)</td>
<td>An alarm system that reminds drivers to ensure that all children have safely stepped off the bus. When the Child Check-Mate System is engaged, an operator must disengage the system before exiting the bus at the parking location.</td>
</tr>
</tbody>
</table>
### ELECTRICAL SYSTEM

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery and Battery Cable</td>
<td>A battery converts chemical energy into electrical energy to supply power to the vehicle's electrical system. Battery has two terminal posts—positive and negative post. The terminals are located on the top of the battery. Battery cables are connected to the cell connector to transport electricity from the cell to the power system. A battery must be securely mounted on the tray designed to mount it.</td>
</tr>
<tr>
<td>Wires</td>
<td>There are used to connect the electrical components of a vehicle. It carries the energy required to activate a vehicle's electrical components and devices e.g. lights, doors, locks, windows, metre etc. All wires connections should not be exposed.</td>
</tr>
</tbody>
</table>

### VEHICLE BODY AND FRAME

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hood or Engine Enclosure</td>
<td>This is the part of the bus body within which the engine is housed.</td>
</tr>
<tr>
<td><strong>Vehicle Body</strong></td>
<td>This is the part of the bus that accommodates the driver and the passengers. A vehicle frame, also known as its chassis, is the main supporting structure of a motor vehicle.</td>
</tr>
<tr>
<td><strong>Seat</strong></td>
<td>This is located in the interior of the bus for passengers and driver’s comfort</td>
</tr>
<tr>
<td><strong>Seat Belt/Occupant Restraint</strong></td>
<td>When properly used, restraint system may help in minimizing the impact of a collision on the vehicle occupants. The system is designed to keep a driver and other vehicle occupants in their seats in case on any sudden stop or collision. The impact your body experiences in a 48 km/h crash is about the same as falling from the third floor of a building to the ground. By wearing your seat belt, you reduce the chance of being injured or killed by 55 %.</td>
</tr>
<tr>
<td>Component</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Fender/Mud Flap</td>
<td>When vehicle is in motion, the rotating tires come across various things like mud, sand, rock, liquid etc., the fender/mud flap prevents these things from being thrown into the air. Mud flaps are flexible while fender is rigid.</td>
</tr>
<tr>
<td>Mirrors (interior and exterior)</td>
<td>Driver of large commercial vehicles rely on their mirrors to observe traffic conditions behind and beside the vehicle. Mirrors are used during vehicle manoeuvring, straight driving, driving through the curve, turning, lane changing etc. Correct mirror adjustments are essential for the safe operation of a bus.</td>
</tr>
<tr>
<td>Windows</td>
<td>Allow for visibility and airflow. Windows may also be used as emergency exits.</td>
</tr>
<tr>
<td>Fuel tank door and cap</td>
<td>Fuel Tank: is a safe container for flammable fluids. Fuel Cap: cover that screws onto and off of the fuel inlet tube to so that you can pump gas into your fuel tank, and keep contaminants out of the gas once you are done pumping.</td>
</tr>
<tr>
<td>Doors</td>
<td>This allows vehicle occupants to enter and exit the bus.</td>
</tr>
<tr>
<td><strong>TIRES AND WHEELS</strong></td>
<td></td>
</tr>
<tr>
<td>Tire</td>
<td>This is a ring-shaped, air-cushioned component around the wheel's rim. It provides traction between the vehicle and road surface. Driver must ensure that tires are inflated correctly. Underinflated tire builds up heat as it travels over the road surface. This may damage the tire casing. If not inflated on time, the tire may catch fire due to high internal temperature.</td>
</tr>
<tr>
<td><strong>Wheel Hub</strong></td>
<td>This is the central portion of a wheel through which the axle passes.</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Wheel/Rim</strong></td>
<td>This is single and multi-piece rim assembly used for mounting large tires of heavy equipment.</td>
</tr>
<tr>
<td>Wheel Fasteners (Nuts, Bolts and Studs)</td>
<td>Wheel fasteners secure the wheels on a vehicle.</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
</tbody>
</table>

**GAUGES**

<table>
<thead>
<tr>
<th>Ammeter</th>
<th>Measures the level of electrical draw on a battery by how much the battery is being charged or discharged.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Water temperature Gauge</th>
<th>This shows the temperature of the coolant in the engine.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Fuel gauge</th>
<th>This indicates the level of fuel in the fuel tank.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument/Gauge</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Air brake pressure gauge</td>
<td>Air brake system is activated by air pressure. This measures the amount air pressure in the air tank in pound per square inch (psi).</td>
</tr>
<tr>
<td>Diesel Exhaust Fluid (DEF) gauge</td>
<td>Indicates the level of diesel exhaust fluid in the DEF tank. DEF is injected in the vehicle’s exhaust system to lower Nitrogen Oxide emissions.</td>
</tr>
<tr>
<td>Speedometer</td>
<td>This instrument displays the road speed in mile per hour or kilometer per hour.</td>
</tr>
<tr>
<td>Odometer</td>
<td>This indicates how many kilometres or miles the vehicle has been driven since manufacturing.</td>
</tr>
<tr>
<td>Thermostat</td>
<td>This is a temperature sensitive device that regulates the flow of the coolant.</td>
</tr>
</tbody>
</table>

**SWITCHES**

<table>
<thead>
<tr>
<th>Switch</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignition Switch</td>
<td>An ignition switch is a switch in the control system of a motor vehicle that activates the main electrical systems for the vehicle, including &quot;accessories&quot; (radio, power windows, etc.).</td>
</tr>
<tr>
<td>Door control and latch</td>
<td>This controls the opening, closing and locking of the doors.</td>
</tr>
<tr>
<td>Signal controls switches</td>
<td>This turn on or off the signal lights.</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Light controls and adjustments</td>
<td>This is used to turn on or off the exterior lights and to adjust the light beam level.</td>
</tr>
</tbody>
</table>
**Stability Control System**

This is a crash avoidance system found on new vehicles. New buses are equipped with Electronic Stability Control (ESC) which assists to detect and minimize skids and hence, improving a vehicle’s stability.

This system assists drivers to remain in control of their vehicles by detecting loss of steering control. The system automatically applies brake to counter oversteering or understeering.

Through application of brakes, ESC can help drivers reduce the risk of vehicle instability while in a slippery curve, or sudden brake application to avoid obstacles.

**Anti-Lock Braking System (ABS)**

These are electronic systems that monitor and control wheel slip during vehicle braking by minimizing lockup. Because rolling wheels have more traction than locked wheels, ABS keeps base brake from locking up and hence, improves vehicle control and stability on slippery road surface.

<table>
<thead>
<tr>
<th>Name</th>
<th>Symbol</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil pressure warning lights</td>
<td><img src="image" alt="Oil pressure symbol" /> <img src="image" alt="Oil pressure gauge" /></td>
<td>Red</td>
<td>This light may turn on as the bus is being started, but should turn off right after the engine starts, if it does not, then the vehicle should be examined. Low pressure means there either is not enough oil in the system or the oil pump is not circulating enough oil to keep the critical bearing and friction surfaces lubricated.</td>
</tr>
<tr>
<td>Low oil level warning light</td>
<td><img src="image" alt="Low oil level symbol" /> <img src="image" alt="Oil level gauge" /></td>
<td>Red</td>
<td>Displays when oil level is too low for normal, safe operation.</td>
</tr>
<tr>
<td>Low coolant level</td>
<td><img src="image" alt="Coolant level symbol" /></td>
<td>Blue</td>
<td>Displays when the coolant level is low.</td>
</tr>
<tr>
<td>Name</td>
<td>Symbol</td>
<td>Color</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>--------</td>
<td>-------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Service Brake warning light</td>
<td><img src="image" alt="Symbol" /></td>
<td>Red</td>
<td>With a dual brake system, if this light comes on during a hard braking application, this could indicate that at least one of the brake hydraulic system is not operating properly.</td>
</tr>
<tr>
<td>Alternator or Generator Warning Light</td>
<td><img src="image" alt="Symbol" /></td>
<td>Red</td>
<td>Displays when the alternator is not charging.</td>
</tr>
<tr>
<td>Battery Light</td>
<td><img src="image" alt="Symbol" /></td>
<td>Red</td>
<td>The battery light indicates a battery charging problem.</td>
</tr>
<tr>
<td>Water temperature warning light</td>
<td><img src="image" alt="Symbol" /> <img src="image" alt="Gauge" /></td>
<td>Red</td>
<td>This goes on when the engine coolant temperature is hot.</td>
</tr>
<tr>
<td>Low fuel warning light</td>
<td><img src="image" alt="Symbol" /> <img src="image" alt="Gauge" /></td>
<td>Red</td>
<td>Displays when the fuel level is low.</td>
</tr>
<tr>
<td>Name</td>
<td>Symbol</td>
<td>Color</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------</td>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Anti-lock Brake System</td>
<td><img src="image" alt="Symbol" /></td>
<td>Yellow</td>
<td>This is displayed during starting, and then goes off. If warning light comes on while you are driving, it means the ABS is INOPERATIVE.</td>
</tr>
<tr>
<td>Check engine</td>
<td><img src="image" alt="Symbol" /></td>
<td>Yellow</td>
<td>Displays when the engine has a problem. While vehicle can still be safely driven it should be examined to correct the problem.</td>
</tr>
<tr>
<td>Park brake</td>
<td><img src="image" alt="Symbol" /></td>
<td>Red</td>
<td>Displays when park brake light is applied.</td>
</tr>
<tr>
<td>Fasten seat belt</td>
<td><img src="image" alt="Symbol" /></td>
<td>Red</td>
<td>Displays to remind drivers to fasten the seat belt.</td>
</tr>
<tr>
<td>High beams</td>
<td><img src="image" alt="Symbol" /></td>
<td>Blue</td>
<td>Displays when high beam lights are on.</td>
</tr>
<tr>
<td>Hazard signal</td>
<td><img src="image" alt="Symbol" /></td>
<td>Green</td>
<td>Blinks when hazard lights are activated.</td>
</tr>
<tr>
<td>Name</td>
<td>Symbol</td>
<td>Color</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------</td>
<td>-------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Left turn signal</td>
<td><img src="image1.png" alt="Image" /></td>
<td>Green</td>
<td>Blinks when left turn signal is on.</td>
</tr>
<tr>
<td>Right Turn Signal</td>
<td><img src="image2.png" alt="Image" /></td>
<td>Green</td>
<td>Blinks when right turn signal is on.</td>
</tr>
<tr>
<td>Stop engine</td>
<td><img src="image3.png" alt="Image" /></td>
<td>Red</td>
<td>Displays when major engine problems occurs.</td>
</tr>
<tr>
<td>Cruise control</td>
<td><img src="image4.png" alt="Image" /></td>
<td>Yellow</td>
<td>Displays when cruise control is activated.</td>
</tr>
<tr>
<td>Diesel Particulate Filter (DPF)</td>
<td><img src="image5.png" alt="Image" /></td>
<td>Yellow</td>
<td>Displays when the diesel particulate trap is plugged or when the regeneration operation is disabled.</td>
</tr>
<tr>
<td>Name</td>
<td>Symbol</td>
<td>Color</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>--------</td>
<td>-------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>High Exhaust System Temperature (HEST)</td>
<td><img src="image.png" alt="Symbol" /></td>
<td>Yellow</td>
<td>Displays when exhaust gas temperature becomes hot.</td>
</tr>
</tbody>
</table>
Exercise – Trainees should discuss the functions of the discussed vehicle components and systems

**Vehicle Inspection Activities**

Daily vehicle inspection is important in ensuring that problems and defects are detected early before the vehicle is operated on the road. Inspections prevent the operation of a vehicle that may breakdown or cause a collision due to the vehicle being in a poor mechanical state.

The trip inspection process is part of a carrier’s legal requirement to have and implement a written maintenance program. It also ensures there is clear communication within the company about the vehicle’s day-to-day safety.

Inspection reports serve as communication between drivers, the carrier and the carrier’s maintenance department. Reports are used to verify inspections, record defects, report defects and may be used to verify repairs.

**Compliance with Vehicle Inspections**

Commercial Vehicle Enforcement Agencies in each province are responsible for ensuring commercial vehicle compliance with Provincial and Federal Acts and Regulations. Transportation or Peace Officers assist in maintaining a safe highway system in Alberta by conducting inspections and monitoring commercial vehicles for safety compliance. All registered buses designed to carry more than 11 passengers, including the driver, must be inspected semi-annually.

All jurisdictions recognize inspections of each participating province or territory and, except in rare circumstances, will accept the host jurisdiction’s inspection to be equivalent to the inspection mandated by their legislation.

The province of Alberta has a mandatory safety inspection program. This is called the Alberta Vehicle Inspection Program (VIP) for Commercial Vehicles. The VIP for Commercial Vehicles is not a replacement for the ongoing preventive maintenance carried out by vehicle owners, but rather sets the standards for owners’ maintenance programs.

A commercial vehicle passing inspection under VIP will receive a Commercial Vehicle Inspection Certificate, as well as a Commercial Vehicle Inspection decal to be placed on the vehicle. As with the National Safety Code, municipal transit buses and farm trucks are exempt when operating solely within the borders of Alberta from the VIP.

Drivers may also be required to produce inspection documents upon request, along with Safety Fitness Certificate, Daily Log, and Insurance documentation. Please see Module 6 for a comprehensive list and description of required documents.
**Commercial Vehicle Safety Regulation AR 121/2009**

Pre and post trip inspections are a vital part of the job because the driver will be able to screen for any issues that could potentially cause or contribute to a collision. The trip inspection process is part of a carrier’s legal requirement to have and implement a written maintenance program. It also ensures there is clear communication within the company about the vehicle’s day-to-day safety. Inspection checklists for buses are based on the National Safety Code (NSC) Standard 13: Schedule 2. The NSC Standard is intended to enable drivers to identify vehicle problems and defects and to prevent vehicles to be driven if they are in a state that will likely contribute to a collision or vehicle breakdown.

Provincially regulated bus carriers (those that operate solely within Alberta) and federally regulated bus carriers (those that operate one or more vehicles outside the province of Alberta) must complete and keep a record of trip inspection reports on all commercial vehicles that are designed for carrying 11 or more persons, including the driver and is used or intended to be used for the transportation of persons.

Further to complying with standards set out above, there are additional requirements that must be met for certain types of buses operating on highways:

- A person shall not operate or permit another person to operate a bus that is equipped to transport persons with physical disabilities on a highway unless the vehicle meets the standards prescribed in Schedule 3 of the **Commercial Vehicle Safety Regulation (AR121/2009)**
- Handi-buses (that are purchased or first used as a handi-bus after September 1, 1999) operating on a highway must comply also with Schedule 3 and Schedule 4. of the **Commercial Vehicle Safety Regulation (AR121/2009)**
- School Buses must meet the requirements of CSA-250-16 (specifications for chassis, body and safety equipment requirements set out by the Standards Council of Canada) and standards outlined in Schedule 5 of the **Commercial Vehicle Safety Regulation (AR121/2009)**

**Vehicle Defects**

1. **Recording Defects**: The driver is required to record a defect on the report immediately after the initial inspection or upon discovery of a defect while travelling or when discovered at the end of a trip or day.

2. **Reporting Defects**: For the purposes of reporting defects to the carrier, the carrier may designate an employee to receive reports of defects. Minor and major defects, which are listed in the NSC schedule, must be reported immediately by the driver or inspection person to the carrier upon discovery of the defect. Depending on the driver’s situation, reporting defects to the carrier may be done in person, by phone, via written report or by electronic means.
3. **Driving with Defects:** A driver may continue to drive with a minor defect that is listed on an inspection schedule if the driver has immediately entered the defect on the daily inspection report and reported the defect to the carrier.

No carrier shall permit a person, and no person shall, drive a commercial vehicle on a highway when a major defect that is listed on an inspection schedule is present on the vehicle.

**Driver Inspection Requirement**
The driver is required to complete and sign a report upon completion of the inspection. Drivers are not permitted to drive a bus unless the driver or another person has conducted an inspection of the vehicle(s) within the previous 24 hours.

In addition to the initial inspection, whether conducted by the driver or not, the driver is required to monitor the condition of the vehicle(s) for defects while en route.

Where a trip inspection report has been completed, the trip inspection is valid for a maximum of 24 hours.

A person other than the driver may conduct an inspection, but must sign the inspection report. The person conducting the inspection on behalf of the driver is responsible under law for the inspection and the information contained in the inspection report. The driver may rely on such an inspection and produce the report to an officer, unless the driver has reason to believe the inspection and report do not meet the requirements, or the driver is aware or ought to be aware that the vehicle has a defect.

All information required to be on a report must be accurately completed in full. There are vehicle inspectors throughout the province who conduct commercial vehicle inspections. Vehicles that do not meet the requirements can be taken out-of-service until repairs are made. This can result in fines and points assessed on the Carrier Profile or the driver’s Commercial Driver Abstract.

On the demand of a peace officer, a driver must produce the inspection schedule and the written trip inspection report. Alberta’s trip inspection legislation is contained in sections 9 through 16 of the *Commercial Vehicle Safety Regulation* (AR 121/2009) and can be viewed on the Queen’s Printer website at [www.qp.alberta.ca](http://www.qp.alberta.ca).

**Trip Inspection Schedule**
Application of inspection schedule
- Carriers are required to supply drivers with a copy of the inspection schedule.
- Drivers are required to carry and produce the inspection schedule to an officer.
- A schedule and an inspection report may be combined on the same document.

Where to get inspection schedules
Schedule 1 - 4 of National Safety Code Standard 13, which is published by the Canadian Council of Transport Administrators (CCMTA), is acceptable in Alberta, when produced by the driver of an Alberta plated commercial vehicle. These schedules may be viewed at: www.ccmta.ca Some companies, associations and organizations also produce and sell schedules and report forms.

**Trip Inspections**  
Drivers are accountable for the safety and well-being of the passengers they transport as well as others they share the road with. Trip inspections are a part of being a responsible driver.

When approaching the bus, this is a good opportunity to assess the overall condition of the vehicle. Take a walk around the bus starting at the front of the bus and down the driver’s side, then around the passenger side until you reach the front of the bus. Take note of items such as any damage to the bus, fluid leaks under the bus, and general appearance. Also check to see if the bus is leaning to one side or the other. Any visibly shifted, cracked, collapsing or sagging frame member(s) are considered major defects.

**Note:** Personal Protective Equipment (PPE) should be worn during inspection activities in accordance to the Occupational Health and Safety Act (OHSA) such as protect hands, eyes, and feet, high visibility clothing and sound dampening headphones

**Vehicle Inspection:**

The following table is general guide for what to look for during a vehicle inspection. Detailed information on maintenance standards can be found in Schedule 2 of the Commercial Vehicle Safety Regulation (AR121/2009).

**External Inspection**

<table>
<thead>
<tr>
<th>Component</th>
<th>Check Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hood</td>
<td>• Hood latch is not missing and is secure</td>
</tr>
</tbody>
</table>
| Bumper, Fender | • Is not missing  
|                | • Is securely mounted  
|                | • Is not broken, bent or corroded or have sharp edges |
| Mirrors        | • Should be securely mounted and adjusted to the appropriate setting for the driver  
|                | • Check for damage that affects the proper functioning of the mirror |
| Windows        | • Cracks, discolouration, exposed sharp edges, or missing parts  
|                | • Cracks or chips in any area swept by windshield wipers must not be greater than 25 millimetres in diameter  
<p>|                | • Driver’s window can be opened on the inside |</p>
<table>
<thead>
<tr>
<th>Component</th>
<th>Check Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency window(s)</td>
<td>• Emergency window(s) operate smoothly and seals are in good condition</td>
</tr>
<tr>
<td>Windshield washer system</td>
<td>• Windshield washer system must function in accordance with the manufacturer’s specifications</td>
</tr>
<tr>
<td>Windshield Wipers</td>
<td>• Each wiper arm and blade assembly must sweep the area specified by the manufacturer and provide effective clearing of the windshield.</td>
</tr>
<tr>
<td>Windshield Wipers and Washers</td>
<td></td>
</tr>
<tr>
<td>Frame (body, chassis, sliding subframe)</td>
<td>• Cracks, corrosion, structural damage, deformation, missing or loose fastener</td>
</tr>
<tr>
<td>Underbody</td>
<td>• Structural damage, deformations, perforations, or presence of openings not designed by the manufacturer</td>
</tr>
<tr>
<td>Drive Shaft</td>
<td>• Missing, loose or damaged parts</td>
</tr>
<tr>
<td>Brakes</td>
<td>• Excessive wear</td>
</tr>
<tr>
<td></td>
<td>• Universal Joints must not show evidence of free play</td>
</tr>
<tr>
<td>Brakes</td>
<td>• No cracks (other than heat crack)</td>
</tr>
<tr>
<td></td>
<td>• Damage to drum or disc</td>
</tr>
<tr>
<td></td>
<td>• Excessive wear-Wear on discs or inside drum must not exceed manufacturer’s wear limit</td>
</tr>
<tr>
<td>Hydraulic and Vacuum-Assisted Brake Components</td>
<td>• Leaks</td>
</tr>
<tr>
<td></td>
<td>• Corrosion</td>
</tr>
<tr>
<td></td>
<td>• Vacuum, hydraulic or air boost systems are fully charged</td>
</tr>
<tr>
<td></td>
<td>• Hydraulic levels are not lower than specified by the manufacturer</td>
</tr>
<tr>
<td></td>
<td>• Hose and tubing are not crimped, bulged, cracked, broken, disconnected, rubbing against other parts of the vehicle</td>
</tr>
<tr>
<td></td>
<td>• Air cleaner of vacuum system or air compressor is not clogged</td>
</tr>
<tr>
<td>Parking Brake</td>
<td>• Friction material must not be less than 1.6 millimetres when measured at any point of a bonded lining or pad other than the chamfered area</td>
</tr>
<tr>
<td>Steering Components</td>
<td>• The power steering drive belt must not be missing, cut, frayed or badly worn</td>
</tr>
<tr>
<td></td>
<td>• Steering linkage system components are not loose or damaged</td>
</tr>
<tr>
<td></td>
<td>• Bolts, nuts, clamps are not missing or badly worn</td>
</tr>
<tr>
<td>Component</td>
<td>Check Points</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| **Suspension**       | • Excessive play for ball joints, control arm pivots, wheel and axle bearings  
                        • Front and rear springs, shackles, U-bolts, centre-bolts, radius rods, control arms, torque arms, equalizers, sway-bars, stabilizers and their supports and attachments must not be loose, bent, cracked, broken, disconnected, displaced, perforated by corrosion or missing  
                        • Shock absorbers must not be loose, bent, disconnected, missing or damaged, or show evidence of active fluid leakage |
| **Electrical Components** | • Components are secured on their mountings  
                        • Battery must be securely mounted, and must not be loose, missing or have hold downs missing  
                        • Electric wiring and any cords must not be loose so as to contact moving parts, rubbed through the insulation, peeled, cut or deteriorated |
| **Lamps and Reflectors** | • Components must not be damaged, discoloured, or be missing in whole or part  
                        • Lamps must not be covered or modified in a manner that reduces the effective area of the lens or reduces the brightness of the light |
| **Tires**            | • Tire pressure is maintained in accordance with manufacturer’s specifications  
                        • Excessive tread wear, tread separation, exposed cord, abnormal bumps, bulges or knots,  
                        • Cuts or snags that affect the safety of the tires no part of the exhaust system must be closer than 50 millimetres to wiring, any part of a fuel or brake component or any combustible material that is not protected by a shield |
| **Wheels**           | • Wheel stud, bolt, clamp, nut, and lug must not be loose, missing, damaged, broken or mismatched  
                        • Disc wheel assembly does not have any visible cracks, or be bent in a way that affects the safe operation of the vehicle  
                        • Hub must not be cracked, bent, distorted, worn, or missing.  
                        • Hub should also be checked for leaks |
| **Mud Guard/Flap**   | • Is secure and not damaged |
| **Exhaust**          | • Missing, perforated, patched or insecure components  
                        • Leaks |
<table>
<thead>
<tr>
<th>Component</th>
<th>Check Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• No part of the exhaust system must be closer than 50 millimetres to wiring, any part of a fuel or brake component or any combustible material that is not protected by a shield</td>
</tr>
</tbody>
</table>
| Fuel System   | • Fuel tank is securely mounted/attached and fuel lines are present and secure  
• Filler Cap is not missing and is secure  
• Leaks |

## Interior Inspection

<table>
<thead>
<tr>
<th>Component</th>
<th>Check Points</th>
</tr>
</thead>
</table>
| Heating and Defrosting Systems | • Visible portions of the hoses and piping for the interior heaters routed within the occupant compartment must not be abraded, cracked or leaking  
• Windshield defroster system must deliver heated air to the windshield and, where fitted, to the side windows to the left and right of the driver  
• If the service door is equipped with frost-resistant glass panels, heated air does not have to be delivered to door glass panels |
| Lamps and Reflectors       | • Each circuit must light and activate the required lamps on that circuit when the appropriate switch is in the “on” position                         |
| Brake Pedal                | • Brake pedal pad or anti-skid surface is secure and does not have excessive wear (Where equipped)                                          
• Moderate foot force is maintained when pedal is depressed for 10 seconds  
• Total pedal travel does not exceed 80% of the total available travel when heavy force is applied  
• The brake releases immediately when pressure is released from the pedal |
| Parking Brake              | • When fully applied and not held by foot or hand force or by hydraulic or air pressure, the parking brake must hold the vehicle stationary against the engine momentarily while the vehicle is operated in reverse gear and low forward gear at a light throttle setting  
• Brakes are fully released while in the “off” position |
| Doors                      | • Securely fastened to the body  
• Function properly  
• Do not have missing, loose or torn materials  
• Door controls operate smoothly and seals in good condition |
| Seats                      | • Are securely mounted  
• Cushion or padding are not missing, torn or badly worn |
### 1. Accessibility Devices

**Defect(s)**
- Accessibility device may not be used if:
  - Alarm fails to operate.
  - Equipment malfunctions.
  - Interlock system malfunctions.

**Major Defect(s)**
- Vehicle fails to return to normal level after "kneeling."
- Extendable lift, ramp or other passenger-loading device fails to retract.

### 2. Air Brake System

**Defect(s)**
- Audible air leak.
- Slow air pressure build-up rate.

**Major Defect(s)**
- Pushrod stroke of any brake exceeds the adjustment limit.
- Air loss rate exceeds prescribed limit.
- Inoperative towing vehicle (tractor) protection system.
- Low air warning system fails or system is activated.
- Inoperative service, parking or emergency brake.

### 3. Cargo Securement

**Defect(s)**
- Insecure or improper load covering (e.g. wrong type or flapping in the wind).

**Major Defect(s)**
- Insecure cargo.
- Absence, failure, malfunction or deterioration of required cargo device or load covering.

### 4. Coupling Devices

**Defect(s)**
- Coupler or mounting has loose or missing fastener

**Major Defect(s)**
- Coupler is insecure or movement exceeds prescribed limit.
- Coupling or locking mechanism is damaged or fails to lock.
- Defective, incorrect or missing safety chain/cable.

### 5. Dangerous Goods

**Major Defect(s)**
- Dangerous goods requirements not met.

### 6. Doors and Emergency Exits

**Defect(s)**
- Door, window or hatch fails to open or close securely.
- Alarm inoperative.

**Major Defect(s)** *(Passengers may not be carried)*
- Required emergency exit fails to function as intended.

\[1\] Vehicle may be moved when no passenger carried.

### 7. Driver Controls

**Defect(s)**
- Accelerator pedal, clutch, gauges, audible and visual indicators or instruments fail to function properly.

**Major Defect(s)** *(Passengers may not be carried)*
- Accelerator sticking and engine fails to return to idle.
<table>
<thead>
<tr>
<th>8. Driver Seat</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defect(s)</strong></td>
<td><strong>Major Defect(s)</strong></td>
</tr>
<tr>
<td>Seat is damaged or fails to remain in set position.</td>
<td>Seatbelt or tether belt is insecure, missing or malfunctions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. Electric Brake System</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defect(s)</strong></td>
<td><strong>Major Defect(s)</strong></td>
</tr>
<tr>
<td>Loose or insecure wiring or electrical connection.</td>
<td>Inoperative breakaway device.</td>
</tr>
<tr>
<td></td>
<td>Inoperative brake.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10. Emergency Equipment &amp; Safety Devices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defect(s)</strong></td>
<td><strong>Major Defect(s)</strong></td>
</tr>
<tr>
<td>Emergency equipment is missing, damaged or defective.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11. Exhaust System</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defect(s)</strong></td>
<td><strong>Major Defect(s)</strong></td>
</tr>
<tr>
<td>Exhaust leak.</td>
<td>Leak that causes exhaust gas to enter the occupant compartment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12. Exterior Body and Frame</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defect(s)</strong></td>
<td><strong>Major Defect(s)</strong></td>
</tr>
<tr>
<td>Insecure or missing body parts.</td>
<td>Visibly shifted, cracked, collapsing or sagging frame member(s).</td>
</tr>
<tr>
<td>Insecure or missing compartment door.</td>
<td></td>
</tr>
<tr>
<td>Damaged frame or body.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13. Fuel System</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defect(s)</strong></td>
<td><strong>Major Defect(s)</strong></td>
</tr>
<tr>
<td>1. Missing fuel tank cap.</td>
<td></td>
</tr>
<tr>
<td>2. Insecure fuel tank.</td>
<td></td>
</tr>
<tr>
<td>3. Dripping fuel leak.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14. General</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defect(s)</strong></td>
<td><strong>Major Defect(s)</strong></td>
</tr>
<tr>
<td>Serious damage or deterioration that is noticeable and may affect the vehicle’s safe operation.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15. Glass and Mirrors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defect(s)</strong></td>
<td><strong>Major Defect(s)</strong></td>
</tr>
<tr>
<td>Required mirror or window glass fails to provide the required view to the driver as a result of being cracked, broken, damaged, missing or maladjusted.</td>
<td>Driver’s view of the road is obstructed in the area swept by the windshield wipers.</td>
</tr>
<tr>
<td>Required mirror or glass has broken or damaged attachments onto vehicle body.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>16. Heater/Defroster</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defect(s)</strong></td>
<td><strong>Major Defect(s)</strong></td>
</tr>
<tr>
<td>Control or system failure.</td>
<td>Defroster fails to provide unobstructed view through the windshield.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17. Horn</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defect(s)</strong></td>
<td></td>
</tr>
<tr>
<td>Vehicle has no operative horn.</td>
<td></td>
</tr>
</tbody>
</table>

---

2 Vehicle may be moved when no passenger carried.
### 18. Hydraulic Brake System

<table>
<thead>
<tr>
<th>Defect(s)</th>
<th>Major Defect(s)</th>
</tr>
</thead>
</table>
| - Brake fluid level is below indicated minimum level. | - Parking brake is inoperative.  
- Brake boost or power assist is inoperative.  
- Brake fluid leak.  
- Brake pedal fade or insufficient brake pedal reserve.  
- Activated (other than ABS) warning device.  
- Brake fluid reservoir is less than ¼ full. |

### 19. Lamps and Reflectors

<table>
<thead>
<tr>
<th>Defect(s)</th>
<th>Major Defect(s)</th>
</tr>
</thead>
</table>
| - Required lamp does not function as intended.  
- Required reflector is missing or partially missing.  
- Passenger safety or access lamp does not function. | - When lamps are required:  
- Failure of both low-beam headlamps.  
- Failure of both rearmost tail lamps.  
- At all times:  
- Failure of a rearmost turn-indicator lamp.  
- Failure of both rearmost brake lamps. |

### 20. Passenger Compartment

<table>
<thead>
<tr>
<th>Defect(s)</th>
<th>Major Defect(s)</th>
</tr>
</thead>
</table>
| - Stanchion padding is damaged.  
- Damaged steps or floor.  
- Insecure or damaged overhead luggage rack or compartment.  
- Malfunction or absence of required passenger or mobility device restraints.  
- Passenger seat is insecure. | - When affected position is occupied:  
- Malfunction or absence of required passenger or mobility device restraints.  
- Passenger seat is insecure. |

### 21. Steering

<table>
<thead>
<tr>
<th>Defect(s)</th>
<th>Major Defect(s)</th>
</tr>
</thead>
</table>
| - Steering wheel lash (free-play) is greater than normal. | - Steering wheel is insecure, or does not respond normally.  
- Steering wheel lash (free-play) exceeds required limit. |

### 22. Suspension System

<table>
<thead>
<tr>
<th>Defect(s)</th>
<th>Major Defect(s)</th>
</tr>
</thead>
</table>
| - Air leak in air suspension system.  
- Broken spring leaf.  
- Suspension fastener is loose, missing or broken. | - Damaged¹ or deflated air bag.  
- Cracked or broken main spring leaf or more than one broken spring leaf.  
- Part of spring leaf or suspension is missing, shifted out of place or in contact with another vehicle component.  
- Loose U-bolt. |

¹ patched, cut, bruised, cracked to braid, mounted insecurely.

### 23. Tires

<table>
<thead>
<tr>
<th>Defect(s)</th>
<th>Major Defect(s)</th>
</tr>
</thead>
</table>
| - Damaged tread or sidewall of tire.  
- Tire leaking (if leak can be felt or heard, tire is to be treated as flat). | - Flat tire.  
- Tire tread depth is less than wear limit.  
- Tire is in contact with another tire or any vehicle component other than mud-flap.  
- Tire is marked “Not for highway use”.  
- Tire has exposed cords in the tread or outer side wall area. |
### 24. Wheels, Hubs and Fasteners

<table>
<thead>
<tr>
<th>Defect(s)</th>
<th>Major Defect(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Hub oil below minimum level. (When fitted with sight glass.)</td>
<td>- Wheel has loose, missing or ineffective fastener.</td>
</tr>
<tr>
<td>- Leaking wheel seal.</td>
<td>- Damaged, cracked or broken wheel, rim or attaching part.</td>
</tr>
<tr>
<td></td>
<td>- Evidence of imminent wheel, hub or bearing failure.</td>
</tr>
</tbody>
</table>

### 25. Windshield Wiper/Washer

<table>
<thead>
<tr>
<th>Defect(s)</th>
<th>Major Defect(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Control or system malfunction.</td>
<td>- When necessary for prevailing weather condition.</td>
</tr>
<tr>
<td>- Wiper blade damaged, missing or fails to adequately clear driver’s field of vision.</td>
<td>- Wiper or washer fails to adequately clear driver’s field of vision in area swept by driver’s side wiper.</td>
</tr>
</tbody>
</table>
Class activity – Instructor will work though the NSC Inspection Schedule and complete a Trip Inspection Report with the trainees

**SAMPLE**

**Bus Trip Inspection Report**

<table>
<thead>
<tr>
<th>Carrier Name:</th>
<th>NSC Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of Inspection:</td>
<td>Date of Inspection:</td>
</tr>
<tr>
<td>Odometer Reading:</td>
<td>Vehicle Plate or Unit Number:</td>
</tr>
<tr>
<td>Name of Driver:</td>
<td>Signature of Driver:</td>
</tr>
<tr>
<td>Name of Person Inspecting (if different from driver):</td>
<td>Signature of Person Inspecting (if different from driver):</td>
</tr>
</tbody>
</table>

When item inspected, check "I" column. If defect identified during inspection, check "RR" (requires repair) column.

<table>
<thead>
<tr>
<th>I</th>
<th>RR</th>
<th>Item Inspected</th>
<th>I</th>
<th>RR</th>
<th>Item Inspected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Accessibility Devices</td>
<td></td>
<td></td>
<td>Fuel System</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Air Brake System</td>
<td></td>
<td></td>
<td>General</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cargo Securement</td>
<td></td>
<td></td>
<td>Glass and Mirrors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coupling Device</td>
<td></td>
<td></td>
<td>Heater/Defroster</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dangerous Goods</td>
<td></td>
<td></td>
<td>Horn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Doors and Emergency Exits</td>
<td></td>
<td></td>
<td>Hydraulic Brake System</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Driver Controls</td>
<td></td>
<td></td>
<td>Lamps and Reflectors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Driver Seat</td>
<td></td>
<td></td>
<td>Passenger Compartment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electric Brake System</td>
<td></td>
<td></td>
<td>Steering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emergency Equipment/Safety Devices</td>
<td></td>
<td></td>
<td>Suspension System</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exhaust System</td>
<td></td>
<td></td>
<td>Tires, Wheels, Hubs and Fasteners</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exterior Body and Frame</td>
<td></td>
<td></td>
<td>Windshield Wipers/Washers</td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

☐ No Defects Found

Details of defect(s) detected:

Defects observed during operation of vehicle (time other than initial inspection):

**Certification of Repairs Completed**

I performed an inspection of the vehicle noted above using the criteria set out in Schedule 2 of NSC Standard 13 and as per Schedules 2 and/or 3, 4, 5 of Alberta’s Commercial Vehicle Safety Regulation (AR121/2009). I certify that:

☐ The above defects have been repaired.

☐ Above defects do not affect safe operation of vehicle; any minor defects identified will be addressed before next use of vehicle.

Name of person inspecting: __________________________ Signature of person inspecting: __________________________ Date and time: __________________________

Repairman Name (if applicable): __________________________ Repairman Signature (if applicable): __________________________ Date and time: __________________________
School Bus Daily Trip Inspection Checklist

Carrier Name

Driver’s Name (print) ____________________________ Date ________________ Time ________________

Location ____________________________ Unit # ____________ Odometer Reading ____________

☐ - No defects  X – Defects found; provide explanation at the bottom of the form as required

1 Under the Hood
☐ Fluid leaks (on the ground)
☐ Wires, hoses
☐ Fan blades/belts
☐ Fluid levels; oil, coolant, windshield washer, power steering, brake
☐ Battery (if under the hood)
☐ Inside tire area; brake lines, inside tire walls, leaf springs, shocks
☐ General appearance

2 Engine Start-Up
☐ All gauges and warning lights
☐ Fuel level (compare with km traveled)
☐ Wipers and washer fluid
☐ Defrosters, fans, and heaters, individually on all speeds
☐ Horn
☐ Steering
☐ Interior lights/step-well light
☐ Parking brake, service brake
☐ If equipped with air brakes, check the low air warning system, air pressure build-up rate, air loss rate and push red stroke

3 Inside the Bus
☐ Turn signal indicators work on dash
☐ All emergency exits open and close properly, roof hatch is in good condition, alarm system is working
☐ Operator’s window opens
☐ Entrance door operation
☐ Interior seats (backs and bottoms are secure)
☐ Emergency equipment; first aid kit, fire extinguisher and approved warning devices are secure, operational and unobstructed
☐ Vehicle documents
☐ All mirrors are properly adjusted, seat adjustment, seat belt works properly and are in good condition
☐ Tie down straps for mobility aids

4 Outside the Bus
☐ Headlights (high and low beam)
☐ Turn signals (front, sides and rear)
☐ Clearance/marker lights, reflectors and alternately flashing red and amber lights
☐ Hazard lights
☐ Antenna
☐ Battery (if outside)
☐ Crossing gate (if equipped)
☐ Stop arm
☐ Brake lights, tail lights, licence plate, licence plate light, licence plate validation sticker
☐ Tires, wheels and rims, lug nuts, objects lodged between duals, inside tire walls and hub oil level if equipped
☐ Coupling devices if equipped
☐ Exhaust and tailpipe
☐ Drive shaft
☐ Body damage
☐ Rear emergency door opens and closes properly
☐ Fuel filler cap/tank
☐ All windows and mirrors for cleanliness and damage
☐ General cleanliness/appearance, all lights, signs are clean and no damage
☐ Under the bus for leaks, suspension, shocks, fuel tank for leakage air tanks and vacuum tanks if equipped
☐ If equipped with air brakes, listen for audible air leaks

5 Final Checklist
☐ Fasten seat belt
☐ Recheck all gauges
☐ Holding ability of the park brake
☐ Brakes and clutch – check by driving forward and stopping.
☐ Check the steering wheel for excessive slack and play by rocking the steering wheel back and forth
☐ Check both signal indicators on the inside dash to ensure they are lit and working properly

Note: Specialized equipment such as a wheelchair lift, wheelchair tie down equipment, strobe lights etc need to be inspected if equipped.

Further information on defects found:

____________________________________________________

The vehicle identified on this report has been inspected in accordance with NSC Standard 13, Schedule 2 requirements. A Daily Trip Inspection is valid for 24 hours and must be produced to the Peace Officer upon demand.

Driver's Signature ____________________________
☐ Above defects need not be corrected for safe operation of the vehicle
☐ Defects corrected

Mechanic’s Signature ____________________________ Date ________________
En route Check Stop Inspections

Rest and check stops serve two purposes. First, they provide a break and a change of routine for the driver. You will feel less tired and more alert after a rest stop. Second, you can check your vehicle after it has been on the road for some time. You will be able to see if everything is still working the way it should.

Schedule rest and check stops according to National Safety Code (NSC) requirements and your company’s policy. When choosing a stop, keep the following in mind:

- Make sure the vehicle is completely off the road
- You should be able to enter and exit a rest or check stop so that you do not have to back the vehicle
- Do not make a stop at the bottom of a hill or on an uphill slope
- The stop area should have an adequate acceleration lane to allow you to merge on to the highway at the appropriate speed

A vehicle inspection at a rest and check stop should include the following:

- All lights are clean and in working order
- There are no fluid leaks
- All the wheels are secure, and tires are properly inflated and are not hot
- There are no broken or loose items on the vehicle
- The brakes are properly adjusted

Post-Trip Inspection

Post-trip inspections are completed at the end of the shift. Post-trip inspections are recommended because areas that may need servicing or repairs can be discovered and addressed before the next trip. The report should include any problems discovered during the trip. Postponing inspections can result in problems that are frustrating, time consuming and costly.

A post-trip inspection should encompass the following:

- Once all passengers have disembarked and the bus is parked in a safe location, check that all no passengers or belongings have been left onboard
- Park your vehicle and allow the engine to cool down on low idle
- Check that all exterior lights are functioning properly
- Complete a circle check of the bus exterior for:
  - Body condition (no new damage)
  - Lights that have been left on
  - Springs (if visible)
  - Tire pressure
  - Mud flap (secure)
  - Fuel cap (secure)
- New leaks

- Interior
  - Floor (clean, nothing left behind)
  - Seats (no new damage)
  - Turn all lights and switches off (fans, heaters, etc.)
  - Close windows
  - Fuel supply – It is important to remember to never fuel a bus with any passengers on board

- Drain moisture from Air Auxiliary Tank by opening valve for 5-10 seconds (if equipped)
- Drain moisture from the wet tank at rear of bus (if equipped)
- Shut down engine
- Turn off Master Switch (if equipped)
- Complete log book (if required)

Addition post-trip tasks for school buses:

Check for passengers left on board as follows:
  - a.m.: at the last school drop-off location
  - p.m.; at last stop in rural areas, and in urban areas somewhere after the last drop-off location, but not at that location (to prevent passengers from re-entering the bus)

For units equipped with the “No Child Left Behind” or Child Check-mate System” complete the following:
  - Once back at the yard or your park-out location, the operator will walk through the bus one more time, checking for articles left behind and passengers.
  - This is also the time the operator will deactivate the Child Check-mate System if it is equipped on that unit.

Also check the following:
  - fuel supply – It is important to remember to never fuel a school bus with any passengers on board
  - check that all electrical switches are turned off to prevent running down the battery

Baggage securement requirements

Schedule 1 of the Commercial Vehicle Safety Regulation (AR 121/2009) states that bus cannot be driven if the emergency exit is obstructed (Section 10) or if the inside (and outside) of the bus is not free of unnecessary projections that are likely to cause injury (Section 11(a)). Ensure aisle and exit is clear of any obstructions. Store baggage in overhead bins where available.
Reporting to a Vehicle Inspection Station

The law is that all commercial vehicles weighing over 4,500 kg are required to report to inspection stations when the highway lights are flashing. A “commercial vehicle” is defined as a vehicle operated on a highway by or on behalf of a person for the purpose of providing transportation but does not include a private passenger vehicle.

If you are operating a motor vehicle that is required to report, if the vehicle is loaded, drive slowly across the scale lane. If empty, drive slowly in the lane beside the scale lane. Whether loaded or empty watch the light board for instructions. If the “STOP” light is activated, stop the vehicle and wait for further instructions. If the “BACK UP” light is activated, slowly and safely back the vehicle up keeping in mind there may be other vehicles behind you. If the “PARK” light is activated park the vehicle in the lot and bring all of the vehicle and driver documents to the scale building.

Module 2 Key points

- In this module, you learned about the features of a vehicle. Understanding the vehicle controls and gauges on the instrument panel is important so that you can give your attention to driving. You can also diagnose issues with your vehicle by knowing what all of the symbols mean.
- The safety features of your vehicle help to protect you in the event of a collision. Signals help you to communicate your intentions to other road users, and in so doing, reduce the chances of confusion and collision.

Practical Guide – In-yard

1. Vehicle Component and System

- The instructor will first identify and explain the functions of each component in the checklist. The instructor will spend about 30 minutes performing these tasks.
- Trainees will be required to identify and explain the functions of the outlined vehicle components prior to conducting vehicle inspection. Trainee will have a minimum of 1 hour, 30 minutes to practice these tasks.

Vehicle Components and Systems Checklist

A. PRIMARY VEHICLE CONTROLS
   - Accelerator Pedal/Throttle Actuator
   - Transmission Controls
   - Clutch Pedal (manual transmission)
   - Gear lever
   - Steering
   - Power Steering System (Hydraulic & Electric)
   - Brake Pedal/Actuator
   - Parking brake

B. SECONDARY VEHICLE CONTROLS
   - Lights
   - Exterior lights on the bus
   - Stop/tail light
   - Back up light
   - Turn signal lamps
   - Licence plate light
   - Hazard warning lamps
   - Clearance lights
   - Low beams
   - High beams
Instructor should demonstrate and then allow trainees to demonstrate the operation of the following components and systems:

- Heating, defrosting and air-conditioning systems
- Windshield wiper and washer systems
- Lift (if equipped)
- Door controls
- Fluid check points
2. Pre Trip, Post Trip, and En route Inspections - In-Yard

At the end of the practical session on vehicle components and systems, the instructor and the trainees will proceed to the yard for the vehicle inspection activities. The instructor will have about 30 minutes to demonstrate the vehicle inspection activities (pre trip, en route, post trip inspection) to the trainee, after which the trainee will perform the activities. The trainee will have a minimum of 1 hour and 30 minutes to practice the vehicle inspection activities (pre trip, en route, post trip inspection).

The following detailed trip inspection is for reference only. Check with your employer to determine if the company has its own forms for recording vehicle condition.

**Note:** Personal Protective Equipment (PPE) should be worn during inspection activities in accordance with [Occupational Health and Safety Act and Regulations](#).

The amount of time required to complete the pre-trip exercise may vary. Vehicle components, equipment, system and other features may vary from one vehicle to another.

**Before beginning the inspection**

Choose terrain that is as level as possible and park the vehicle safely away from traffic. Set parking/spring brake. Place the transmission in low gear for a manual transmission.

- Ensure that the engine has been shut off
- Chock the wheels and ensure the chocks will keep the vehicle from moving especially for vehicles equipped with air brakes when they are released later. The minimum size for square blocks should be 15 by 15 centimetres

**1. Exterior Inspection**

Each driver is responsible and accountable for the safety and operation of their equipment to ensure that it meets mechanical and safety standards. It is essential that each driver inspect their vehicle before departing on a trip. The inspection must involve a complete circle check of the vehicle the trainee will be driving. Trainee will check a number of items along the inside and outside of the bus. The inspection will take you full circle around the vehicle.

**Circle check**

The drawings below illustrate one way to make a full circle check. Do a walk-around check before starting any trip. The circle check may be done in any order, but make sure that you check everything and always make a complete circle around the vehicle.
Daily walk-around procedure – items to check:

- **General Appearance**: there should not be any grease or oil spills or signs of coolant leakage on the ground.
- **Starting at the front of the vehicle and going down the driver’s side of the vehicle, from the front to the back, check the following:**

The trainee will continue with the inspection in the following order:

1. Front of the vehicle
2. Under the Hood
3. Driver side of the vehicle
4. Rear of the vehicle
5. Passenger side of the vehicle

**Front End:**
Trainee must check that the condition of the windshield and glass are not obstructed in anyway or pose a safety hazard

- All windows and mirrors are not cracked or damaged
- Be sure all road film, dirt, snow, and ice are removed as they can cause a dangerous glare making it difficult to see properly mirrors should be clean
- In the winter, in a safe location, recheck the rear of your bus as required and remove any snow that may have blown off the roof or any mud that may be obscuring windows, lights or signals

**Under the Hood:**
Trainee must check for any cracks in the front of the hood prior to unlatching and check that the rear start switch is off. Once the hood is open, ensure it is properly secure.

Do not let the hood free fall to the open position as it could cause damage to the hood. The position and latch style may be different on the various bus models.
Trainee will learn how to unlatch and open up the engine compartment and check the following:

- Oil level - should be above the line on the dipstick indicating “add”, but not over the line indicating “full”
- Coolant in radiator - fluid level is adequate according to manufacturer’s specifications, is free of leaks and has a proper fitting cap
- Fan belts/fan blades - should not be frayed, badly worn, or twisted and should have cm or less tension. Fan blades must also be in good condition; not bent, cracked, missing blades or have loose mountings
- Hoses- no cracks or tears or leaks and all connections should be secure. The hose should not have rub marks or scuffing
- Wire connections- all appear tight and secure. No exposed wiring
- Power steering - ensure fluid levels are adequate; check power steering pump and hose for leaks
- Ensure power steering mechanism does not have wear or excessive play.
- Brake fluid – check chamber for leaks, warning light will come on if fluid is low
- Transmission fluid- automatic transmissions should be checked when engine is cold
- Windshield washer fluid - should be no less than ¾ full
- Battery (if under the hood) - securely mounted and terminal connections are secure and do not have excessive corrosion
- Inside tire area (if visible) - check the tire wells, hub areas, brake lines, springs, and shocks for general appearance. The suspension should be free of cracks and does not have any missing or broken leaf springs. Also ensure that the U-bolts are not loose, broken or missing (if visible on the vehicle). Ensure the brake lines are not leaking.

At the end of the under the hood inspection, trainee should turn the rear start switch to the on position and to properly close and secure the hood.

2. Engine Start-Up and Interior Inspection
Trainee will learn and demonstrate the proper method for entering and exiting the bus.

In-vehicle Inspection - The trainee will provide an inspection of the bus interior to ensure the vehicle is clean, there are no loose objects, and the brakes and steering do not show signs of functioning improperly.

Trainee will:

- Demonstrate proper adjustment of the driver’s seat. This must include all adjustments on the seat.
  - Seat is securely fastened to the floor and in good condition and seat settings function properly
  - Driver’s seat belt and seat (no damage and seat settings function properly)
• Adjust the height so that the feet can rest flat on the floor.
• Then adjust the forward placement of the seat so that the left foot can push the clutch pedal to the floor without having to stretch.
• Next, set the back of the seat so it is straight up. Then lean back slightly and lock it on the first setting that allows the trainee to maintain 9 & 3 or 10 & 2 hand position on the steering wheel.
• Demonstrate tilt and telescopic steering wheel assembly (if equipped). Confirm that the steering has no excessive play or slack

- Check brake boost motor by pumping the brake
- Sun visor is functional
- Driver’s window (open and closes)
- Driver’s floor is clean and free from damage and obstructions
- Confirm service door opens and closes properly
- Doors open and close from inside
- Demonstrate proper adjustment of mirrors. The following are visible on the left and right side mirrors:
  - Sky and horizon are visible on the top portion of the mirrors
  - Side of the bus is visible on the inside edge of the mirrors
  - Roadway is visible on the bottom right of the mirrors

- **Vehicle Documents**
  Ensure all paperwork is in the bus: vehicle registration, operating authority, insurance certificate, daily trip inspection checklist, safety fitness certificates, log books, and the Commercial Vehicle Inspection Permit (CVIP).

The trainee is then required to explain proper procedure for starting the engine. (Ensure transmission is in neutral, prior to starting, if bus has manual transmission) by following this procedure:

- Ensure park brake is applied.
- Depress the clutch pedal to the floor and hold it there (manual transmission)
- Start the engine by turning the key to the ON position. It is important to follow the manufacturer’s start-up procedures, especially for cold weather start-ups.
- Once the bus is on, listen for unusual engine noises. Confirm oil pressure and ensure gauges are reading correctly and no warning lights are on. All gauges must be functioning and giving “normal” readings otherwise you should not operate the bus

**Note:** Idling should be kept to a minimum, depending on weather conditions.

Gauges to inspect include:

- Vacuum or Air Pressure Gauge (if equipped)
Indicates capacity to operate the brakes. Do not operate the bus until the “reserve” vacuum or air reaches the manufacturer’s minimum specifications.

Excessive loss of pressure overnight can indicate a leak in the air system and must be reported to the appropriate supervisor immediately.

Oil Pressure Warning Light

- This light may go on as the bus is being started but should go off right after the engine starts. If the warning light does not go off this is a possible sign of low oil level (check the dipstick); bad oil pump defective oil pressure sending unit, oil pressure gauge, or warning light switch.
- Turn the engine off immediately and report to appropriate supervisor if the warning light remains on.

Service Brake Warning Light

- With a dual brake system, if this light comes on during a hard-braking application, this could indicate that at least one of the brake systems is not operating properly. This must be reported to the appropriate supervisor immediately.

Interlock System Warning Light (if equipped)

- The interlock system should be lit when the rear door is open.

Alternator/Generator Warning Light

- If this light remains on after the engine is running, it may indicate a malfunction with the charging system. Frequently a loose or slipping belt is the cause of a glowing or flickering alternator warning light.
- Do not operate and report immediately to the appropriate supervisor if the light remains lit.

Ammeter (instead of alternator/generator warning light)

- If it continues to show a discharge after the engine is running, do not operate and report immediately to your appropriate supervisor.

Water Temperature Gauge or Warning Light

- This gauge shows the temperature of the coolant in the engine. If your bus has a gauge it should read “cool” or “warm”.
- When it indicates “hot” or the warning light goes on, turn off the engine and report immediately to your appropriate supervisor. This could be a sign the engine is not being cooled adequately.

Fuel / Natural Gas /Propane Gauge
- It should indicate a safe margin of fuel for the day’s operation, preferably operate out of the “top half” of the tank
- Buses that have been converted for propane usage, may not have gauges that are giving an accurate reading. Drivers must use kilometres traveled to determine their next fill-up. Follow company procedures

**Light Indicators**
- Ensure the following indicators are operational:
  - Hazard lights
  - Alternately flashing lights (amber and red, if equipped)
  - Low beam, high beam, left and right signal light

**DEF Gauge**
- Ensure you have sufficient levels of diesel exhaust fluid (DEF). When levels of DEF reach zero, this may prevent a diesel operated bus from starting. Warning lights may be activated if:
  - There are low fluid levels
  - If the quality of the DEF has deteriorated.
  - Vehicle DEF system sensors malfunctioning

3. **Interior Emergency Equipment**
- Emergency windows open easily and is accessible, and alarm system is working
- Roof hatch (if equipped) is in visibly good condition
- Reflective triangles/approved warning devices are accessible and operational
- Fire extinguisher is charged, secured and pin is in place
- First aid kit is full, secure, and accessible
- Emergency door opens easily and is accessible, and alarm system is working (school bus only)

Other interior equipment should also be operational, properly adjusted and accessible:
- Interior dome lights and step well light
- Step well is clean and clear of tripping hazards, handrail is secure
- Windshield wipers are functioning properly. Check at all speed
- Steering (no excessive play or slack no more than 3.5”).
- Horn and backing alarm works properly (if equipped)
- Heaters/defrosters and fans (defroster must be able to provide unobstructed view through windshield)
- Foot brake/parking brake are all working properly
  - **Foot brake check** - with the engine running, apply the foot brake and hold for five seconds. The pedal should not move (lose pressure) during those five seconds. If equipped with hydraulic reserve system, with the key in the off position, depress the brake pedal and listen for the sound of
the reserve system electric motor turning on. Check that the warning buzzer and light is off

☐ **Clutch check** (manual transmission) – depress the clutch pedal and ensure that it is not sticking; vibrating or loose; or making squeaking or grumbling noises

☐ Accelerator functions properly (no sticking or engine failing to return to idle)
☐ Side view mirrors, rear view mirror and crossover mirrors (school bus only) are adjusted correctly

☐ Passenger seats are securely fastened to the floor and in good condition

☐ Accessibility equipment are functional and secured, if equipped:
  ☐ Restraint cutters are located on the bus
  ☐ Check that the components of ramp are present and functioning
  ☐ Check ramp movement is functioning normally
  ☐ Door latches
  ☐ Ensure accessibility equipment is present and in good operating order: tie downs, hooks, straps, & manual crank

☐ Aisle is not damaged and is clear of obstructions, tripping hazards
☐ Overhead luggage rack or compartment is not damaged and is secure, if equipped

☐ Washroom, if equipped, is in good operating order. The door is functional; toilet and sink are not over flowing; and supplies are refilled (toilet paper, hand towels)

☐ Electronic door opener (if equipped). Ensure the door opens and closes properly, also ensure the emergency handle works properly

4. **Exterior Inspection**

General Outside Appearance

☐ Visually inspect for damage and vandalism and report immediately to the appropriate supervisor. Serious damage or deterioration that is noticeable is a major defect

☐ Check for valid Commercial Vehicle Inspection decal
☐ Licence plate valid and licence plate light is working
☐ Emergency exit signs are clearly marked

☐ Stop arm/crossing arm (if equipped): ensure the stop/cross arm are operational (School bus only) Mud flaps are secure and do not rub on the tires

☐ Body has no damage, broken or missing rivets, holes or weld separations
/provider/Frame and structural supports have no holes, bends, cracks, weld separations or broken cross members

☐ Reflective tape and markers are in place and are in good condition
Tires:
- Look for under-inflated, leaking or flat tires
- Tap each tire with a tire iron or similar implement. The blow should sound deep and hollow on both tires
- Excessively worn (tread depth is no less than 3.2mm) or damaged tires (damaged sidewall or treads). Do not drive until repaired or corrected. One flat rear tire, for example, can place a dangerous weight on the companion tire of a dual set
- Tire is not in contact with any vehicle components (if visible)

Wheels:
- Check the general condition of the wheel-look for loose or missing lug nuts, cracked rims, or rust,
- A solid seal of dust between the nut and the wheel is a good indication that the nut is secure. Check for any wear (silvering) or gaps around the lug nut. If this is present, it indicates movement. Do not drive with a loose or damaged lug nut. If vehicle is equipped with lug nut indicators, ensure they are pointing in the same direction
- Be sure to check for any foreign objects between the duals
- hub oil/wheel seal is not leaking

Under the Bus
- Carefully view the ground under the bus and on the inner walls of the tires for indications of fluid leaks, or damage leaks could include engine oil, fuel, water, coolant, brake fluid, transmission fluid, power steering fluid, axle fluids or grease
- Notify the appropriate supervisor if a leak is spotted
- Check drive shaft for any visible damage. Ensure U brackets are secure and in place

Suspension System
- Shock absorbers are not loose or leaking (if visible on the vehicle)
- Suspension has no cracked, missing, or broken leaf springs, or U-bolts that are loose, broken or missing (if visible on the vehicle)
- Air suspension system is free of leaks (if equipped)
- Air bag is not damaged (patched, cut, bruised, cracked to braid, loose)

Exhaust System
- Look carefully for loose exhaust pipes, tailpipes, or muffler(s)
- Look for visible exhaust and listen for excessive noise indicating a leak
- Leaks should be reported immediately due to the danger of carbon monoxide poisoning from gas entering the bus
Fuel System

- Check that fuel cap is not missing or damaged
- Fuel tank is secure and not leaking

5. Exterior Lights and Signals

- All exterior lights function properly; hazards, turn signals (left and right), brake lights, tail lights, low and high beam lights, licence plate light and specific school bus lights such as alternately flashing lights (amber and red) and strobe lights
- Clearance/marker lights work, lenses are clean and not cracked, reflectors are clean

6. Trip Air brake inspection (if equipped)

The following information is a guide only. As in the trip inspection of the vehicle, the driver plays an important role in maintaining the air brake unit. A driver must be alert and know how the air brake system works. Any brake problems must be reported so the necessary repairs can be done.

Check the condition of the following components on an air brake system:

- Air compressor is securely mounted,
- Condition of lines, fittings, hoses and couplers
- Brake chambers for condition and security
- Slack adjuster angle, push rod travel,
- Mechanical condition and wear
- Air lines have no leaks, kinks, cuts, abrasions or cracks

**Inspection procedure**

**Step 1:**
- Chock the wheels with the vehicle on level ground
- Perform a visual inspection of the air brake components

**Step 2:** (Park Control Valve)
- Leave the engine off with the key in the ‘run’ position
- Push park control valve (yellow button)
- Pump the foot valve
- Low air pressure warning should come on by 60 PSI (41kPa)
- Park control valve should ‘pop’ out at 20 – 45 PSI (138 – 311 kPa)
Step 3: (Supply Circuit)
- Start the engine and run at fast idle around 1200 RPM
- Perform compressor build-up test: 50 to 90 PSI (345 to 621) within 3 minutes
- Low air pressure warning light should go out by 60 PSI (414 kPa)
- Build air pressure to system maximum to confirm governor cut-out at 120-135 PSI (828-931 kPa)
- Pump service brake to reduce air pressure until governor cuts in. Confirm cut-in is 20 – 25 PSI (138 – 172 kPa) less than cut-out pressure

Step 4: (Air System Leaks)
- Push park control valve and rebuild air pressure
- Turn off engine
- Apply and firmly hold full service brake application for 2 minutes
- Maximum 4 PSI (28 kPa) loss per service circuit, after the system stabilizes
- Release service brake application and reapply spring park brakes

Step 5: (Service Brake Response)
- Remove wheel chocks
- Move forward at approximately 5 kph and make a hard brake application to check its response. Also check for excessive steering wheel brake response
- Move forward again and apply the parking brake to check its response

- As per NSC standard 13, a pre-trip inspection must be completed prior to operating any commercial vehicle on a highway. A copy of the inspection report is also required to be in the possession of the driver when the bus is being driven
- If any major defects are detected, they are to be recorded and reported to the motor carrier. The bus is rendered inoperable until the defects have been addressed.
**En route Inspection**
During an en route inspection trainees will conduct a quick circle check around the bus and check for the following:
- Lights are clean and in working order
- Fluid leaks
- All wheels are secure and tires are properly inflated
- No new damage to the bus
- Brakes are adjusted properly

**Post Trip Inspection**
During a post trip inspection trainee will conduct a circle check around the bus and check for the following:
- No new damage to the bus
- All lights are turned off
- Springs (if visible)
- Tires are properly inflated
- Mud flaps are secure
- Fuel cap is secure
- Any new leaks

**Check interior:**
- No passengers are remaining on board
- Child Safety Alert Systems
- Items that have been left behind
- Floor is clean
- No new damage to the interior (i.e. seats)
- Windows are closed
- Lights and switches (fans, heaters, etc.) are turned off
- Fuel supply

Following exterior and interior check trainee will:
- Drain moisture from the air auxiliary tank by opening the valve for 5-10 seconds (if equipped)
- Drain the moisture from the wet tank (if equipped)
- Shut down engine
- Turn off Master Switch (if equipped)
- Complete log book (if required)
MODULE 3 – BASIC DRIVING TECHNIQUES

Purpose

The purpose of this module is to learn the steps that should be taken prior to driving a commercial vehicle. This module is organized as follows, about 2 hours and 15 minutes of classroom session, 1 hour and 15 minutes of in-yard session and 8 hours and 45 minutes of in-vehicle instruction. It should take a total of 12 hours and 15 minutes to complete this module.

General Learning Outcomes

At the end of this module, the trainees should be able to:

• Demonstrate and understand safe and effective bus manoeuvring procedures

Habits of Minds

The Trainee will:

• Recognize the importance of following all manoeuvring procedures in order to ensure safety

• Appreciate the importance of attentiveness and care throughout all stages of the bus trip

Knowledge and Understanding

• Know the correct procedure for:
  o Lane positioning
  o Steering and turning
  o Crossing railroad tracks

• Understand the stopping distances of the vehicle under normal conditions

• Understand the common errors at railway crossings

• Demonstrate awareness of the need to continually practice decision-making regarding
  o Appropriate lane selection

Skill and Processes

The trainee will:

• Demonstrate use of recommended procedure and alternate methods to turn and steer the bus

• Determine the time needed to bring the vehicle to a full stop by considering
  o Perception time
  o Reaction time
  o Braking time
  o The need for modifications due to varying conditions and factors

• Demonstrate the correct procedure for stopping and parking on hills

• Demonstrate the correct position for starting on a hill

• Demonstrate the correct procedure for crossing railroad tracks including:
  o Uncontrolled crossings
  o Obstructed crossing

Alberta Government
This module is divided into 3 sections. Below is the training format for all 3 sections

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Section 1 – Training format

Proper Start Up and Warm up Procedures

Your first task on boarding the bus every morning is an overview to make sure everything is in order.

When approaching your bus, the driver already needs to assess the general condition of the bus. Complete an overall visual inspection of the bus, noting damage, fluid leaks under the bus, and general appearance. Check to see if the bus is leaning to one side or the other.

Confirm valid Vehicle Inspection Program (CVIP) certificate/sticker and conduct the ‘Under the Hood’ portion of the pre-trip inspection.

Starting the Vehicle

Turn the key to the ON position. Ensure you have read the manufactures guide for proper start-up procedures, and follow the guide’s direction, especially for cold-weather start-ups.

If the unit is equipped with glow plugs, wait for the light to go out before starting the engine. Start the unit, confirm the oil pressure and ensure no warning lights are on and gauges are reading correctly. All gauges must be functioning; otherwise you should not operate the bus. Idle time should be kept to a minimum, depending on weather conditions. Once the engine is on, proceed with the Interior and Exterior portion of the pre-trip inspection.

Documentation

Prior to undertaking any trip, ensure all needed documentation is in the bus and confirm its location for easy access. Commercial drivers are required to carry:

- Registration Form
- Operating Authority Certificate
- Insurance Certificate
- Vehicle Inspection Certificate
- Bill of Lading (if required)
- Permit Books (if required)
- Pre-trip inspection form
- Safety fitness certificates
- Log books

Also ensure you have any required personal documents, such as your licence, identification from your employer, and any other relevant licences or documents.

**Note:** Documentation requirements vary in each province, so if you are making a trip across provincial or national boundaries, ensure you know the documentation requirements of all jurisdictions you may be traveling to or through.

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**Seat Adjustment**

Correct seat adjustment must be made before the vehicle is moved. This is essential for a safe, fatigue-free operation. Sit in a neutral posture to support your spine, with your neck and back in an upright position.

Begin by adjusting the vertical position of the driver’s seat. Adjust the seat so that it is at the proper height to allow the left foot to rest on the floor without pressure on the underside of the leg.

Front to back horizontal adjustment is made while seated. Position the seat so that the right knee is slightly bent as the right foot rests on the accelerator.

To maintain the greatest control, keep both hands on the steering wheel.

**Proper Seat Belt Use**

It is the law in Canada for drivers to wear seatbelts at all times. Exceptions may apply if the bus is not designed or equipped with seat belt assemblies by their manufacturers or while reversing.

See Section 84(1) and 88(1) of the *Commercial Vehicle Safety Regulation (AR122/2009)* for exemptions to this requirement. Check that the seat belt is in working condition by ensuring the seat belt is not loose, damaged, or twisted. The seatbelt must be adjusted to fit snugly and properly. The lap part of the belt must fit snugly across the hips. The shoulder portion of the belt should be centered on your shoulder. The shoulder straps must never be tucked behind your body or under your arm.

Wearing a seat belt is not only the law, but it reduces the chance of the occupant being killed or injured by 55% the vehicle is involved in a collision.

Safety is a top priority for commercial bus drivers because the driver has a responsibility to assist passengers in the event of an accident. To increase the likelihood of this, you must always wear the seat belt provided and ensure it is properly adjusted.
Mirror Adjustment

Correct mirror adjustments are essential for the safe operation of a commercial vehicle. While seated, adjust the left and right mirrors to obtain optimum vision.

There are multiple types of mirrors for different types of vehicles, and different mirrors within the same vehicle. Mirrors should allow you to better view your blind spots, and the “danger zone”.

The danger zone is an area around the bus where pedestrians and other objects are at the most immediate risk. It includes the entire area for approximately three metres (10 feet) around the bus. All mirrors should be viewed in a logical sequence to ensure a passenger or object is not in any of the danger zone areas.

Types of mirrors you may use as a Class 2-S Driver:

Crossover Mirrors

These mirrors are mounted on both left and right front corners of the vehicle. They allow you to see the front bumper “danger zone” area directly in front of the vehicle. They also allow you to view the “danger zone” area to the left side and right side of the vehicle, including the front door and wheel area. The crossover mirror provides a view of people and objects but does not accurately reflect their size distance and position from the bus. You must ensure that these mirrors are properly adjusted to see:

- The entire area in front of the bus, from the front bumper at ground level to a point as close as possible to where objects or persons may be seen directly
- The right and left front tires touching the ground.
- The area from the front of the bus to the front door

Convex Mirrors

These mirrors are located above or below the outside flat mirrors. They are used to monitor the left and right sides at a wide angle. They provide a view of traffic, clearances, and passengers at the side of the vehicle.

These mirrors present a view of people and objects that does not accurately reflect their size distance and position from the vehicle. You should position the mirrors to see:

- A small portion of the entire side of the vehicle up to the mirror mounts
- Approximate location of where rear tires touch the ground
- At least one traffic lane on either side of the vehicle
Flat Mirrors

Flat mirrors are mounted on the left and right at the front of the windshield. They are used to monitor traffic, check clearances and passengers on the sides and to the rear of the vehicle. Adjust the flat mirror vertically (up and down) to optimize the field of view to the side of the bus and to minimize the horizon.

There is a blind spot immediately below and behind each mirror and directly in back of the rear bumper. The blind spot behind the vehicle extends 15 to 45 metres and could extend up to 122 metres depending on the length and width of the vehicle.

Ensure that the left mirror is properly adjusted so you can see:

- 60 metres or four vehicle lengths behind the vehicle
- The top and bottom of the vehicle
- A small portion of the sides of the vehicle
- The rear tires touching the ground

Ensure that the right mirror is properly adjusted so you can see:

- 60 metres or four vehicle lengths behind the vehicle
- The top and bottom of the vehicle
- A small portion of the sides of the vehicle

Inside Rear-view Mirror (Passenger Management Mirror)

This mirror is mounted directly above the windshield on the driver’s side area of the bus and used to monitor passenger activity inside the bus.

It may provide limited visibility directly in back of the bus, if the bus is equipped with a glass-bottomed rear emergency door.

There is a blind spot area directly behind the driver’s seat as well as a large blind spot area that begins at the rear bumper and could extend up to 100 metres or more behind the bus. You must use the exterior side mirrors to monitor traffic that approaches and enters this area. Position the mirror to see:

- The top of the rear window in the top of the mirror
- All of the passengers, including the heads of the passengers right behind you

When adjusting the mirror, first adjust the left mirror to show the left side of the vehicle along the right edge of the mirror. The rear portion of the vehicle, at ground level, is seen near the bottom of the mirror. The horizon line is seen three quarters of the way up the mirror.

Adjust the right mirror about four inches out from the side of the vehicle so that the right side of the vehicle is visible along the left, inside edge of the mirror. The horizon line is seen three quarters of the way up the mirror. Both mirrors need to be adjusted the same way.
Though these are base guidelines for adjusting vehicle mirrors, mirrors are designed to cover blind spots from the driver’s seat and should be set to fit each individual driver. Mirrors will not be helpful if they are not adjusted properly.

Set the convex mirror to identify objects near the vehicle. Adjust the inside mirror to see through the rear view window if the vehicle if applicable, or on the restroom of a motor coach.

**Note:** For details on adjusting mirrors on school buses visit:


**Leaving the Driver’s Seat**

The parking brake is set when the vehicle is to remain in position for some period of time and whenever the driver is not at the controls. Turn off the engine to prevent idling. In the event the engine is to remain running, the transmission is placed in neutral (for manual transmission), parking brake is set and fast idle is engaged.

Wheel chocks may also be used in addition to the parking brake to ensure the vehicle remains in position when the Driver is not in control. Wheel chocks are wedges of sturdy material placed closely against a vehicle’s wheels to prevent accidental movement. The bottom surface is sometimes coated in rubber to enhance grip with the ground.

When using a wheel chock, the following procedure should be followed:

- Always ensure the chock is centered and squared with the tire
- Position the chock snugly against the tire tread
- Always use wheel chocks in pairs
- Wheel chocks must be positioned downhill and below the vehicle’s center of gravity
- On a downhill grade, position the chocks in front of the front wheels
- On an uphill grade, position the chocks behind the rear wheels
- On a level grade, position the chocks on the front and back of a single wheel

Additionally, here are some combinations of conditions that must be considered when using wheel chocks:

- **Tire size**
  - Smaller tires require smaller chocks, while larger tires require larger chocks

- **Gross vehicle weight**
  - Heavier vehicles require larger chocks than lighter vehicles

- **Level or grade of the ground surface**
• Chocks need to be positioned in different ways depending on if the ground is level or not. Ensuring that the chocking configuration is correct based on surface grade is paramount for proper chocking.

Radial Tires vs. Bias-Ply Tires
• Radial tires by design deflect more than bias-ply tires. While this flexibility allows the vehicle to move more smoothly, it also allows the tire to wrap around the wheel chock, which reduces the chocks effectiveness. To combat this, vehicles with radial tires should be chocked with wheel chocks that are larger.

Tire pressure variance due to environment
• It is important to monitor tire pressure, especially in harsh environments. Improperly inflated tires can lead to chocking failures.

Condition of the ground
• Whether the ground is firm, soft, wet, dry, icy, or frozen is a key determination in the type of chock to use. For frozen or icy terrain, choose a chock with a cleated bottom. For severely wet or muddy terrain, multiple chocks may be necessary to ensure safe chocking.

Properly release the emergency brake by making a full application of the service brake before moving the bus. To release the parking brake, first cover the service brake, release park brake, give full application to the service brake and then put the transmission into gear.

Idling
Avoid excessive idling. Ten seconds of idling uses more fuel than restarting your engine.

Two ways to manage idle time:

1. The driver knows how long the engine should run before and after a trip for correct engine operation and prevention of unnecessary fuel use. Five minutes of idling for a warm-up is generally adequate, and cool down is provided when pulling-in for parking.

2. The vehicle’s computer - Some modern engine monitoring systems automatically shut-down the engine after a pre-set idling time

Excess idling increases fuel costs, engine wear and fuel emissions.
• Engine oil life can be reduced by as much as 75 % leading to more frequent and expensive oil changes
• Engine wear is increased. One hour of idling is equivalent of 11 kilometres of driving. Never idle your engine for more than a minute (or as recommended by the vehicle manufacturer or company policy). The engine can be warmed up as you drive away
Company policies on idling are becoming more common and should be followed.

**Fuel Efficient Driving**

Smart driving practices - Fuel efficiency starts when you turn your engine on. Keep the following in mind when driving:

- Warm your vehicle up after the initial idle time by driving easily; do not try to get too much speed out of the engine by pushing the throttle down hard.
- Back off the accelerator when going over the top of a hill and let gravity and momentum do the work.
- Use cruise control where appropriate.
- Reduce your average speed - driving fast eats up fuel no matter what you drive.
- Change gears smoothly - shifting professionally will result in about 30% improvement in operating costs.
- Always use the clutch (manual transmission), failure to do so can wear the gear teeth down in the transmission.
- Practice progressive gear shifting (manual transmission). Shifting before you reach the maximum governed rpm reduces equipment wear, decreases noise levels and saves fuel.
- Run the engine in the highest gear range to keep it in a low rev range.

**Vehicle Size and Clearance**

Having knowledge of your vehicle height, width and weight is important in having smooth trip. Plan your route ahead of time to avoid encountering obstacles or roadways where restrictions prevent you from safely reaching your destination.

Signs such as:

- Narrow road sign
- One-lane bridge
- Overhead structure signs
  - diamond-shaped sign indicates low clearance ahead
  - rectangular signs may also be present to indicate height
- **BUS SIGNS**
  - Reserved lane

**Height**

Know the height of your bus and be able to recognize if your vehicle is too tall to pass through underpasses, bridges or tunnels. Signs may be posted on these structures to give their overhead clearances. Some areas may have check bars and warning devices installed to warn drivers.

**Width**
Knowing your width is also important because external components such as side mirrors, anti-splash and spray devices, or clearance lights may be easily overlooked and damaged if the bus is driven through a structure that is too narrow.

Length

Be aware of your vehicle’s length when negotiating turns on narrow roads and in alleys. When making turns, be sure to leave enough room to avoid the rear of your bus striking the vehicle in the lane beside you.

When leaving a curb, be aware that the rear of your bus does not go onto the sidewalk, as this will be a danger to pedestrians and cyclists or may damage property such as poles or sign posts.

Maximum dimensions of a bus on a highway:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>2.6 metres</td>
</tr>
<tr>
<td>Height</td>
<td>4.15 metres from the surface of the highway</td>
</tr>
<tr>
<td>Length</td>
<td>12.5 metres</td>
</tr>
<tr>
<td></td>
<td>Intercity bus*: 14 metres or the effective rear overhang exceeds 4 metres</td>
</tr>
</tbody>
</table>

*Intercity bus is defined as a bus designated to carry more than 15 passengers, including the driver, and equipped with facilities to allow extended travel without stopping

Be mindful that environmental factors may affect the clearance of your bus. Potential hazards include:

- Weather-snow buildup
- Debris or uneven roads due to construction
- Unmarked objects such as tree limbs, utility lines, canopies, roof overhangs or other building protrusions

Weight

Provinces and territories have laws that establish maximum vehicle weights. This is to ensure public safety and to protect Alberta’s highway infrastructure. A carrier must comply with all weight restrictions for the roads on which they operate. In Alberta, legal weights depend on different things such as the type of vehicle, the number of axles on the vehicle, the manufacturer’s rating and the size of the tires on the vehicle.

On the Road

In addition to pre and post trip inspections, monitoring your vehicle’s behaviour while driving will help prevent encountering dangerous and costly mechanical breakdowns. The following are vehicle components to monitor as you drive.

Brakes

- Any pulling to the left or right or skidding while braking?
- Brakes should not grab or lock or make excessive noise
- Excessive pedal pressure required or unusual braking behaviour should also be noted
- Monitor the warning system to ensure that adequate pressure is maintained

Transmission

- When the transmission is engaged in either the forward or reverse gear, the bus should start out smoothly in response to depressing the accelerator and the transmission should not produce any odd metallic noises
- An automatic transmission should not “slip” and a manual transmission should allow for easy, smooth gear changes throughout the entire shifting range
- Are there any difficulties shifting gears?

Clutch (manual transmission)

- The clutch should engage easily and smoothly without jerking, slipping excessively or “chattering”
- A properly adjusted clutch should have some “free play” (refer to manufacturer’s recommendations) when pedal is fully released
- Never “ride” the clutch pedal. Once the shift has been made, your foot should be removed from the clutch pedal and placed flat on the floor
- When changing gears, carefully control the speed of the engine so that the shift may be completed without jerking or excessive slippage
- Erratic or careless shifting of gears wears out the clutch and reduces service life.

Engine

- Be aware of any unusual engine noise, vibrations, or lack of normal response
  Never “race” a cold engine. Increase speed slowly so that all parts may be properly lubricated. Refer to the manufacturer’s recommendations for cold weather warm up.

Steering

- Is it responsive?
- Does there appear to be excessive “play” or “jerking”?
- Is the power steering quiet?
- Does the bus steer easily?
• Does it go precisely where you steer it?
• Is steering steady in turning and over bumps?

Suspension

• Is there excessive bounce or does the bus bottom out when going over bumps or potholes?
• Does it weave or sway excessively when turning corners or curves? If this occurs, it may be due to broken springs or faulty shock absorbers

Forward Driving
To avoid conflicts with other vehicles when driving forward, keep the bus in the centre of the appropriate lane, at a speed matched to conditions and at the correct following distance (a minimum of 4-seconds for ideal road conditions and adjusting according to changing road conditions).

Be aware of your surroundings:
• Scan mirrors, the road ahead and behind, paying attention to blind spots
• There is a “danger zone” approximately three metres (10 feet) around the bus where pedestrians or other vehicles may present
• Do not engage in any activity that may take away your focus from driving

Be courteous of those you share the road with:

Other Vehicles
• Smaller vehicles may become impatient when driving behind a bus. When being passed, slow the bus down to allow the vehicle to move safely and quickly ahead of you
• Use extra care when sharing the road with motorcycles. Their smaller size means they can be more difficult to spot and in the event of a collision, they are more likely injured because they are less protected
• Sometimes a motorcycle’s turn signals can be hard to see. Watch the rider for clues. If the rider does a shoulder check, he or she may be intending to change lanes or turn
• When turning left, watch for oncoming motorcycles. They can be hard to see, especially in heavy traffic, at night or at dusk. It may also be difficult to judge the speed of the motorcycle
• Be aware that motorcycle riders will often move within their lane to avoid road hazards like pot holes and to maintain a space cushion from other vehicles

Pedestrians
• When pedestrians indicate their intention to cross the street, you must stop your vehicle safely before the crosswalk and allow them to cross
• When a pedestrian has entered a marked or unmarked crosswalk, you must yield the right-of-way
• When stopping for a pedestrian at a crosswalk, stop far enough back (about two to three car lengths) so that traffic in another lane will be able to see the pedestrian and have time to stop.

• Never pass another vehicle when you are approaching a crosswalk. There is always a chance that the other vehicle is slowing or stopping for a pedestrian. If amber lights are flashing, the required speed limit is 30km/hour.

• Not all crosswalks are marked, but the rules of pedestrian safety should be followed at all intersections.

• Be considerate of visually impaired pedestrians. Some will have a white cane or guide dog.

• At night, do not over-drive your headlights. This means you should drive so you are able to stop your vehicle within the distance you can clearly see with your headlights.

• When it is dark, be alert for pedestrians. If they are wearing dark clothing, they can be difficult to see from a distance.

• Children can be unpredictable. In residential areas, watch for children around parked vehicles, riding bikes or playing on the street. Glance under parked vehicles ahead on both sides of the road to check for children’s feet, toys, and bicycle wheels. These provide warning that you may need to stop.

Cyclists

• Cyclists are required to ride as close as practicable to the right curb. However, they may need to ride further out when avoiding drainage grates, pot holes, debris, gravel or sand, wet or slippery surfaces, and rutted or grooved pavement. Be aware of the roadway conditions that may affect a cyclist.

• When passing a cyclist, change lanes like you would for other vehicles.

• When you are preparing to turn right, watch for cyclists who may ride alongside your vehicle. Remember to check to your blind spots to the right.

• Before moving away from the curb, check for cyclists who may be riding past your vehicle.

• Do not follow too closely behind cyclists. They do not have brake lights to warn you when they are stopping.

• Be alert for children on bicycles. They may lack the necessary knowledge and skills for safe cycling around traffic, and may not be aware of all the dangers. Children on oversized bicycles are at risk of losing control.

Shifting Gears, Accelerating and Decelerating

You use energy to accelerate and gain momentum; you waste energy when you brake to slow down or stop. Looking ahead 12 seconds down the road at the traffic situation and maintaining a minimum four second following distance between vehicles, under ideal road conditions, gives you the necessary space to slow down, accelerate or change lanes safely and smoothly. The objective is to try to minimize speed changes by being in harmony with the traffic tempo and, in urban areas, in sync with traffic lights.
Manual Transmission Skills (if applicable)

1. Familiarize yourself with the gear pattern by checking the chart on the gear shift lever or the dash. Check to determine the starting gear recommended under normal circumstances for the bus you are driving.
2. Depress the clutch pedal and turn the ignition on.
3. Shift into the appropriate gear.
4. Depress the foot brake.
5. Release the park brake.
6. Release the clutch to the friction point.
7. Remove foot from the brake pedal, place it on the accelerator pedal and accelerate gradually.
8. Remove your left foot from the clutch slowly and completely place it on the floor while continuing to accelerate. Do not ride the clutch!
9. Accelerate the bus to the proper engine speed before attempting to shift into the next higher gear. This will prevent the engine from lugging. With practice, you will learn to feel and hear the proper engine speed for shifting.
10. When appropriate to shift gears, first depress the clutch pedal and release accelerator simultaneously.
11. Shift into the next gear.
12. Smoothly release the clutch and continue to accelerate appropriate to conditions.
13. When downshifting a standard transmission, the procedures are very similar.

When downshifting from cruising speed, reduce speed, then:

1. Depress the clutch and release the accelerator.
2. Shift to the next lower gear.
3. Release the clutch smoothly and use the accelerator to provide engine power appropriate to the terrain you are travelling on.
4. Repeat these steps to continue downshifting as the proper engine speeds are reached.
5. To bring the bus to a complete stop, apply the brake, gradually increasing pressure, and depress the clutch after reducing speed to between 8-16 km/h.
6. If you are parking the bus to leave it: set the parking brake, follow the shutdown procedures, select the appropriate gear, and secure the bus.

**Note:** It is also not proper to depress the clutch at too high a speed and then keep it depressed while braking to a stop. This is called “coasting to a stop”. Always use the appropriate gears when downshifting to a stop.

Double Clutching

Double clutching is a procedure where you depress the clutch pedal, release it and depress it again while shifting gears. On non-synchromesh transmissions, double clutching makes shifting gears smoother because it co-ordinates the engine speed and the transmission speed, aligning the gears for easier shifting. During the actual shift, (when the bus is out of gear) re-clutching and revving the engine will, in most cases, prevent excessive gear grinding.
Double-clutching lets you speed up or slow down the input shaft while it’s in neutral and not engaged to any gear. When you move the shift lever into neutral and let the clutch out, the engine flywheel can turn the input shaft without engaging any gear. When the input shaft reaches the correct rpm, quickly depress the clutch, move into the next gear and release the clutch.

Upshifting by Double Clutching
1. Depress clutch pedal and release accelerator simultaneously.
2. Shift gear lever to neutral position.
4. Depress clutch pedal and shift to next higher gear.
5. Release clutch pedal and accelerate engine at the same time.

Downshift by Double Clutching
1. Depress the clutch pedal.
2. Move the gearshift lever into neutral.
3. Release the clutch pedal.
4. Accelerate the engine speed until engine rpm and road speed “match”.
5. Depress the clutch pedal and quickly move the gearshift lever to the next gear position. (Do not engage the clutch brake)
6. Release the clutch pedal and press the accelerator at the same time.

By learning and practicing the correct procedures for shifting, accelerating and decelerating, a professional driver can save countless dollars on the wear and tear of an engine and clutch as well as providing your passengers with a smoother ride.

Railroad Crossings

Although many people fail to realize it, crossing railroad tracks represents one of the greatest hazards in bus transportation with respect to the potential for mass casualties and fatalities. All vehicles are required by law to stop the vehicle no closer than 5 metres back no further than 15 metres back from the nearest rail of the railway when a train is approaching. The driver must not proceed until the train has passed or has come to a complete stop. It is important to note that a driver must not drive through, around or under a crossing gate or barrier at a railway crossing while the gate or barrier is closed or is being opened or closed.

According to Section 42(9) of the Use of Highway and Rules of the Road Regulation:

A person driving a vehicle shall not, in respect of a railway crossing that is located on a highway outside of an urban area and that is controlled by a traffic control device, park the vehicle within 50 metres of the nearest rail of the railway.
Crossing railway tracks can be especially hazardous for drivers of large vehicles because of the following:

- Longer vehicles need to travel further and will need more time to clear a crossing.
- Heavier vehicles take more time and need more room to stop before a crossing.
- Larger vehicles are more likely to derail a train if there is a collision.

**Motor Coach and Transit Bus**

When approaching a railroad crossing be prepared to stop. Slow to a speed that, in the event that a train is approaching or the signals are activated, the bus can be brought to a stop no closer than five metres from the nearest track(s) and no further than 15 metres. Reaction time can be reduced by covering the brake. Check both directions while approaching the track(s). If a train is observed, within 500 metres of the crossing regardless of whether or not a signal is activated, the bus must be brought to a stop. Only if it is determined that the train is not moving shall the bus then proceed across the track(s) in a swiftly and smoothly.

**Railway Crossing Procedure when a Train is Approaching**

- Obey the traffic signs, signals, gates, and flag person
- If in the left lane of a multi-lane highway, signal and change to the far right lane well in advance of the crossing.
- Slow down, shift to a lower gear if you have a manual transmission, uses mirrors to check for traffic behind you and then stop gradually.
- Stop no closer than 5 metres (about 16 feet) and no further than 15 metres (about 49 feet) from the nearest track.
- Secure the bus: shift transmission into neutral, set parking brake and maintain pressure on the brake pedal
- To better hear a train, roll down the window, open the front door and reduce any noise inside the vehicle such as silencing the audio system, radio etc.
- While stopped, look carefully in each direction for approaching trains. Look around obstructions such as mirrors and windshield pillars.

**Resuming Travel**

Before resuming travel, make sure there is enough room on the other side of the track for the entire bus to clear. Be aware that a train will be a metre wider than the rails on both sides.

- If there is no indication of a train, close window and front door, shift the bus into the appropriate gear and release parking brake
- Check the crossing signals one more time before proceeding.
- If the crossing lights begin to flash after starting, keep going. It is safer to continue than to back up.

If there is more than one track, there may be more than one train. Do not assume the train you see is the only one.
Only if it is determined that there is no oncoming train shall the bus then proceed across the track(s).

School Bus

School buses are required by law to stop at a railway crossing unless the crossing has a traffic control signal, lights and bells or a peace officer or flagman directs the driver to proceed.

**Note:** For manual transmission buses, never attempt to shift gears while crossing railroad tracks in order to minimize the chance of stalling or not being able to get the transmission into the next gear while on the tracks. It is also against the law to change gears crossing railroad tracks.

Multi-Track Crossings (all buses)

- When crossing multi-track crossings, make certain there are no trains approaching before crossing any of the tracks
- After a train passes on a multi-track crossing, wait until all tracks become visible in both directions before proceeding. A second train may be approaching from the opposite direction

Procedure at Obstructed Railroad Crossing (all buses)

If bright sunlight, fog, snow, smoke, or other obstructions make it difficult for you to see adjust your speed so that you can come to a safe stop if there is a train approaching.

School bus drivers should stop the bus and walk to the track to see if the bus can cross the track safely.

When you are sure that it is safe and that no train is approaching, return to the bus and proceed across the tracks as mentioned above. Be alert for a fast moving train that may have approached during the time it took you to return to the bus, start it and begin moving forward.

**Note:** School buses must never be left unattended without first turning off the engine, setting the brakes, putting the transmission in its lowest gear or park position and taking the key out.

School Bus Railway Crossing

It only takes one thoughtless moment to cause a major disaster with a train. Consequently, it is easy to understand why the law requires school buses whether empty or loaded to come to a complete stop before proceeding across an uncontrolled crossing.

School buses are required by law to stop at railroad crossings unless:
• The crossing has a traffic control signal, lights and bell, or
• A peace officer or flagman directs you to proceed, or
• The council of a city may, by bylaw, state that a stop is not required at a railway crossing
  that is not controlled by a traffic control signal to all or any railway crossings located
  within the city

Uncontrolled Railway Crossing

Uncontrolled crossings are those that have no mechanical flashing signals or other signaling
devices.

Preparing to Stop at Uncontrolled Railway Crossings

• If in the left lane of a multi-lane highway, signal and change to the far right
  lane well in advance of the crossing
• Check mirrors for traffic behind
• Slow down, gear down, have the vehicle under control
• Before reaching the crossing, request that your passengers be quiet. You
  should also turn off any heaters, fans or radios to permit you to listen for an
  approaching train; and
• As you get closer to the crossing, take in the “big picture”; check for control
  devices, trains, railcars on the tracks and traffic behind you
• Stop no closer than 5 metres and no further than 15 metres back from the
  nearest track.
• Secure the bus: shift transmission into neutral set parking brake and maintain pressure
  on the brake pedal
• Stop and observe. Open the front door and the operator's window. Look both ways,
  listening for an approaching train, and check several times
• Close the door, unsecure the bus, and proceed to cross the tracks only when safe to do
  so, checking as you go.
• Cancel the hazard lights when you have cleared the crossing, signal left, shoulder check
  and move back into the correct lane

Note: The alternately flashing red or amber lights on the school bus must not be used when stopping
at a railway crossing

When you are absolutely certain that it is safe to cross a railway track, proceed quickly and smoothly
without shifting gears on the tracks (manual transmission)

10 Tips to Save Your Life at a Railway Crossing

1. Be prepared to stop at all highway/railway crossings
2. Look for the cross-buck symbol of a highway/railway crossing. The higher traffic
   highway/railway crossings generally have signals and bells. Some also have gates
   across the road.
3. Listen for warning bells and whistles. Turn off, or down, distracting fans, heaters and radios. Ask the passengers to be quiet until the bus has safely crossed the tracks. Opening the window helps you hear.

4. Always obey the signals. Never attempt to drive under a gate as it is closing, or around a closed gate. If the gate begins to close while you’re underneath, keep moving ahead until you clear the crossing.

5. If a police officer or railway personnel are directing traffic at the crossing, obey their directions.

6. If one train passes, make sure that a second train is not approaching on another track.

7. Cross the tracks in low gear. Never attempt to change gears while crossing.

8. If your vehicle stalls on the tracks get all the passengers out of the bus and away from the track immediately. Move to a safe location at least 30 metres (if possible) away from the bus and tracks to avoid being hit by debris, because your vehicle and debris from the train hitting your vehicle will be swept forward by the momentum of the train.

9. If your view is obstructed for 300 metres in either direction, do not attempt to cross the tracks until you are certain that no train is approaching. Be especially careful when crossing tracks during bad weather.

10. Walking or playing on train tracks is extremely dangerous and illegal. The only safe way to cross railway tracks as a pedestrian is to use designated crossings, and to obey all signs and signals.

Common Driver Errors at Crossings

- Because of its size, it is easy to misjudge the speed and distance of an approaching train
- Never try to beat a train to the crossing. Many vehicles have been hit by the train or have run into the side of it when trying to get across the tracks ahead of the visibly approaching train
- When the train clears the crossing, the driver should not immediately proceed across the tracks without first checking for other trains. Drivers must be patient and wait for a train to proceed a sufficient distance to allow for good visibility in both directions
- A driver should never attempt to cross tracks while the flashing signals are still operating. If the signals are on and there is no train in sight, it may be approaching at high speed but is just not yet visible or possibly there could be a malfunction in the system. (The cross-buck has the phone number to call for repair and a number that indicates the location of the track)
- The signals may be malfunctioning in the off position and a train may be approaching the crossing – always be prepared to stop when approaching a railway crossing, even one where signals are present but not activated
- Familiarity breeds complacency. Always remember the saying, “Anytime is Train Time!” When approaching a familiar crossing that normally never has a train on it, the driver should still be alert for a train since their schedules can change from day to day
- Drivers should reduce speed and be especially observant if weather conditions or sight observations limit visibility of the rail/
• Highway crossing and/or approaching trains. Some tracks may have curves and be hidden behind trees or hills which would make a train approaching a high speed difficult to see and react to ahead of time
• Always use extreme caution. Take your time. Be 100 per cent sure it is safe before crossing any railway track whether signalized or not

Bus Manoeuvres

This section is designed to give you more information to become a professional bus driver. In order to do this, you not only need the information but also a great deal of practice. By continuing to improve our driving skills, all road users will benefit. This section will cover basic driving techniques.

During your daily travels, you will need to further develop skills such as:

- Lane positioning and changing lanes
- Steering and turning
- Continual observation techniques and monitoring of road conditions
- Managing and following speeds and being aware of the consequences of failing to do so
- Driving through curves in a safe manner
- Crossing intersections in a safe manner
- Merging and exiting traffic

Lane Positioning

Selecting the proper lane, positioning yourself within the centre of the lane, and then making adjustments to your position to suit the current circumstances is a skill that requires a great deal of practice. As you continue to practice you will improve your ability to maintain adequate separation distance between your bus and other vehicles and pedestrians. On a multi-lane highway, it is recommended that buses should position themselves in the right lane or the lane closest to the shoulder of the road. This will leave you an “out”, to the right, if you need one to avoid a collision.

Steering and Turning

As you are no doubt aware, operating a bus is considerably different than driving a standard size automobile. It generally requires a lot more room to perform the same types of manoeuvres. In addition, traffic patterns are becoming more complex, particularly in cities, necessitating added skill and judgment on the part of the bus driver to turn and position the bus safely.

Before making a turn, make certain you check traffic to the front, sides and rear of the bus by using the proper technique of mirror/shoulder/signal/shoulder check and that you are in the correct lane for the turn. Reduce your speed and downshift to the proper gear needed (manual transmission).
During a turn the hand-over-hand steering method is the best to use. One hand pushes the steering wheel up, across and down, while the other hand reaches up to the top of the wheel and pulls down. This action is repeated grasping the wheel at the top again. If you were trained in the shuffle or push-pull method of steering, and are comfortable using it, then continue to use that method. The key is to ensure that the bus is under control at all times.

**Note:** Letting the steering wheel spin freely when recovering from a turn is not acceptable. You must stay in control even when recovering from a turn.

Making Turns

- Give the proper right or left turn signal approximately 30 metres from the turn in urban areas or approximately 100 metres in rural areas
- Reduce speed of the bus and downshift to the proper gear needed to execute the turn (manual transmission)
- Position the bus in the appropriate lane, depending on the direction of the turn
- Check for clear right-of-way by looking for potential conflict with other traffic, cyclists or pedestrians. Scan left, centre, right and left again.
- Check for traffic signals or signs that are directed at you plus be aware of signs or signals applying to cross-traffic
- If the vehicle is stopped and waiting to turn left, keep your front wheels pointed straight ahead and the brake pedal depressed to ensure:
  - a) your brake lights are on and you are stopped.
  - b) if the vehicle is struck from behind, you will not be pushed into oncoming traffic.
- Execute the turn
  - turning left:
    - take the left-most lane available on a single –lane turn (unless directed otherwise by arrows on a traffic sign or markings on the road surface)
    - Take the turn lane to the right (outer) on a dual-lane turn (unless directed otherwise by arrows on a traffic sign or markings on the road surface)
  - turning right: take the right-most lane available
  - never shift gears during a turn (manual transmission)
  - make the turn smoothly
  - check the left and right mirrors as you are turning for bus body swing and clearance
- Look well down the driving path, at least one block, continue recovering the steering wheel using hand-over-hand method.
- Check that your turn signal has been cancelled once the turn is complete; and after completing a left turn on a multi-lane road, resume speed, activate your right turn signal
and move into the right lane as soon as practical.

**Stopping your Vehicle**

Inexperienced drivers are seldom aware of the total stopping distance or time it takes to bring a bus to a full stop. Consequently, they may make errors in their decisions which, in turn, could result in a collision.

There are three factors that determine how long it takes for a vehicle to stop. They are:

- Perception time
- Reaction time; and
- Braking time

**Perception time** is the time it takes for a driver to see a situation and understand that there is a reason to stop the vehicle. The average person’s perception time is approximately 3/4 of a second.

Perception time and the distance travelled in this time will vary slightly from driver to driver. Less experienced drivers are often slower to realize a danger exists. Also, the distance will vary greatly depending upon the driver’s visual search, level of attention, decision-making capability, degree of fatigue, and many other vehicle and/or environmental variables. Use of alcohol or other drugs (legal or illegal), prescription or over-the-counter can also have a major effect on a person’s perception time.

**Reaction time** is the time it takes the driver to physically react to the decision to stop by releasing the gas pedal and by moving the right foot to the brake pedal. The average person’s reaction time is 3/4 of a second. The reaction distance is how far a vehicle travels during the reaction time.

**Braking time** is how long it takes a vehicle to stop from the time the brakes are applied until the vehicle actually stops. How far a vehicle travels during this time is called the braking distance.

The **total stopping distance** is the sum of the perception distance, the reaction distance and the braking distance.

Many factors such as the condition of the road, your vehicle, the vehicle’s speed and your vehicle’s condition and ability to stop, work in combination to determine total stopping time and distance. As a driver, you must attempt to minimize these factors to avoid a collision.

This is also why it is important to not drive when you are tired or have been taking drugs or alcohol.

The chart below illustrates the minimum stopping distance for various speeds. The stopping distances are averages for stopping on smooth, dry pavement.
Stopping Distances Under Normal Road Conditions

<table>
<thead>
<tr>
<th>Speed (km/h)</th>
<th>Distance travelled while perceiving the need to stop</th>
<th>Distance travelled while reacting</th>
<th>Distance travelled after brakes applied</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>23 m 23 m 80 m</td>
<td>126 m</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>21 m 21 m 66 m</td>
<td>108 m</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>17 m 17 m 42 m</td>
<td>76 m</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>10 10 17 m</td>
<td>37 m</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>6 6 18 m</td>
<td>18 m</td>
<td></td>
</tr>
</tbody>
</table>

Distance travelled while perceiving the need to stop (based on average perception time of 3/4 second)
Distance travelled while reacting (based on average reaction time of 3/4 second)
Distance travelled after brakes applied (under normal road conditions and brake efficiency)

Other Tips for Stopping

- It is the total stopping distance that increases dramatically as your speed or load increases. For example, a 66 passenger bus at 45 kg (100 lbs) per passenger equals 3000 kg (6600 pounds) over the weight of the vehicle itself. It will take dramatically longer to stop this loaded bus than the average car.
- When coming to a stop, do not leave your braking too late.
- Ease off the accelerator in advance of your stop to begin reducing your speed; and
- To brake smoothly, ease up on the brake pedal slightly just before coming to a full stop and then reapply pressure on the pedal to come to a complete and final smooth stop.
- Before going down a hill, test the brakes. Look at the air pressure gauge, apply the brakes, and check for abnormal air pressure loss. Do not proceed if there is abnormal pressure loss.

Curves

When large vehicles enter a curve the rear wheels do not follow the same path as the front because they do not pivot; the rear wheel will “off-track” closer to the curb than the front wheels. To mitigate this off-tracking, you must lead your turning arc of the front wheels according to how sharp the curve is and the vehicle’s off-track. Mirrors should also be used to monitor off-tracking.

What is the best way to negotiate a curve?

- When approaching a curve, estimate a safe speed of travel (if not posted on a sign) from the degree of curvature and banking.
- On right curves, keep the front of the vehicle close to the right side of the lane and closely watch the right mirror for the position of the rear of your vehicle.
• On left curves, keep the front of the vehicle to the right side of the lane, watching the left mirror.
• Hugging the outside of a curve increases the risk of hitting a soft shoulder. Hugging the inside increases the risk of putting your mirrors into the path of oncoming vehicles. Manage the space you have and pay attention to tail swing and off tracking.
• Slow a bit before the curve and then gently apply power to the wheels after entering the curve. When you apply power to the wheels, you introduce a force in a different direction from the centrifugal force (this force acts on your wheels by trying to keep it going in a straight line when negotiating a curve). The result is greater control.

Lane changes
Lane changing poses additional hazards - only change lanes when necessary. Always check for clearance by looking out of the windows and also using both mirrors to be sure that there are no vehicles beside or behind the bus.

Give special consideration for the speed vehicles are travelling behind the bus to ensure they will not overtake the bus once the lane change has begun. Always signal intent with at least four flashes of the turn signal before beginning the lane change. If the lane change involves passing another vehicle, when on a multiple lane highway, maintain a minimum four second following distance under ideal road conditions. Once you are in the desired lane, cancel turn signal within about 5 seconds after completion.

Negotiating Intersections

Know
Expect the unexpected. Decide in advance what you need to know at intersections. Your indecision can confuse other drivers and cause a collision. Be prepared to yield at all times.

Show

Signal your intentions well in advance and be in the proper lane.

Slow

Slow down gradually. An intersection is not a place for speed. Remember at 25 km/h you cover over seven metres per second and may travel five metres just moving your foot from the accelerator to the brake.

Go

Proceed through the intersection without hesitation, when safe. It is important to keep in mind that other uncontrolled traffic access locations are considered intersections as well, such as side roads that enter onto highways, driveways and alleyways. The distraction from pedestrians, cyclists and animals are additional hazards.
At all intersections:

- Never assume the other driver will yield to you where required. Approach each intersection with your foot off the gas and covering the brake.
- As you approach the intersection, look left, then right. Prior to going through the intersection check again left then right. If objects like parts of your vehicle or your mirrors block your vision, check carefully around them before you proceed.
- Proceed only when safe to do so, even if you have the right of way. You cannot count on the other driver always obeying the rules.
- It is never a good idea to change lanes in an intersection.
- Never pass a vehicle that is stopped at an intersection until you are sure it is not stopped waiting for a pedestrian to cross. Never assume a vehicle stopped at the intersection and signaling left is only waiting for oncoming traffic to clear. There may be a pedestrian crossing as well.

**Note:** It is illegal to pass a vehicle that has stopped to allow a pedestrian within a crosswalk (marked or unmarked) to cross the road.

**Crossing Intersections**

In an urban area the following procedure will help you travel safely through each intersection and will get you into the habit of looking fully around your vehicle.

- Depending on visibility, take your foot off the accelerator and cover the brake if needed. Check mirrors and be aware of traffic following you. Prior to entering the intersection, check left then right for traffic indicators and controls, pedestrians and other vehicles. Make certain no vehicle approaching is about to turn left in front of you. If clear, check to the left and right once more and proceed through the intersection when safe.
- Scan the area to determine the point-of-no-return. This is the point at which you will no longer stop if the lights turn amber. There is no exact point but there is an area or range a short distance before the intersection where the driver must decide if it is possible to stop safely before the crosswalk or intersection when the lights are amber. Deciding factors include: speed of the vehicle, road conditions, traffic volume to the front, rear and side, and visibility. The point-of-no-return requires good judgement and experience when making the decision to stop or proceed.
- Between intersections, watch for traffic changing lanes or entering your lane from alleys or driveways.
- Once past the intersection check mirrors again for any change in traffic patterns behind you. If you plan to turn at the next intersection, position yourself so you are ready to turn. Look for pedestrians that may be crossing ahead.

With any intersection, if your visibility is obstructed for any reason, you may be required to stop prior to proceeding.
Traffic Lights
When approaching an intersection, note the colour of the traffic light (fresh or stale green). A fresh green light is a light that is seen turning green. A stale green light is one that was green before it was seen, or one that has been green for quite a while.

- Identify whether the light has become stale (where present, scan to see if the “Do Not Walk” light is activated), or if it is fresh (legally ok to cross the street). This is a very important part of deciding how to handle the traffic light. Cover the brakes and be prepared to stop for Intersections without the pedestrian walk light.
- Engage in visual lead time techniques and Observe traffic lights from afar (scan 12-15 seconds ahead).
- If the traffic light is fresh, continue within the speed limit, but be aware that the light may turn stale.
- If the traffic light is stale, check the mirrors and cover the brake. The stale light is the first warning that it will soon be changing to amber. Covering the brake reduces reaction time.
- The focus is now on planning a possible stop, as opposed to running the light or slamming on the brakes.
- When approaching the traffic light, amber should be treated as “prepare to stop” so covering the brake is a good idea. If the vehicle is already in the intersection (waiting to turn left), amber means “clear the intersection”.
- When stopped at a red traffic light, always look left, centre, right and left before proceeding. This defensive driving technique will prevent a collision if another driver is running the red light. Keep the wheels in proper position and two hands on the wheel. Plan to stop. It is not uncommon for drivers to proceed through an intersection when a traffic light has turned to amber (yellow) instead of slowing or preparing to stop.
- Look around for walk/wait lights and any hazards such as a blocked view, blocked lane, parked vehicles, other vehicles, pedestrians or any other conditions between the bus and intersection. Always yield the right-of-way to crossing traffic. In the event the bus is in the middle of an intersection and the light changes from green to yellow, clear the intersection when it is safe to do so.
  - Scanning should be done all the time when driving. When approaching a traffic light, scan well before the intersection. If you decide to proceed through the light, continue to check mirrors until the bus has cleared the intersection.

Entering Traffic/Merging

Merging is done when two roadways join into one and the traffic on the main roadway must cooperate to allow enough space for vehicles to enter from the merging lane. Neither the merging vehicle nor the vehicles already on the highway have the right-of-way. Merging is a shared responsibility between the vehicles joining the roadway and the vehicles already on the roadway.

When entering traffic from the curb or loading zone, signal intent at least four flashes in advance, check mirrors and look directly out the windows to ensure path is clear before starting to move. Stay in the lane nearest the curb until reaching appropriate speed. When entering
traffic from an alley, side street, driveway or terminal, come to a stop before entering a cross street and proceed with extreme caution.

When entering highways, freeways and other restricted access roads, signal intent and use mirrors and direct view to ensure path is clear in the right lane. Keep glancing at the gap you chose to ensure you are making the necessary speed and timing adjustments to safely merge into traffic. Avoid reducing your speed abruptly or stopping when merging. When it is safe and legal to merge, move into the gap after you are past the solid white line of the acceleration lane. Maintain your speed at or near the speed of the other vehicles and cancel signal. Stay in the right lane until matching the speed of other traffic and only change lanes when necessary.

Exiting a Major Roadway

Tips on how to exit a major roadway or highway safely:

- Plan ahead. Be in the proper lane well before you reach your exit.
- Use your turn signal well in advance of the exit to alert the drivers behind you.
- Move into the deceleration lane as soon as space is available, if there is one.
- If possible, do most of the slowing in the deceleration lane. Some deceleration lanes are short; you may need to start to reduce your speed while still on the highway.
- When you have exited, ensure your signal light is turned off.
- If you miss your exit, do not stop. Continue to the next exit and make plans to return to your route. Do not stop and reverse on the highway, the emergency stopping lane or shoulder.

Weave Zones

On some roadway interchanges, there are places where the highway entrance and exit use the same lane. The entrance and exit can be close together. These areas require caution and cooperation because vehicles share the same lane to slow to exit the highway while other vehicles are using it to increase speed to enter the highway. The area that these vehicles share is called a weave zone.

In weave zones, control your speed and the timing of your lane change to merge with other traffic. This requires skillful use of time and space. Use caution in these zones to ensure safe highway exiting and entering for all vehicles.

Module 3 Key Points

- When stopping for a train at a railroad crossing, bus can be brought to a stop no closer than 5 metres from the nearest track(s) and no further than 15 metres.
- School buses must stop at railroad crossings unless the crossing has a traffic control signal, lights and bells or a peace officer or flagman directs the driver to proceed.
- Looking ahead 12 seconds down the road and maintaining a minimum four second following distance between vehicles, under ideal driving conditions gives you the
necessary space to react to unexpected situations and allows for a smoother ride for your passengers

Practical 1 – Role Playing (Minimum of 45 minutes)

After completing the above classroom topics, the instructor and the trainees will proceed to the yard. The instructor will have about 15 minutes to demonstrate the following outlined procedure, after which the trainee will have minimum of 30 minutes to practice.

- Proper Start Up and Warm Up Procedures
  - Starting the Engine
  - Engine Warm-Up
- Check Documentation
- Seat Adjustment
- Proper Seat Belt Use
- Mirror Adjustment

Leaving the Driver’s Seat

Practical 2 A: Minimum of 1 hours, 15 minutes

At the end of the classroom portion of practical 1 of this module, the instructor and the trainee will go for a drive. The instructor will have about 15 minutes to demonstrate the following outlined procedure, after which the trainee will have minimum of 1 hour to practice. Prior to performing this task, instructor should review and re-familiarize trainees with the tasks performed in practical 1 of this module during the drive, the instructor will assess the trainee on the following:

- Smooth movement of the vehicle from the yard to roadway
- Smooth clutching and gear shifting (manual transmission)
- Smooth steering control
- Watches for other road users
- Watches for potential hazards of unmarked overhead obstructions such as: canopies, roof overhangs and other building protrusions, signs, utility lines, tree limbs, doorway entries, etc.
- Watches for snow build-up, debris or road construction that can change vehicle height, weight or clearances
- Identifies and reads all road signs indicating the weight capacity of roadways or bridges - including seasonal weight restrictions

Practical 2 B: Stopping at Controlled Railways- All buses (minimum of 15 minutes)

Railway crossing should be simulated in the yard using pylons to simulate a railway track. The instructor informs the trainees that in this scenario a train is approaching the tracks, signal lights
are activated and gates are being lowered. The goal of the practical is to allow trainees to practice proper railway crossing skills at a controlled railway. The instructor will have about 5 minutes to demonstrate the following outlined procedure, after which the trainee will have minimum of 10 minutes to practice.

- Slow down bus
- Before reaching the crossing turn off any heaters, fans or radios
- As the bus approaches the crossing check for control devices, trains, railcars on the tracks and use mirrors to check for traffic behind you
- Stop the bus safely, not less than 5 metres and more than 15 metres from the nearest track
- Secure the bus: set parking brake, shift transmission into neutral and maintain pressure on the brake pedal
- Once the signal lights stop flashing and the gate rises (as indicated by the instructor) carefully look in both directions, listen for the sound of an approaching train
- If there is no indication of an approaching train, shift the bus into the appropriate gear and release parking brake
- When it is safe to cross, proceed quickly and smoothly. Instructor verifies that trainee does not shift gears while crossing (manual transmission).
- Once completely across the tracks, close operator’s window. Fans, heater and radio can be turned on again.

**Practical 2 C: Crossing Uncontrolled Railways –School Bus (minimum of 15 minutes)**

Railway crossing should be simulated in the yard using pylons to simulate an uncontrolled railway track. The goal of the practical is to allow trainees to practice proper railway crossing skills at an uncontrolled railway. The instructor will have about 5 minutes to demonstrate the following outlined procedure, after which the trainee will have minimum of 10 minutes to practice.

- Slow down bus
- Before reaching the crossing request passengers be quiet and turn off any heaters, fans or radios
- As the bus approaches the crossing check for control devices, trains, railcars on the tracks and use mirrors to check for traffic behind you
- Stop the bus safely, not less than 5 metres and more than 15 metres from the nearest track
- Secure the bus: set parking brake, shift transmission into neutral and maintain pressure on the brake pedal
- Open the driver’s window and open the service door. Look and listen for an approaching train in both directions
If there is no indication of a train, shift the bus into the appropriate gear, close door and release parking brake.

When it is safe to cross, proceed quickly and smoothly. **Do not shift gears while crossing** (manual transmission).

Once completely across the tracks, close driver’s window. Fans, heater and radio can be turned on again.

**Practical 3 – Minimum of 7 hours, 30 minutes**

At the end of the practical 2 of the module, the trainee will be required to learn and practice various driving skills under the supervision of the instructor. During in-vehicle instruction, trainee shall develop the skills and control required to safely operate a motor vehicle in a traffic environment. A minimum of 7 hours, 30 minutes is required to complete this practical section of this module.

Prior to performing any of the manoeuvres outlined in each lesson, the instructor will provide a brief (approximately 10 minutes) demonstration drive to illustrate to the trainee.

**Goals of On-road Practical**

- To provide trainees with an adequate level of skill, knowledge, attitude and vehicle control to ensure safe handling and the smooth operation of a bus
- To provide trainees with the knowledge required to apply driving laws, proactive driving practices, hazard detection and defensive driving techniques to ensure cooperative, safe and legal operation of a motor vehicle
- To provide trainees with the abilities required to:
  - Gather information from events and conditions encountered while driving;
  - Effectively analyze the information gathered;
  - Decide on the correct course of action required for the circumstance; and
  - Act in a timely manner to implement such decisions
- To provide trainees with the ability to plan their driving.
- To provide the opportunity for the trainees to gain confidence to drive independent of instruction.

**Prior to starting the practical, the instructor must check for the following:**

- Speedometer malfunction.
- Obstructed visibility (glass).
- Signal or brake lights defective.
• Inadequate brakes.
• Headlights or windshield wipers not working.
• Vehicle is mechanically sound

Upon entering a vehicle, the instructor will ask the trainee to point out the location and explain the function of each of the following controls:

• Hazard light switch;
• Park brake;
• Headlight switch;
• Dimmer switch;
• Windshield washer and wiper controls;
• Defroster switch; or
• Speedometer.

Prior to moving the vehicle, trainee should apply the following basic habit:

• Ensure parking brakes are applied.
• Check seats and mirrors for proper adjustment.
• Attach and properly adjust seatbelts.
• Depress clutch and ensure transmission is in neutral prior to starting engine. (for vehicles with manual transmission)
• Start engine
• Verify that the air compressor functions properly (for buses with air brakes)
• Select proper gear and release parking brakes when ready to leave.

Prior to commencing actual drive, the instructor will inform the trainee that:

• Advance and audible notice will be given for any turn or manoeuvre required during the practice; ensure that trainee is paying full attention prior to giving directions;
• If no direction is given prior to an intersection, the trainee should continue to drive straight ahead;
• Trainees will not be required to complete any unsafe or illegal action; and
• Trainees may ask questions prior to the beginning of the practice;
• When the trainee and instructor are ready, and it is safe to proceed, the practice will
begin. Prior to moving the vehicle, the instructor will start with a brief summary (approximately 10 minutes) of the manoeuvre(s) that will be performed and brief demonstration drive to illustrate to the trainee the maneuvers and skills to be performed.

Practice Guide
While driving the instructor must observe the following:

Lesson A - Basic driving maneuvers (minimum of 1 hour)
Observe trainee’s ability to perform the following:

☐ Smoothly starts the vehicle
☐ Applies continual observation techniques and monitoring of road conditions
☐ Conducts regular traffic checks
☐ Scans mirrors, blind spots, instruments and gauges regularly and systematically.
☐ Drives courteously, manages unexpected situations, manages distractions and drives within capabilities and experience
☐ Recognize their responsibilities for sharing the road surface with pedestrians and other vehicles of various dimensions, speeds and purposes, and the consequences of failing to do so
☐ Manages speed and following distance to allow adequate time to observe, react, manoeuvre and perform safe braking and stopping if necessary
☐ Maintains proper road and lane position
☐ Observes road signage and pavement markings
☐ Integrates with traffic and show awareness of other road users
☐ Operate vehicle controls smoothly
☐ Hand position - Maintains two-handed grip on the steering wheel as much as practicable
☐ Operates a manual transmission- selecting gears correctly and shifting smoothly (if applicable)
☐ Smoothly stop the vehicle at the end of this task

Lesson B - Driving through curves (minimum of 1 hour)
Prior to performing this task, instructor should review and re-familiarize trainee with the tasks performed in previous lesson. Previous lessons should be incorporated into this lesson. While driving through the curves the instructor must ensure that the trainee:

1) Prepares for the curve as it becomes visible by completing the following steps:
   ☐ Conducts a visual assessment
   ☐ Conducts a signage check
   ☐ Conducts a pavement marking check
   ☐ Conducts a traffic check
   ☐ Adjusts speed as required
2) **Travels** through the curve by completing the following steps:
- Manages speed and following distance
- Steers through the curve following a proper path, based on vehicle off-tracking and clearance requirements
- Conducts a traffic check
- Maintains two-handed grip on the steering wheel as much as practicable

**Lesson C - Practicing Lane Changing (minimum of 1 hour)**
Prior to performing this task, instructor should review and re-familiarize trainee with the tasks performed in previous lessons. Previous lessons should be incorporated into this lesson. Before change lanes, the instructor must ensure that the trainee:

1) **Prepares** for the lane change by completing the following steps:
   - Conducts a traffic check
   - Conducts a pavement marking check
   - Manages speed and following distance
   - Activates turn signal correctly and on time

2) ** Executes** the lane change by completing the following steps:
   - Steers vehicle into the correct position in the new lane
   - Manages speed and following distance to allow adequate time to observe, react and manoeuvre vehicle if necessary
   - Cancels turn signal within about five seconds after completion

**Lesson D- Crossing intersections (minimum of 1 hour, 30 minutes)**
Prior to performing this task, instructor should review and re-familiarize trainee with the tasks performed in previous lessons. Previous lessons should be incorporated into this lesson. Before crossing any intersection, the instructor must ensure that the trainee:

1) **Prepares** for crossing the intersection as it becomes visible by completing the following steps:
   - Conducts a visual assessment
   - Conducts a signage check
   - Conducts a pavement marking check
   - Conducts a traffic control signals check
   - Conducts a traffic check

2) **Approaches** the boundary of the intersection while completing the following steps:
   - Reads and responds to signage
   - Reads and responds to traffic control signals
   - Conducts a traffic check
☑ Plans a crossing path

3) **Stops** at an intersection when required by completing the following steps:
   - ☐ Reads and responds to signage
   - ☐ Reads and responds to traffic control signals
   - ☐ Stops the vehicle in the correct location
   - ☐ Keeps wheels in proper position, two hands on wheel and monitor mirrors for traffic behind while stopped
   - ☐ Drives vehicle forward when necessary

4) Proceeds across the intersection after stopping, or when no stop is necessary, by completing the following steps:
   - ☐ Conducts a traffic signal light check
   - ☐ Conducts a traffic check
   - ☐ Interprets right of way obligations correctly
   - ☐ Steers the vehicle through the proper path
   - ☐ Manages speed and following distance

**Lesson E- Turning at intersections (minimum of 1 hour)**

Prior to performing this task, instructor should review and re-familiarize trainee with the tasks performed in previous lessons. Previous lessons should be incorporated into this lesson. Before turning at an intersection, the instructor must ensure that the trainee:

   - ☐ Selects the correct lane for starting the turn
   - ☐ Activates turn signal correctly and on time
   - ☐ Conducts a continuous traffic check while turning
   - ☐ Manages speed and following distance
   - ☐ Interprets right-of-way obligations correctly
   - ☐ Steers through the intersection following a proper path, based on vehicle off-tracking and clearance requirements
   - ☐ Selects the correct lane for travel after the turn
   - ☐ Cancels turn signal after completion (never more than five seconds)

**Lesson F Entering and Exiting a Highway (minimum of 1 hour)**

Prior to performing this task, instructor should review and re-familiarize trainee with the tasks performed in previous lessons. Previous lessons should be incorporated into this lesson.

1. **Entering a highway**
   Before entering a highway, the instructor must ensure that the trainee:
   - ☐ Conducts a traffic check
   - ☐ Manages vehicle speed according to conditions, posted advisories
- Conducts a pavement marking check and stay within markings
- Changes lanes or merges as necessary on the ramp
- Negotiates the ramp at appropriate speed
- Manages following distance
- Activates turn signal correctly and on time
- Adjusts vehicle speed within the acceleration ramp to facilitate merge into traffic
- Interprets right-of-way obligations correctly
- Merges onto highway maintaining suitable distance from other vehicles and adjusting speed as needed, responding to metered ramp entry systems where applicable
- Cancels turn signal after merge is complete (never keep signal on more than five seconds)

2. Exiting a Highway
Exiting a highway includes performing the following sub-tasks.
The trainee will:
- Conduct a traffic check
- Manage following distance
- Reduce speed as appropriate (neither too soon or too late)
- Activate turn signal correctly and on time
- Conduct a pavement marking check and stay within markings
- Drive onto exit ramp as soon as space is available
- Decelerate as necessary within deceleration ramp
- Manage vehicle speed according to conditions and posted advisories
- Negotiate the ramp at appropriate speed and change lanes or merge as necessary
- Cancel turn signal after getting fully into exit lane

The assessment guideline is composed of six sections:

A. Controls- This involves knowledge and use of vehicle components including steering, gears, clutch (for vehicles with manual transmission), brake, accelerator and signal switch.
B. Starting and Stopping- this covers all situations where the driver is putting the vehicle in motion, either forward or in reverse.
C. Main Driving. This includes manoeuvres between intersections such as safe lane changes, planned driving, speed, and vehicle control.
D. Turns. This relates to proper procedures for completing turns such as signals, proper lane to start and complete the turn, correct positioning for the turn, and vehicle control.
E. Intersections. This includes observation of conditions, speed, compliance with traffic control devices, right of way judgements, and vehicle control.
F. Traffic Light and Signs – this involves observing and obeying traffic lights and signs.
It should be noted that it is impossible to cover all circumstances in detail. Keep in mind that this is an assessment for the Mandatory Entry Level Program (MELT) and is not a road test for a Class 2-S licence.

**Practical Assessment Guidelines**

All lessons must be reviewed and assessed according to this guideline.

**A. Controls**

- Knowledge and use of vehicle components

**Gears:**
- Starts in wrong gear, affects vehicle (manual transmission)
- Focusing on the gear while shifting (manual transmission)
- Fails to gear down, if required, before descending grade;
- Shifts gear while crossing railway track(s) (manual transmission)
- Fails to select appropriate gear for a turn.

**Clutch (manual transmission):**
- Stalls more than once;
- Coasts around corners / down hills / when stopping.

**Steering:**
- Occasional one hand steering;
- Poor hand position;
- Allows the steering wheel to spin freely without control, when recovering from a turn.

**Acceleration:**
- Accelerates too fast when starting, backing or turning.

**Braking:**
- Fails to exhibit threshold braking when stopping or attempting to slow down to stop on icy roads.

**B. Starting (Ahead/Back) and Stopping**

1. Fails to check for traffic and/or conditions.
2. Fails to signal.
3. Rolls back 50 centimetres to 100 centimetres.
4. Fails to observe crosswalks and stopping lines.
5. Poor control of clutch friction point causing ‘jerking/lugging’ motion of vehicle
6. Hit the curb.

**C. Main Driving**

1. Planned Driving:
   - Late choosing lane.
   - Fails to travel in right lane where appropriate.
   - Fails to use right lane on double left turn.
   - Changes lanes for no apparent reason.
   - Changes lanes when unsafe to do so.

2. Road Position:
   - Straddles traffic lanes.
   - Crosses or crowds centre line for no apparent reason.
   - Too close:
• Stops too close behind other vehicles.
• Follows other vehicles too closely.
• Passes other vehicles too closely.

3. Observation:
• Fails to check blind spots or periodically check mirrors.
• Fails to signal or cancel signal light on lane changes.

4. Signals:
• Fails to signal or cancel signal light on lane changes.

5. Speed:
• Too slow for conditions (under 10 km/h).
• Too fast for conditions.
• Exceeds speed limit (5 to 10 km/h).

6. Vehicle Controls:
• As previously indicated in Part A.

D. Turns
1. Signals:
• Too soon (more than 1/2 block from turn).
• Too late (less than two vehicle lengths from turn).
• Not activating turn signal

2. Lanes:
• Chooses wrong lane before or after the turn.
• Fails to check the mirror.
• Fails to check blind spot.
• Position on the road.
• Fails to observe signs and condition.
• Improper lane change.

3. Cuts Corner / Turns Wide:
• Cuts corner on a left turn or brushes curb on a right turn.
• Turns wide on a left or right turn, but ends up in proper lane on completion.

4. Incorrect Position
• Fails to enter an intersection when required (e.g., waiting for approaching traffic on a green light);
• Enters an intersection to prepare for a left turn when other vehicles are already in the intersection.

5. Vehicle Controls:
• As previously indicated in Part A.

E. Intersections
1. Approach Too Fast:
• Approaches uncontrolled/controlled intersections too fast for vision and road restrictions.

2. Fails to Observe Conditions:
• Poor observation entering uncontrolled/controlled intersections with limited or restricted vision.
• Fails to observe and respond when passing stopped vehicle.
• Fails to observe and respond when approaching controlled railway crossings.

3. Traffic Control Devices:
• Fails to comply with traffic control signs / signals.
• Fails to anticipate change in traffic control signal.

4. Entering Highway:
• Fails to stop leaving private / public driveways that are not controlled by traffic control devices.
• Impedes traffic when entering
highway.

5. Right of Way Judgement:
   • Fails to yield to pedestrians.
   • Other vehicles
     o Poor judgement of speed / space requirements when entering the traffic flow.
   • Own:
     o Slows down or stops unnecessarily.

6. Position
   • Stops too far back from the crosswalk or intersection (in excess of one vehicle length).
   • Blocks the crosswalk.
   • Blocks an intersection.

F. Traffic light and signs
   • Fails to anticipate traffic light or signs.
   • Fails to obey traffic light and signs.

Terminating an On-road practice
Some situations may warrant an immediate termination of the practice prior to completing the required maneuvers.

Summation
The instructor will summarize the trainee’s driving ability at the end of each lesson by:
   • Explaining and identifying weak areas and provide means to improve to achieve competence.
   • Providing an overall assessment of the trainee’s progress, identifying areas of success and areas requiring more attention. Provide recommendations for further practice
   • Providing feedback and complete the assessment form
   • Assigning a final grade for the in-vehicle portion of this module
Purpose

The purpose of this module is to explain the concept of defensive driving and teach trainees how to drive in a safe manner in spite of the actions of others. This module is organized as follows, 3 hours and 25 minutes of classroom session and 10 hours of in-vehicle instruction. It should take 13 hours and 25 minutes to cover the materials in this module.

General Learning Outcomes

At the end of this module, the trainees should be able to:

- Understand defensive driving principles
- Recognize common situations that lead to collisions
- Understand that personal attitudes and defensive driving habits are key to preventing collisions

Habits of Minds

Trainee will:

- Appreciate the importance of defensive and proactive driving habits
- Recognize their duty of care to proactively protect other road users from harm
- Recognized the importance of the bus driver as the most significant factor in collision avoidance
- Appreciate the concept of “connecting the mind with the eyes” when operating the vehicle
- Recognize the importance of developing good visual habits
- Appreciate the value in practicing commentary driving for collision avoidance
- Recognize the impact of distracted and impaired driving on traffic safety

Knowledge and Understanding

Trainee will:

- Know the importance of responsible driving
- Understand the concept of defensive driving
- Know and understand the elements of defensive driving
- Know the steps for avoiding hazards
- Know and understand the six conditions affecting driving
- Know and understand the basic collision prevention formula
- Know and understand the potential causes for two-vehicle collisions and the procedures for avoiding them

Skill and Processes

Trainee will:

- Demonstrate an understanding of the zone awareness
- Demonstrate good visual habits by:
  - dealing with blind spots including those caused by mirrors and where motorcycles and bicycles might be hidden
- Detect and interpret clues in zone of awareness
- Demonstrate an understanding of emergency driving techniques
- Demonstrate an understanding of techniques required for driving under differing road conditions

<table>
<thead>
<tr>
<th>Learning Environment</th>
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<tbody>
<tr>
<td><strong>Classroom</strong></td>
</tr>
<tr>
<td>Deliver (lecture, pairs, group, demo etc.)</td>
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<tr>
<td>3 hours</td>
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</tbody>
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**Defensive Driving**

While a properly maintained vehicle is a very valuable tool in the prevention of collisions, the most influential factor is the driver. It is the driver’s skills, knowledge, habits, attitudes, physical and mental condition that are major factors in either being involved in a collision or avoiding one.

**Elements of Defensive Driving**

In order to successfully avoid collisions, the professional driver requires a high degree of knowledge, alertness, and foresight, and must always exercise good judgment and skill.

**Knowledge**

This can come from many sources, including Alberta Transportation’s driver guides, printed materials and courses. A great deal of knowledge about driving can be acquired through experience, but experience is not necessarily the best teacher as bad habits may develop and are hard to break. Traffic safety experts are convinced that knowledge of driving should be acquired through a planned program.

**Alertness**

Alertness is the habit of keeping one’s attention focused on driving and free of distractions. It includes the attitude of detecting hazards and the ability to avoid collisions. Being fully alert requires the use of vision, touch, smell and hearing to receive and interpret various messages. Mental alertness can be developed consciously and is improved with practice.

**Foresight**

This is the ability to anticipate and prepare for mishaps. It consists of being able to assess traffic situations as far ahead as possible, to anticipate how they are likely to develop and to decide whether or not they will present a hazard.
Judgement

Good judgment implies recognition of the alternatives present in any traffic situation and the ability to act in time to avoid a collision. Good judgement is dependent not only on knowledge and experience but also intuition.

Skill

Skill is the ability to manipulate the controls of the vehicle to successfully perform basic traffic manoeuvres such as turns, passing, reversing, parking, etc. There is a correct way to execute each of these skills. Skills are developed through learning how do them the right way and then doing them the right way every time.

Good Habits

Good habits are developed by consciously practicing the correct procedure to the point where you subconsciously do it right every time. Correct performance has become instinctive. Good visual habits, for example, are one of the most important tools available to the defensive driver.

Steps for Avoiding Hazards

- **Identify**
  The driver must be able to identify any potential hazards or dangerous situations
- **Predict**
  Predict what may happen next and all the possibilities
- **Decide**
  Decide which course of action is necessary to take in order to avoid a collision
- **Execute**
  Put the plan in action

It is important that drivers remain alert and consciously scan for hazards as they drive. Both the survival of the driver and that of the passengers depends on the ability to identify clues that indicate a potential or real hazard.

One of the most important aspects of defensive driving is recognizing impending hazards before they become a problem. Early recognition provides drivers the time needed to avoid trouble. It is vitally important that the driver recognizes and becomes immediately aware of the surroundings while driving.

Six Conditions Affecting Driving

There are six conditions in any driving situation; the ability to adjust to them may prevent or create a collision.

1. Light
2. Weather
3. Road
4. Traffic
5. Vehicle
6. Driver
**Light Conditions**

- **Driving at night** - When driving at night or at any time when visibility is less than 150 metres (500 feet) in front of the vehicle, headlights must be turned on. Daytime running lights are not bright enough to be used at night. They are too dim and the tail-lights and instrument panel lights will not be on
  - Use low-beam headlights if there is oncoming traffic, even when the highway is divided.
  - Overdriving headlights at night (unable to stop or respond to a hazard illuminated by your headlights). The average low beam headlights are only capable of illuminating the highway for approximately 100 metres.
  - Headlight glare at night. Drivers should avoid sweeping eyes to oncoming traffic as headlight glare is blinding. The human eye takes about seven seconds to recover from headlight glare at 80km/h. A vehicle would travel 160 metres in those seven seconds. Sightline should be slightly down and to the right.
  - Be sure headlights are properly aimed so that they do not bother or interfere with other drivers.

- **Glare** - Glare from the sun, snow, reflections, and the lights of other vehicles can affect vision in the daytime or at night. If glare makes it difficult to see the road, slow down. Vehicle windows should also be properly cleaned inside and outside to improve visibility.
  - Glare from the sun can be especially bright 90 minutes after sunrise and just before sunset
  - Sunglasses are an essential for professional drivers

- **Smoke and Fog** - Use low beam headlights in smoky and foggy conditions, as high beams reflect the light back to the driver, creating glare. If visibility becomes so poor that it is no longer safe to continue driving, slow down and move the vehicle well off the road to a safe location. Never stop the vehicle on the road, this could cause a chain-reaction collision. Turn on hazard lights to warn other drivers. Do not attempt to drive until conditions improve. If a safe place to park is not available, the driver must ensure he or she and passengers move to a safe location away from the vehicle, in case it is struck by other vehicles.
  - Keep headlights clean
  - Ensure the full lighting system of your vehicle is turned on
  - If visible, use pavement markings on the right edge of the road as a guide
  - Keep eyes focused ahead as far as possible
  - Use windshield wipers. Turn on defroster to increase visibility
  - Maintain a greater following distance

**Weather Conditions**

Rain, snow, sleet, and fog can all contribute to loss of vehicle control. These conditions can be dangerous because they affect other road users as well. Reducing speed is the key to safe driving in poor weather conditions. If conditions are too bad, do not drive at all.
Rain - Drive with low-beams on as high beams reflect the light back to you, creating a glare. Reduce your speed; be careful not to splash other vehicles and pedestrians. This could cause hazardous condition to other road users.

Ice and Snow - During the winter season poor weather conditions can make driving more dangerous. Winter conditions include freezing rain, extremely low temperatures, blowing snow, high wind chill, blizzards and heavy snowfalls.

Ensure the bus is well-maintained and serviced before winter arrives. Be sure that the vehicle’s battery, tires, exhaust system, windshield wipers and heating system are in good working condition. If the bus is equipped with air brakes, drain air tanks to prevent build up of moisture in the lines. Air line anti-freeze can be added if the air lines freeze. Driving a large commercial vehicle in slippery winter conditions means checking for proper brake function prior to starting a trip is essential. At the end of a trip parking brakes may freeze up overnight in cold weather. To prevent freezing, do not set the park brakes until the brakes have cooled and are dried off.

Intersections may become icy more quickly because of vehicle exhaust, engine heat, and vehicles spinning their wheels or skidding. When traction is compromised accelerate slowly at first and do not spin the wheels, as this further buries the bus into the snow. Allow more time and distance for stopping and starting in winter conditions. Steer in a smooth and slow motion while taking curves, keep the vehicle moving at a constant speed and avoid over braking.

Ensure vehicle windows and windshield are not obstructed by snow, frost, condensation, mud, or anything else that may make driving the vehicle dangerous. Keep fuel levels full in the winter. In the event of an emergency driving time could increase or the engine may need to be kept on longer than anticipated to keep warm, if the vehicle becomes stranded on the highway.

If the driver becomes stranded off the highway and the vehicle is in a safe place, it is usually safer to stay in the vehicle. Run the engine just enough to stay warm. Keep the vehicle ventilated while the engine is running. Open a window to assist air circulation to prevent carbon monoxide poisoning. Carbon monoxide can get into the vehicle from a leaky exhaust system. Carbon monoxide is a poisonous gas that is colourless, odourless, tasteless and, therefore, very dangerous. Be sure the exhaust system is checked whenever the vehicle is brought in for servicing.

Winter emergency supplies to carry in the vehicle:

- Blankets and extra clothing
- Extra food and water
- Sand or road salt
- Shovel
- Heat source, candle, matches and a deep can to hold the candle
- Ice scraper and snow brush
- Tire chains
Road Conditions

Gravel, debris, poor visibility, valleys and hills all limit the speed at which the bus can be driven. When road conditions are poor due to bad weather, allow more time for the trip. Increase following distance, reduce speed and maintain a space cushion.

- **Wet road condition** - On wet roads tires may lose contact with the road surface. This is called hydroplaning. The loss of contact between the tire and road surface can cause the driver to lose control of the vehicle. If this happens, do not brake. Release pressure on the accelerator to allow the vehicle to slow. Re-direct the bus by looking and steering in the correct direction.

- **Ice and Snow** - When the temperature rises to the point where the snow begins to melt, roads can become very slippery. When the frost begins to come out of the ground, a thin layer of water is formed on the road surface. Do not use cruise control when the weather and road conditions are poor. When tires contact ice, the cruise control will continue to apply the accelerator and cause a loss in control.

Black ice is caused by moisture freezing on the road surface. Often a driver cannot see it. However, if the asphalt looks shiny and black instead of grey-white, be cautious, and reduce your speed without braking.

It is important to note that bridge decks and overpasses tend to form slippery patches more readily than other road surfaces. Use extra caution and try to avoid unnecessary lane or speed changes.

Gravel Surfaces

A driver may encounter various types of roads, including gravelled surfaces. Roads may not be paved if they are not used frequently. Loose fragments of rock (gravel) may be used to cover less travelled roads. Driving on gravel roads requires different skills than on paved roads, as they are narrower and fluid in nature. Loose fragments mean drivers should reduce speed and increase following distance (to 12 seconds) in order to maintain visibility from dust clouds created by vehicles ahead and to avoid rock chips from striking and damaging the bus. Slowing down also prevents churning up large amounts of loose gravel, which could become a hazard for other drivers.

Traction is also reduced when driving on loose surfaces because tires of the vehicle are rolling over another dynamic surface. To get a sense of how your vehicle will handle on a gravel road, accelerate slowly and gradually increase your speed. If the vehicle loses traction or starts to slip, slow down. When approaching turns or an area where you may need to stop (railway, intersection or hill) or a hazard, slow down the vehicle in advance.

In the event traction is lost, do not brake abruptly. This will cause the vehicle to skid. Ease off the accelerator then look and steer in the desired direction. Losing control of a vehicle is a frightening experience, try to stay calm and not over-steer. Once the vehicle has regained traction, gently and smoothly apply brakes as needed.
Changing weather conditions further add to the challenge of driving on gravelled roads. When mixed with moisture, the dust and dirt on the surface of gravel roads can become very slippery. Heavy rainfalls may make the ground extremely muddy and cause the vehicle to become stuck. The driver can step out of the bus to check the ground, if it is safe, in instances where the road condition is unknown. If the vehicle is stuck and has sunken down to the wheel axles, the drive wheels are deeply submerged in mud, or the vehicle is leaning to one side, seek assistance to recover the vehicle. Further attempts to drive the vehicle may lodge the vehicle deeper into the surface or worse, damage the vehicle.

Precautions when passing

Take extra care when passing on gravel roads. This manoeuvre should only be done when absolutely necessary. Several factors can increase risks of passing:

- Narrower road
- Soft shoulders
- Reduced visibility from dust and debris from vehicles ahead

Vehicles passing in the other direction may kick up gravel and dust. When oncoming vehicles approach, slow down and move the bus as far right as it is safe to do so. Once the vehicle has passed, gradually re-centre the bus and regain the appropriate speed.

Gravel Roads and Vehicle Maintenance

Frequently driving on gravel roads can take a toll on the vehicle. Dust and other foreign particles collect in the air filter and radiator, reducing airflow into the engine and causing it to overheat. Particles will also stick to vehicle components that require grease to function. Excessive buildup of particles can increase friction between two moving parts and cause them to overheat or wear down more easily. Ensure air filters are checked and changed frequently. Regular inspections for the bus are also a good preventative measure.

Driving on Grades

Driving Up Grades
Move to the right and maintain a safe speed. When shifting becomes necessary, shift one shift range at a time (manual transmission). Observe the engine temperature, oil pressure and air pressure more frequently when driving up hills to detect dragging, pulling and overheating. The Driver shall maintain a safe speed at all times. Never pass a vehicle on a downgrade or an upgrade on a two-lane highway.

Driving Down Grades
Before proceeding down a grade, check the system air pressure and cover the brake. Stay to the right while proceeding down the grade, maintaining a safe vehicle speed as required to control the bus without overheating the brakes or depleting the air pressure. When driving down
grades use low gears as the main method to control speed. Apply brakes moderately or intermittently on downgrades to prevent overheating them. A safe speed is one that allows the driver to stop the bus at any time if a hazard is encountered while descending the hill. Buses may be equipped with brake retarders (exhaust, engine or transmission) which assist in braking. Brake retarders may also be used when descending steep grades; however, drivers should not use brake retarders where prohibited or under poor weather or road conditions.

Snub Method Downhill Braking:

- Apply the brakes hard enough to feel a definite slowdown.
- When speed has dropped to 5 KPH below safe or posted speed, release the brakes
- When speed increases above the safe or posted speed, repeat the first two (2) steps

Stopping and Parking on Hills

- Check for following traffic using side mirrors and signal to pull over to the curb or edge of the road
- Downshift, if necessary, to reduce speed in preparation to stop
- Apply brakes lightly at first and then apply firm, even pressure for a smooth stop
- When nearing a stop:
  - Manual Transmission-Depress the clutch and when stopped, shift to low gear (when parking up hill) or reverse gear (when parking downhill)
  - Automatic transmission- Shift into neutral gear
- Allow extra room between vehicles for safety
- Turn wheels into the curb on a downgrade; away from curb on an upgrade. Ensure front tire makes gentle contact with the curb. If no curb, always turn the wheel to the right on either up or down hill grades. The laws require the wheels of a parked vehicle be no more than 50cm from the curb
- Set the park brake and turn off the ignition
- Remove keys

Starting on a Hill

Manual Transmission:

Starting on an upgrade in a bus on a steeper hill with manual transmission can be difficult even for the most experienced operators, particularly in areas with heavy traffic. On less steep grades and with considerable experience, it may be possible to use the normal starting procedure.

The recommended procedure for starting on a hill:

- When stopped on a hill the parking brake should already be engaged
- Depress the clutch and shift into the appropriate gear
- Release the clutch slowly to the friction point while gradually depressing the accelerator
- Release the parking brake as the clutch begins to grab, depressing the accelerator as necessary, and finally, removing your foot from the clutch. With practice this will become a smooth single action.

Automatic Transmission:
- Place the bus in gear
- Push down on the accelerator a little until the bus pulls a bit
- Gently release the park brake (engage park brake again if the bus begins to rollback)
- Use accelerator to find the right level of control
- Signal, check mirrors and shoulder check to ensure the roadway is clear
- Smoothly push down on the accelerator and pull away

**Driving on Mountain Terrain**
Driving through mountains requires attention and ability to adapt to changing conditions—both in terms of weather and terrain. Mountainous roads may fluctuate with both up and down grades; be familiar with the ‘Driving on Grades’ section above.

Steep hill warning signs may indicate the steepness of a hill as a percentage, the larger the percent the steeper the grade. Drive in a low gear that is appropriate for the grade and use the vehicle’s retarding device on steep down hills to prevent brake failure due to overuse. Do not use retarding device during adverse weather. Runaway lanes or arrestor beds are an emergency lane beside the main roadway used to slow down or stop vehicles if brake failure occurs. These lanes are marked by signs.

**Traffic Conditions**
Traffic condition refers to the other vehicles on the road, their general flow, distribution, and speeds. Drivers should be aware of the actions of those other drivers and their vehicles, planning ahead to ensure that they are not placing themselves at risk of a collision.

**Vehicle Conditions**
Vehicle conditions such as wear, tear, and pre-existing damage, can lead to equipment failure and collisions. Professional drivers must ensure that major defects are addressed prior to operating the vehicle on a public roadway. Examples of poor vehicle conditions are:
- Tire condition—bald tires or bad tires (abrasions, bulges, cracks, proper inflation) blowing out
- Defective brakes,
- Poor steering

**Driver Conditions**
Driving requires both mental and physical sharpness. Drivers should be alert and be aware of the onset of fatigue that could cause them to fall asleep behind the wheel.
Mental well-being affects the conditions and quality of our work. In driving terms, this can be roughly broken into two generalized categories, as evaluated by collision research:

Recognition errors such as:

- Distraction (psychological, environmental, situational)
- General inattention
- Improper lookout (fixation)

Decision errors, such as:

- Speed
- Risk taking
- Failing to obey traffic control indicators

Both of these forms of error arise due to the mental or physical conditions of the driver. Recognition errors arise typically from some situation which the driver is not fully conscious of, or does not take sufficiently seriously, while decision errors arise due to conscious factors which the driver does not consider significant. Some forms of errors have elements of both categories, as in the case of texting while driving which is conscious decision which results in a distracted state that the driver does not acknowledge.

Recognition errors:

There are numerous issues which can present any individual with a circumstance that will prevent them from being able to operate a vehicle at their optimum capability. These may be on-going, such as health problems, money issues or family issues, or immediate ones, such as distractions to your attention or time pressure.

Any of these may create a state of mind which takes the driver's attention from the primary task of driving and create a situation in which an incident or collision becomes more likely.

Decision errors:

As mentioned, decision errors may arise from unrecognized circumstances that affect the driver's behavior, but many are actually within ability of the driver to observe and correct at will. Failing to stop fully at a stop sign or red light may appear on the surface to be a small concern, but in fact creates a brief moment in which the driver has not taken sufficient time to observe the entire situation, and may miss crucial information, such as the existence of a small animal or child, or a vehicle not behaving as expected. This can easily lead to very serious consequences. Worrying over being late frequently creates unconscious stresses in the mind of a driver which lead to poor decision making such as speeding or clearing intersections too late. Laws and rules of defensive driving are established based upon the principle of making driving, which is inherently a dangerous activity, as safe as possible given the circumstances and decision errors are invariably a violation of law or good practice that increases the chances for collision. These factors all increase the potential likelihood of an individual being involved in a collision.
• Impaired Driving

  o Drugs (prescribed and non-prescribed, legal and illegal)
    ▪ Driving under the influence of any drugs can affect drivers’ ability to function at their best. Drivers can identify any potential side effects of prescribed medication by asking their doctor or pharmacist
    ▪ Over the counter medication requires the same attention. A pharmacist is a great source for information on side effects, especially if this is combined with prescribed medication.

  o Alcohol
    ▪ Alcohol in any amounts will affect a person’s ability to drive. Alcohol depresses the central nervous system to slow down brain activity. Motor skills, vision and short-term memory are also impaired by the consumption of alcohol. Many employers in Canada forbid employees from driving within 12 hours of consuming any alcohol.

Impaired driving is a transportation-related offence under the *Criminal Code of Canada*. Penalties for impaired driving as outlined by the federal government can include license suspension, fines, jail time, and participation in an ignition interlock program. Provinces, including Alberta, have sanctions that apply to impaired driving in addition to the criminal penalties imposed by the courts.

There are four impaired driving sanction programs in Alberta, designed to immediately remove impaired drivers from the road and deter impaired driving. Three of the sanctions that apply to commercial drivers are:

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<th>Sanction</th>
<th>Offence</th>
<th>Penalty</th>
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<tr>
<td><strong>Alberta Administrative Licence Suspension (AALS) program</strong></td>
<td>- Drivers with a blood alcohol concentration of over .08 percent,</td>
<td>- Immediate fixed term driving suspension</td>
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<td>- A blood drug concentration over 2 nanograms of THC per millilitre of blood,</td>
<td>- Subject to remedial education courses and vehicle seizure</td>
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<td>- A combination of 50 milligrams of alcohol per 100 millilitre of blood &amp; 2.5 nanograms or more of THC per one millilitre of blood, or</td>
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<td>- Refusal or failure to provide a breath or fluid sample</td>
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<td><strong>Immediate Roadside Sanction (IRS) program</strong></td>
<td>- drivers with a blood alcohol concentration of .05 to .08 percent</td>
<td>Penalties vary depending on the number of times the driver has committed the offence; they include:</td>
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<td>- Driver license suspension and vehicle seizure for 1st, 2nd and 3rd offence. Lengths</td>
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of licence suspensions increase from the 1st to 3rd offence.
- Completion of a remedial education course “Planning Ahead” for the 2nd offence, and
- Completion of remedial education course “IMPACT” for the 3rd offence

24-hour Suspension program
- Drivers that are suspected of being impaired by alcohol, drugs or a physical or medical condition. This program allows peace officers who may not be authorized to conduct an impaired driving investigation to remove suspected impaired drivers from the road immediately, as well as drivers suspected of being impaired by fatigue or other physical conditions.
- Immediate 24-hour licence suspension
Note: Drivers that receive a 24-hour suspension for medical reasons may have their file reviewed by Alberta Transportation’s Driver Fitness and Monitoring to determine their fitness to drive.

For detailed information on Alberta’s impaired driving sanction programs please visit: http://www.transportation.alberta.ca/impaireddriving.htm

- Fatigue

Driver fatigue is a critical safety issue that affects the transportation industry and increases the risk of collisions, which in turn impacts the safety of the motoring public. Fatigue impacts driver attention and alertness and, as a result, increases instances of human error. It is estimated that 20 percent of fatal collisions can be linked to driver fatigue as a contributing factor (Canadian Council of Motor Transport Administrators, 2010).

Driving while exhausted can be hazardous. Drowsy driving is as dangerous as impaired driving because it slows a driver’s reaction time, decreases awareness and can impair judgment like alcohol and/or drugs. Lack of sleep is one of the most common causes of drowsy driving. Other contributing factors include driving alone, driving long distances without rest breaks and driving through the night, or at times when the driver normally sleeps. Taking medication that increases sleepiness or drinking alcohol also contributes to driver fatigue.
It is important that drivers learn to recognize when any or all of the conditions listed below are adversely affecting their driving behaviour or ability. This means not driving until after the condition has improved.

Drivers can take a ‘Pre-Trip Mental Inventory’ before they drive:

- Am I fully rested?
- Free from alcohol or other drugs?
- Feeling healthy?
- Am I able to concentrate on driving?
- Is my attitude courteous, careful and considerate?

**Warning signs of driver fatigue**

- Yawning;
- Inability to keep eyes focused and head up;
- Having wandering, disconnected thoughts;
- Driving the past few kilometres without remembering them;
- Drifting between lanes, tailgating or missing traffic signs; and
- Noticing a vehicle in the rear-view mirror that seemed to appear out of nowhere.

**How to reduce driver fatigue**

The following actions will help prevent driver fatigue:

- Stop in a safe location if you become sleepy while on the road.
- Get plenty of sleep the night before a long trip.
- Avoid working all day and then driving all night. Stay overnight rather than driving straight through.
- Schedule a break every two hours or every 160 km. Stretch or take a walk to get some fresh air.
- Take a mid-afternoon break. Have a 20-40-minute nap.
- Travel with an awake and alert passenger. Having someone to chat with will keep the driver awake and the passenger can also let the driver know if he/she is showing any signs of fatigue.

**Managing Emotions and Distractions**

Aggression management is emotion and reaction management. Like any skill, it comes easier to some individuals than others. What other people do is not something you can control but your response and behaviour is. There are a number of anger-management strategies – counting to three; taking a deep breath – but you will have to decide what works for you in any given situation. Your conduct reflects not just on you but on your colleagues, and the company you work for.

Of the many concerns arising from the human factor, one of the key concerns is their emotional content or the effect of outside circumstances on our emotional state. Negative emotional
states invariably result in a narrowing of focus and attention that makes a driver less prepared to cope well with the task of driving. A useful method of dealing with emotional situations as they arise is to cultivate the **Stop, Drop and Process** technique (or SDP).

This is a method that can be cultivated to help better manage emotions when the going gets rough. When emotions run high a person may feel 'hijacked' by emotions, and no longer feel calm and collected. Practicing SDP is especially important if the driver is worried that emotions may lead to regretful or uncertain actions. With repeated practice, SDP can become a healthy habit for dealing with emotionally challenging situations. Sometimes these situations arise unexpectedly while driving. **Remember, it is never a mistake to pull over in a safe location to deal with a difficult situation and proceed only when emotions have calmed.**

**Methods to Ensure Alertness**

**STOP – Stop and think before you act**

If you are in a situation where your emotions are building to a point where you may have trouble maintaining control, stop! Sometimes, when we are in a highly emotional state, we act automatically, without considering the consequences or the best way to approach the situation.

Learn how to identify the signs that you may be getting to this point:

- Take note of the physical feelings and thoughts that are associated with this emotional state, such as tension in the jaw, neck or face
- When these sensations or thoughts arise, these become cues to stop and become conscious of your emotions and consider your response more carefully.

**DROP – Reduce the intensity of your emotions**

When we’re in an extremely emotional state, it becomes very difficult to think clearly and rationally. The body’s ‘fight-or-flight’ response is triggered (i.e. we want to act quickly to resolve the situation or run away from it) and neither response is likely to be appropriate or effective for dealing with situations on the road. Before you begin to think through a situation, you need to calm down and reduce the emotional intensity. There are many ways to do this:

- Engage in a repetitive action (e.g. counting and deep breaths). Any repetitive action can help you focus and calm your attention;
- Think about something that triggers a positive feeling; and
- Breathe deeply. Concentrate on your abdomen and breathe in through your nose while counting to five, hold it briefly and breathe out for a five count, focusing on the feelings of the air and tension leaving your body. Repeat for a few minutes.

Now you are ready to more rationally consider the situation and your response.
PROCESS – think about it

- Sometimes the surface emotions are masking deeper reactions that are more difficult to identify, but which are important to the situation and understanding your reaction;
- Identify the source of these feelings: Why are you feeling the way you are? What underlying issue may need to be addressed? You can increase your emotional awareness by going ‘inside’;
- Once the feelings are under control, decide the best way to proceed, given your ultimate goals and your values.

Drivers who work through the Stop, Drop and Process steps, will be better prepared to find a healthy and effective way to deal with the challenges they face on the road.

Distracted Driving

Being alert and free of distractions is important in preventing collisions. Effective January 1, 2016 the penalty for distracted driving in Alberta is a $287 fine and three demerit points. The distracted driving law apply to all vehicles as defined in the Traffic Safety Act and distractions are not limited to the use of cellular phones, but include activities such as:

- Reading printed materials;
- Writing, printing or sketching;
- Personal grooming (brushing teeth, flossing, putting on makeup, shaving); and
- Using electronic devices such as cellular phones, laptop computers, cameras, video entertainment displays and programing portable audio players (e.g. MP3 players)

The use of two-way radios or hand-held radios (Citizen’s Band radios) is permitted for commercial drivers to contact their employer and in emergency management situations. GPS navigation units can also be displayed, but the unit must be affixed to the vehicle and programmed before you begin driving or the system is voice activated. Commercial drivers are also permitted to have the following screen displayed:

- A gauge, instrument, device, or system that provides information about the vehicle’s systems or location; or
- A dispatch system for transporting passengers.

Distracted Driving Legislation in Alberta:
http://www.transportation.alberta.ca/DistractedDriving.htm

Basic Collision Prevention Formula

Collisions can be avoided when drivers practice a few simple steps.

1. Recognize the hazard
2. Understand the defense
3. Act in time

Most people continually go through the mental process of practicing the ‘Basic Collision Prevention Formula’ subconsciously while driving. However, there is a tendency for minds to wander and daydream; thus the process stops. By practicing the formula, the mind will stay focused longer and the driver will have developed an important tool for maintaining mental alertness. Virtually every driving situation has potential hazards and in order to protect against them, it is not enough for drivers to just know what they are doing. They must also be aware of what is developing around them. The actions of others, the condition of the road, parked cars, visibility, etc., are all part of that process.

Far too often we are lulled into a state of relaxed well-being when we drive thus our attention wanders. In this state we can easily miss the detection of a hazard. When this happens, an easily avoided problem can rapidly become a full-blown emergency.

It is important that drivers remain alert and consciously search for hazards as they drive. If hazard detection is consciously practiced, drivers will soon develop the habit of detecting hazards.

**Zone of Awareness**

Many drivers are content to limit their awareness to the things they can observe by looking through the windshield, with an occasional glance in their mirrors. A defensive driver, however, realizes a hazard can develop from any angle and that zone of awareness must include a full 360˚ circle around the vehicle as well as above and below the vehicle.

While most hazards will appear from the front, rear or side of the vehicle, many drivers have lost control by not being aware of the road condition under their bus. Similarly, drivers have lost the tops of their campers, buses or trailers in parkades or underpasses by not paying attention to hazards above the vehicle. Overhanging eaves, wires or tree limbs may also be a collision point if the driver is unaware.

Remember, the earlier a potential hazard is detected, the more time you have to avoid any problem that develops. Therefore, your zone of awareness should be as wide as possible for the circumstances.

Our zone of awareness contains clues to detect any potential hazards. We can detect these through the use of our senses.
Hearing

The sound of car horns, train whistles, children playing and the sound of other vehicles are all examples of messages we receive through hearing and are indicators of potential hazards. Listening to the sound of your own vehicle can help you identify maintenance problems that can lead to a collision if left unattended.

To gain the greatest advantage of hearing as a hazard identifier, the driver must not be distracted with excessively loud noise from the stereo. Other in-vehicle noises should also be kept at a low level.

Feel

As we drive, our bodies are in contact with various parts of the vehicle, our hands on the steering wheel, our bodies in the seat and our feet on the pedals. The vibrations caused as the wheels roll over the road surface are transmitted through the vehicle to our bodies. These vibrations can tell us much about the road surface and how our vehicle is ‘holding’ the road.

Smell

Smell may give the driver early indication of a possible problem with their vehicle such as the smell of hot oil, rubber, or anti-freeze. Early detection of a vehicle problem allows the driver more time to find a safe location to park and have the problem dealt with. The signals tend to be more subtle and the driver must learn to be more sensitive to these cues.

Vision

Good vision and good visual habits are essential to safe and defensive driving. Vision can change so gradually that it is easy to be unaware of a vision problem until it is too late. Make it a practice to have an eye examination on a regular basis. There are two interesting facts related to vision that you should be aware of:

- **Speed**
  
  As speed of travel increases, there is a corresponding reduction in peripheral vision. At a standstill, most people, while looking straight ahead, can still see objects appearing to the side without shifting their gaze. This gives us a range of vision covering approximately 180 degrees.

  At highway speeds, this range of vision is reduced so the effect becomes somewhat like driving through a tunnel where drivers can see straight ahead but peripheral vision is limited.

- **Steering**

  We tend to steer toward whatever we look at. We use this tendency to help us drive around curves by focusing our gaze well ahead in the direction we wish to go. If, however, we were to focus our attention on an off-road object ahead, we would find ourselves gradually turning toward that object and if we did not react in time we would
drive off the road. For this reason, it is important to keep our eyes moving, scanning the ‘Big Picture’.

**Developing Good Visual Habits**

Continuously scanning our surroundings on and off the road leads to good visual habits. Specifically:

- Focus farther ahead as speed increases
- In an urban area, view the road ahead one full block
- Focus farther down in rural areas than in urban areas
- Gaze should be approximately 12 seconds ahead of the present position
- Scan 360° and shift the gaze continuously; this includes checking dashboard gauges, seeing if any warning lights have come on, and scanning all mirrors
- Check mirrors every five to ten seconds
- At night when meeting oncoming vehicles with bright headlights or headlights on high beam, drivers should shift their gaze well ahead and to the right edge of the road
- Use the glare reducing setting on your rear-view mirror, if available
- Keep vehicle windows clean to reduce glare
- Maintain an unobstructed view
- Vegetation, buildings, trees, parked vehicles or any roadside obstruction that obscures vision should be treated as a hazard potentially requiring you to stop to assess the situation if necessary, before proceeding
- Be aware that other vehicles in the adjacent lane may obscure your vision
- Pay attention to traffic ahead possibly stopping for a left turn or a pedestrian
- Remember that urban driving demands a greater need for attention due to greater concentration of traffic. Traffic controls, congestion and pedestrian traffic on urban roads makes driving more difficult

**Blind Spots**

Driving in other drivers’ blind spots should create an uneasy feeling! Virtually all vehicles have blind areas—even motorcycles. (Motorcyclists are sometimes limited in how far they can turn their head to look behind them.) Yet, some drivers habitually change lanes without checking their blind spots for other vehicles. It’s a good idea to adjust position of the bus relative to other traffic to stay out of another driver’s blind spot whenever possible.

Where are blind spots? That depends on the vehicle. A car typically has blind spots at the sides near the rear of the vehicle, meaning the driver cannot see anything in these areas by looking in correctly-adjusted mirrors.
Due to the size of bicycles and motorcycles, they can easily be hidden in your vehicle's blind spots and are even quite difficult to spot in a wide-angle mirror. They are far too often only seen at the last moment. Extra caution needs to be taken around bicycles and motorcycles. There are large blind spots both behind and to the side of large vehicles. The "right turn squeeze" could occur if a motorcycle or bicycle rider is positioned between a large vehicle that is turning right and the curb. In this position, the driver of the large vehicle may not see the cyclist.

Drivers may also be unable to see objects that are directly behind, directly in front, or directly beside the bus; these are called Blind Areas. Vehicles in which the driver sits very high may not be able to see anything low to the ground in front or to the sides near the front of their vehicle.

**Detecting and Interpreting Clues**

**Parked Vehicles**

Driving beside parked vehicles is potentially hazardous because the visibility is partially obstructed. Hazards often appear when there is little time or space for evasive action. Three key sources of hazards are:

1. The space between parked vehicles through which pedestrians and animals may suddenly dart into the street;
2. The parked vehicle may suddenly pull out into your path without warning; and
3. Occupants of parked vehicles may open their doors without looking first. Positioning our vehicle at least 1½ metres out from a parked vehicle will place it beyond the arc of a door should it suddenly be opened.

Usually there are clues from parked vehicles of impending entry into the lane of traffic:

- Exhaust fumes will indicate the engine is running and that vehicle is potentially ready to go
- Back-up and brake lights may indicate that a parked vehicle is preparing to enter traffic
- Front wheels pointing toward traffic may indicate the vehicle is ready to leave the space or manoeuvring in preparation to leave
- A person behind the steering wheel may indicate a vehicle ready to leave a parking space

**Collision Avoidance**

**Commentary Driving**

One of the best methods of hazard detection is to practice ‘commentary driving’. Commentary driving is a technique where the driver actually verbalizes (talks about) their main observations and interpretations of the events developing around and ahead of their vehicle. With regular practice, ‘real observation’ will become habit and you will not find it necessary to speak out loud. Silent but ‘active’ observation is just as effective for collision avoidance.

An example of commentary driving:
“Traffic light is stale green; oncoming car signaling left; walk light just flashed off; pedestrian crossing “. Commentary driving is extremely useful when practiced because:

- It creates an awareness of the vast number of things a driver should be watching for and thinking about
- It assists in the development of good visual skills and helps the driver resist common distractions
- If done aloud with an instructor, it helps the instructor evaluate progress and instructor effectiveness. It also shows the instructor where the driver’s attention is focused and how far ahead the driver is looking

Commentary driving can be used with the Steps for Avoiding Hazards, as mentioned earlier: Identify the hazard, predict what may happen, decide on a course of action and execute the action plan.

An example of a commentary drive is outlined below:

**Identify:**

“Speed is 50 km/h, cars are parked on both sides of the street, no other vehicle traffic is in sight front or rear, there are no side streets, children are playing ball one half block ahead on the right and road conditions are good.”

**Predict:**

“Child could run out onto road from behind parked cars.”

**Decide:**

“If the child runs out from the right, sound horn, apply brake.”

**Execute:**

“Reducing speed now, preparing to brake if necessary.”

This example is fairly simple. Imagine how this situation would have been complicated if there were oncoming traffic and a car behind you was tailgating and attempting to pass. Practicing this approach will better prepare you when a real emergency arises.

**Two-Vehicle Collisions**

Up to this point, hazard detection and how to minimize them have been discussed. The next section discusses how to avoid the two vehicle collision, as it is usually the most serious of all collisions.

**Positioning of the Vehicles Before the Collisions Occurs**

There are only six positions that another vehicle can take in relation to yours prior to a collision. The six positions are:
1. Vehicle ahead
2. Vehicle behind
3. Oncoming vehicle
4. Vehicle approaching intersection or at an angle
5. Another vehicle passing you
6. You pass another vehicle

By studying these six positions, learning the hazards associated with each and the defenses against them, most two vehicle collisions can be avoided. This section will study the different types of collisions as well as the mystery crash, and run-off-the road collisions.

**Collisions with the Vehicle Ahead**

Why do collisions with the vehicle ahead occur?
There could be a variety of reasons; however, they generally boil down to ‘following too close’. When driving a larger vehicle, such as a school bus, it will take longer to bring the vehicle to a full stop than it will be for a smaller, lighter vehicle. Being a good ‘follower’ is one of those key attributes that separates a professional driver from the average driver.

In order to defend against this type of collision stay alert, and keep a safe following distance.

For cars and smaller vehicles, the two second rule can apply. However, larger vehicles, such as buses, should not be closer than four seconds to the vehicle ahead.

The four second rule works as follows:
- Watch the vehicle ahead pass a stationary object (such as a power pole)
- Count:
  - One-thousand-and-one
  - One-thousand-and-two
  - One-thousand-and-three
  - One-thousand-and-four
- If the bus passes the same object before the driver stops counting, the following distance is too close. Slow down a bit to increase following distance
- Repeat the count process until the bus is at least four seconds behind the vehicle ahead

There are times when the following distance should be increased to more than four seconds, such as driving behind:
- Oversize vehicles that obscure the driver’s vision;
- Dangerous goods carriers;
- Vehicles that stop frequently, such as delivery trucks;
- Vans, other school buses, etc.;
- Two-wheeled vehicles such as motorcycles or bicycles
- Vehicles being driven erratically
- Emergency vehicles
Also increase following distance to more than four seconds in poor road conditions and under conditions that reduce visibility such as fog, snow and smoke. Also leave more space in areas where traffic intersects, merges, or diverges.

Few drivers are fully aware of the total stopping distance or time it takes to bring a vehicle to a full stop. Consequently, they make errors in their decisions which, in turn, may result in a collision with the vehicle ahead. Many drivers following too close can result in a “domino” effect crash involving a large number of vehicles.

**Collision with the Vehicle Behind**
Tailgaters can create hazardous situations. Be aware of any vehicle following too close and allow or encourage them to pass if possible. If the bus is already driving at the maximum posted speed limit, slow down a little to see if the tailgater will pass. If the tailgater stays behind, increase the following distance from the vehicle. This will give the driver more time to react to sudden, unexpected situations.

**Collision with a vehicle on the side**
Driving a larger vehicle, means there is less space on each side of the vehicle. The length of the vehicle and the close proximity of the vehicle to the vehicle in the adjacent lane may increase the chance of being struck if a vehicle suddenly changes lanes or drifts out of their lane on a turn. Manage space around the bus by keeping it centred in the lane. Avoid traveling in dense traffic; find an open spot to drive whenever possible. When an open spot is not available, stay aware of the traffic around the bus and avoid driving in other vehicles’ blind spots.

**Collision with an Oncoming Vehicle**
One of the first rules of the road we learn is that you are expected to drive on the right side of the road. There are times, such as passing another vehicle, when it is permissible to venture to the left side. But these are specific instances only. If everyone carefully followed this rule of staying to the right, there would not be any head-on collisions.

Circumstances do arise in which vehicles cross the centre line into oncoming traffic. Some of these circumstances are driver caused, but some are not. Being consciously aware of the reasons why a driver would venture into the wrong lane makes it more likely for a driver to be able to anticipate and avoid a potential head-on collision.

Other than when passing another vehicle, there are four reasons a driver could be on the wrong side of the road:

A. *A problem in their lane.* Trouble in a driver’s own lane such as a construction barrier, animal, pedestrian or bicycle may cause a driver to swing left in order to avoid the problem.

B. *Faulty driving manoeuvres.* Through an error in judgment. For example: making a wide right turn (which may be necessary for larger vehicles), or misjudging the distance required to
pass a vehicle. Vehicles with extended wheel base may take additional space needed to complete a turn on the street being entered.

C. Centrifugal force on curves. Centrifugal force acts on a vehicle by trying to keep it going in a straight line when negotiating a curve. If the driver on the inside of the curve allows centrifugal force to push their vehicle across the centre line, a sideswipe or head-on collision could result.

D. Loss of Control. Drivers can lose control of their vehicles for many reasons, including:
- Tight wheel dropping off pavement edge and the driver overcompensates in making the recovery;
- Loss of visibility, centre line obscured or worn away;
- Falling asleep at the wheel, drug or alcohol impairment;
- Tire blowout, skidding on a slippery surface;
- Poor road conditions, potholes; or
- Poor judgment

Avoiding a head-on collision

Read the Road Ahead
Be aware of oncoming traffic and try to anticipate what problems the oncoming driver may encounter causing that vehicle to cross the centre line.

Ride to the Right
Do not crowd the centre line. Leave plenty of room. If there are two lanes available going in the same direction, use the right lane as a matter of preference. In urban areas, the right lane generally moves quicker because vehicles turning right normally cause less delay than those turning left.

Reduce Speed
When there is a potential threat of an oncoming vehicle crossing the centre line, slow down immediately. If necessary, sound your horn and flash your lights to let the oncoming vehicle know you are there. By quickly slowing down the oncoming vehicle may have extra time it needs to get back into the proper lane and avoid a collision.

Ride Right off the Road
If the above first three steps do not prevent the oncoming vehicle from approaching the bus head on– to ride off the road to the right. This option will, in almost all cases, be better than a head-on collision. If a collision is unavoidable, try to hit the object or vehicle at an angle rather than head-on to lessen the impact. Never try to out-guess the other driver by pulling to the left.

Intersection or Angle Collision
About one-half of all two-vehicle collisions occur at intersections. This is largely due to the traffic conflict that exists at intersections, both vehicular and pedestrian. Be prepared for the unexpected.
Intersection hazards include:
- Stale green lights that have been visible for a block or two may change suddenly to yellow; Also watch for pedestrian signals that have changed to ‘wait’ as an indication of a green light about to change to yellow;
- Vehicles in the left lane waiting behind vehicles that are waiting to turn left may become impatient and without warning or signal, swing over into the right lane to get by;
- Vehicles that are sitting at a green light rather than continuing on may be waiting for other vehicles or pedestrians to clear; or
- Drivers making turns may signal and move into the intersection and then stop unexpectedly even when no traffic or pedestrians are blocking their path.

Collision Caused by Another Vehicle Passing You
As a bus driver, you quickly become aware that most motorists would rather drive in front of you than behind you and some of those drivers will take unnecessary risks such as:
- Tailgating – staying too close behind your vehicle and darting out to make a pass with limited visibility
- Following the leader – a series of vehicles passing you at the same time, even though the second and subsequent vehicles have extremely limited visibility

There is the potential here for three types of collisions:
- The sideswipe
- The cut-off
- Being run off the road

As a defensive driver, you can do much to alleviate the potential hazards and make it easier for other vehicles to pass.

If the pass appears to be safe, without creating a hazard:
- Maintain your lane position, either in the centre of the lane or slightly to the right to allow the passing vehicle extra clearance
- Maintain or reduce your speed, avoid a tendency to accelerate

If the passing vehicle cuts in too quickly after the pass, slow down to ensure a safe following distance. Depending upon the situation, braking may even be necessary. If the passing vehicle attempts to abort the pass and attempts to get back in line behind you, you may need to accelerate quickly to allow them to pull back into the lane safely.

Section 23 (b) of the Use of Highway and Rules of the Road Regulation under the Traffic Safety Act states the following:
Notwithstanding anything in this Regulation, a person driving a vehicle shall not drive the vehicle so as to overtake and pass or attempt to pass another vehicle (b) by driving in a parking lane.

**Note**: In the above definition “parking lane” means the shoulder of a provincial highway to the right of the solid white line.

Collision Caused By You Passing Another Vehicle:
Think about passing before you do it. Every time you find yourself in a position to pass you must ask yourself:

- What will I gain by passing?
- Is it worth the risk?
- Is the pass necessary?
- Will I have to exceed the speed limit to pass?

By consciously asking yourself these questions before you pass, you may find, in most cases, you do not have to pass after all. There is nothing wrong with passing another vehicle, so long as it is done where and when it is safe to do so and can be completed without exceeding the speed limit. Also note, passing also tends to increase fuel consumption significantly.

**Note**: It is always illegal for a school bus, whether loaded or empty to travel at a speed greater than 90 km/h or the posted speed limit whichever is less.

Passing is a voluntary act. Keep in mind risks of passing and consider if it is absolutely necessary. Treat passing a stalled vehicle the same as passing a moving one. When approaching a stalled vehicle from behind, look for any sign that the vehicle may move or discharge passengers. Before passing, check clearance and determine if it is safe to change lanes, accelerate, and signal to warn traffic behind of your intent to pass. If changing lanes is not possible, slow down and keep the brake covered, while carefully watching for any movement such as wheels turning out, lights coming on or exhaust coming out of the vehicle. After passing the danger, center the bus back in the lane or pull back into the original lane.

When passing moving vehicles, choose a safe place to pass (poor visibility and the possibility of conflict with other vehicles are the main considerations). Always wait until the pass can be made safely. Canada Safety Council advocates following the below procedure when attempting to pass:

Check oncoming traffic and use both mirrors to check the traffic behind the bus. Check ahead to decide if you have the time and distance you need to move to the left lane and back into the right lane. Check behind to determine whether another vehicle is attempting to pass you as you attempt to pass the vehicle ahead.
Maintain a safe following distance when attempting to pass. The closer you get to the vehicle ahead, the less you can see. Tailgating, in order to pass, cuts down on visibility and the lead vehicle may suddenly slow down or stop leaving you in danger of being involved in a collision with the ‘vehicle ahead’.

When you determine that it is safe to pass, accelerate to an adequate speed to ensure a safe pass is possible. If conditions change, you can still change your mind at this point.

Use your signal lights to warn traffic behind of your intent to pass. An attentive driver in front of you will also see your signal and be alerted to your intent to pass. Check your left mirror and shoulder check to the left.

**Space management**
Drivers should make conscious effort to make sure there is enough clearance overhead at all times. A major cause of damage is hitting overhead objects. Drivers should watch out for low-hanging wires, signs etc. It is important for you as a driver to know the height of the bus you are driving. Slow down and drive carefully when you are not sure about the clearance. Turn on hazard lights to warn other drivers that you are slowing down. While height of bridges or overpasses are often posted, clearance may be reduced when the road is repaved or there is snow pack.

**Speed Management**
Speed management is a major responsibility of a professional driver. It is the responsibility of the driver to know the speed limit of the roadway and for the driver to adjust the speed of the vehicle according to the amount of traffic, mechanical condition of the vehicle, prevailing atmospheric condition, nature and use of the road. A driver’s ability to steer safely around curves or objects in the roadways can be reduced by speeding. In addition to the inability to have proper control of the vehicle, speeding also extends the distance necessary to slow down or stop a vehicle in the event of dangerous situation. The faster the speed, the less time there is to react situations around you.

**Consequences of Speeding**
Speeding is when are driving beyond the posted speed limit. The consequences of speeding include one or more of the following:
- Fines and penalties such as speeding tickets
- Demerit points – these are recorded against a driver’s driving record.
  - 6 demerit points are given to drivers speeding – exceeding limit by at least 51 km/h
  - 4 demerit points are given to drivers speeding – exceeding limit by 31 to 51 km/h
  - 3 demerit points are given to drivers speeding – exceeding limit by 16 to 30 km/h
  - 2 demerit points are given to drivers speeding – exceeding limit to maximum of 15 km/h
• Licence suspension
• Mandatory Court appearance - Drivers travelling at more than 50 km/h speed are subject to a mandatory court appearance where a judge can impose penalties such as a fine or licence suspension. Anyone convicted of speeding more than 50 km/h over the posted speed limit will face a maximum fine of $2,000 or imprisonment for not more than 6 months or both and up to 90 days driver’s licence suspension.

Animals
To reduce the chance of a collision with an animal, do the following:
• Reduce your speed, look well ahead, and use caution in areas with wildlife warning signs
• Scan the sides of the road for animals
• Be careful at dusk and dawn since animals tend to be more active at these times
• When driving through wooded, rural or mountainous areas be especially careful of animals during the spring and fall when animals are most active. During the winter animals may roam on highways to lick salt off roads
• Watch for sudden, unusual spots of light on or near the road at night. This may be the reflection of your headlights from an animal’s eye, but be aware that moose eyes do not reflect lights
• Flashing lights and honking a horn may divert a deer from crossing the road, but it will not have the same effect on a moose
• Animals sometimes move in groups. If you see one animal, there may be more
• If you encounter an animal, brake firmly and don’t swerve to avoid it.

Road Rage
As motorists, we have almost all found ourselves in unpleasant situations involving abusive gestures or language from another driver who takes issue with how we drive. Anxiety and frustration can quickly provoke an aggressive or careless driver, who tailgates, speeds, fails to yield the right of way among other behaviours.

Aggressive driving behaviour may lead to incidents of road rage where motorists have been threatened and/or subject to retaliatory actions by angry motorists. If people drive responsibly, they will reduce the chances of conflict on the road and help make our roads safer.

Experts recommend the following tips for drivers to help avoid road rage conflicts:
1. Plan your route in advance. Some of the most erratic and inconsiderate driving occurs when motorists are lost.
2. Make a conscious decision not to take your problems with you when driving.
3. Combat the warning signs of stress by getting fresh air and breathing deeply and slowly.
4. Avoid heavy meals which tend to make a person drowsy.
5. Drive in a courteous and considerate manner. Give way at busy intersections and where traffic lanes merge.
6. Do not compete or retaliate. If someone’s driving annoys you, do not try to ‘educate them’. Leave traffic enforcement to the police.
7. Do not take other driver’s mistakes personally.
8. Avoid honking your horn unless absolutely necessary and, if you must, tap it lightly.
10. If you are being physically threatened, stay in the bus and secure the doors. If you have a cell phone, call the police or use the company’s two-way radio to have the police come. Use your horn and lights to attract attention.
11. If you think you are being followed, drive to a police station, bus yard or school.

**Fuelling**
The three common types of fuel that buses use are gas, diesel, and propane. Remember that each of these has to be handled with care and safety. As a bus driver, it is up to you to make sure that you understand your local policies and procedures for fueling.

**Gasoline/Diesel**
- Never fuel the bus with passengers onboard
- Do not dispense fuel into the fuel tank while the engine is running
- Do not repeatedly enter and exit the vehicle while fueling. Doing so can cause static build-up that can cause a static spark to occur when handling fuel nozzle
- Never overfill the fuel tank
- In the event of a major or minor fuel spill, notify the attendant to get it cleaned up immediately using an approved absorbent material; and
- Do not dispense fuel in close proximity to electrical sparks or open flame and **DO NOT SMOKE.**

**Propane**
Ensure that:
- Only personnel with proper certification or training refuel a propane powered school bus
- There are no ignition sources within three metres (10 feet) of the dispenser or container being filled
- Protective gloves and proper clothing are being worn (i.e. long-sleeve shirts)
- Engine and electrical accessories are switched off
- **NO ONE IS SMOKING**
- Attach the filling hose to fill connection of vehicle fuel tank
- Open the fixed-liquid level gauge (bleeder valve)
- When liquid level reaches maximum permitted in the tank, liquid propane in the form of a mist will be discharged from the liquid level gauge. Fuelling should now be terminated
- The fixed level gauge must be shut off and fill-line disconnected
- The magnetic float gauge attached to the tank should indicate the tank is now filled to capacity (total capacity of the tank is approximately 80 per cent).
Module 4 Key Points

- A proactive driver is a safe driver. It is important to continually scan for hazards and implement the **Identify, Predict, Decide, Execute** technique while driving.
- Driving while fatigued can be just as dangerous as driving impaired. Drivers can take a few minutes before every trip to check that they are mentally and physically alert for every trip. This a simple, but important step in preventing collisions.
- Following too close is one of the primary causes for collisions with vehicles ahead. Larger vehicles, like buses should not be closer than four seconds to the vehicle in front of it.
Practical - (Minimum of 10 hours total)

After completing the above classroom topics, the instructor and the trainees will proceed to the on-road session to practice professional driving habits. This practical should be completed in the urban area, highways, gravel/grid roads and roads with varying grades.

Prior to starting either practical, the instructor must check for the following:

- Speedometer malfunction.
- Obstructed visibility (glass).
- Signal or brake lights defective.
- Inadequate brakes.
- Headlights or windshield wipers not working.
- Vehicle is mechanically sound

Prior to moving the vehicle, trainee should apply the following basic habit:

- Ensure parking brakes are applied.
- Check seats and mirrors for proper adjustment.
- Attach and properly adjust seatbelts.
- Depress clutch and ensure transmission is in neutral prior to starting engine. (for vehicles with manual transmission)
- Start engine
- Verify that the air compressor functions properly (for buses with air brakes)
- Select proper gear and release parking brakes when ready to leave.

Practical 1 (Minimum 8 hours)

Trainees will be required to operate the vehicle through various types of traffic conditions heavy (i.e. downtown) and light and demonstrate the use of defensive driving skills such as hazard awareness, good visual habits and detecting and interpreting clues in the zone of awareness. Trainees will also demonstrate the use of headlights to become more visible to other road users.

- Demonstrate measures to avoid or minimize hazards from vulnerable road users including:
  - Pedestrians
  - Cyclists
  - motorcyclists
- Demonstrate measures to avoid or minimize hazards from parked vehicles.
- Demonstrate measures to avoid or minimize hazards in intersections.
- Demonstrate measures to avoid or minimize hazards via blind zones/areas including:
  - Driving in blind zones
  - Passing in blind zones
- Being passed by a driver in your blind zone
- Demonstrate measures to avoid or minimize hazards via use of mirrors (rear, front, and sides).
- Demonstrate use of good visual habits such as scanning back and forth over an area and checking mirrors every five to ten seconds
- Demonstrate knowledge of speed management:
  - Adjusts speed according to road conditions, traffic conditions, weather conditions

**Driving and Parking on Grades (minimum 2 hours)**
This practical covers techniques required to manoeuvre a bus on different grades. Trainees will have 1 hour and 20 minutes to practice driving on grades. Prior to practicing starting and stopping on hills, the instructor will use 10 minutes to demonstrate starting and stopping on hill techniques and the trainee will have 30 minutes to practice starting and stopping on hills.

1. Driving on Grades (1 hour & 20 minutes)
While driving on road(s) of varying grades, the instructor must observe the following:
Trainee:
- Maintains a safe speed while driving through up or down grades
- Scans instrument panel to observe engine temperature, oil pressure and air pressure (if applicable)
- Shifts gear one range at a time when driving up grades for manual transmission buses
- Drives down steep grades in low gear
- Applies brake retarder correctly, if equipped
- Uses a moderated or intermittent braking action on downgrades

2. Stopping on Hills (15 minutes)
Trainee will:
- Check for traffic before pulling over to curb or edge of road
- Downshift, if necessary, to reduce speed
- Apply brakes in a gradual manner
- Depress clutch (manual transmission) when almost at stop and shift to a low gear (uphill park) or reverse (downhill park). Shifts to neutral gear for automatic transmission
- Turn wheels towards curb on a downgrade and away from curb on an upgrade
- Checks that wheels are parked no more than 50 cm from the curb. Makes adjustments as necessary.
- Set the park brake and turn off ignition
3. Starting on Hills (15 minutes)
Automatic Transmission:
Trainee will:

- Gently pushes down on the accelerator until the bus pulls a bit
- Gently release park brake (and re-engages park brake if bus rolls back)
- Use accelerator to find the right level of control
- Signal, check mirrors and shoulder check to ensure the roadway is clear
- Smoothly push down on the accelerator and pull away

Manual Transmission
Trainee will:

- Depress the clutch and shift into the appropriate gear
- Release the clutch slowly to the friction point while gradually depressing the accelerator
- Release the parking brake as the clutch begins to grab, depressing the accelerator as necessary, and finally, removing the foot from the clutch.
- Signal, check mirrors and shoulder check to ensure the roadway is clear
- Smoothly push down on the accelerator and pull away

Driving on Grades and Hill Parking Assessment:

Driving on Grades:

- Speed control:
  - Too fast or too slow
- Gears:
  - Fails to select appropriate gear for ascending or descending
- Brake:
  - Incorrect application of service brakes
  - Incorrect application of air brakes (if equipped)

Hill Park

1. Tires:
   - Fails to turn steering wheel for contact with the curb.
   - Turns steering wheel in wrong direction

2. Position:
   - Rear wheel more than 50 centimetres from the curb

3. Brake / Gear:
   - Fails to apply park brake.
   - Fails to leave vehicle in lowest gear.

4. Control:
   - Hits curb hard.
   - Climbs curb.
MODULE 5 - OFF ROAD TASKS AND MANEUVERS

Purpose

The purpose of this module is to have trainees learn and demonstrate proper backing procedures for the different types of backing: straight-line, parallel parking (Adjacent Parking Lane), and country turnaround. This module is organized as follows, about 1 hour and 15 minutes of classroom session and 4 hours in-yard session. It should take a total of 5 hours and 15 minutes to complete this module.

General Learning Outcomes

At the end of this module, the trainees should be able to:

- Understand the theory behind the different procedures of backing: straight-line, parallel parking (Adjacent Parking Lane), and country turnaround
- Demonstrate proper backing procedures for straight-line, parallel parking (Adjacent Parking Lane), and country turnaround

Habits of Minds
Trainee will:

- Recognize the importance of following backing procedures to ensure safe backing
- Understand the importance of attentiveness and care when backing

Knowledge and Understanding
Trainee will:

- Know the correct backing procedure for:
  - Straight-line backing
  - Parallel parking (Adjacent Parking Lane); and
  - Country turnaround

Skill and Processes
Trainee will:

- Demonstrate proper backing procedure for:
  - Straight-line backing
  - Parallel parking (Adjacent Parking Lane) and
  - the Country turnaround

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<tr>
<th>Learning Environment</th>
<th>Classroom</th>
<th>In-yard</th>
<th>In-Vehicle</th>
<th>Total</th>
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<tbody>
<tr>
<td>Deliver (lecture, pairs, group, demo etc.)</td>
<td>1 hour</td>
<td>15 minutes</td>
<td>1 hour 15 minutes</td>
<td>2 hours &amp; 45 minutes</td>
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<td>Apply (practice, perform, etc.)</td>
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<td>Assess (show, do, quiz, test etc.)</td>
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<td>Observe Trainer (watching instruction)</td>
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<tr>
<td>Apply (practice, performance etc.)</td>
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<tr>
<td>On-Road (driving along)</td>
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<tr>
<td>Off-road (backing)</td>
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<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>5 hours &amp; 15 minutes</td>
</tr>
</tbody>
</table>
Reversing/Backing

Reversing a bus is a hazardous movement and should only be done when absolutely necessary. If possible, have a spotter when backing up. When reversing cannot be avoided, great caution should be used, as the driver is entirely responsible for the safe backing of the vehicle.

When backing drivers need to be observant, watch their surroundings and ensure that it is safe to be completed. Three questions drivers can ask themselves before reversing are:

- Is it safe?
- Is it legal?
- Is it necessary?

Regulations

Use of Highway and Rules of the Road Regulation (AR304/2002) states:

32. A person driving a vehicle shall not back up the vehicle unless the movement can be made in safety and the movement will not interfere with other traffic on the highway.

33. In an urban area a person driving a vehicle shall not back up the vehicle so that the vehicle or any portion of the vehicle enters into or is in motion within an intersection or crosswalk.

For reversing on school grounds or locations adjacent to school grounds, the Use of Highway and Rules of the Road Regulation states:

Backing up on a school ground, etc.
74. A person driving a school bus shall not back up the school bus when the school bus is:
(a) on a school ground, or
(b) at a location adjacent to a school ground at which the school bus is loaded or unloaded, unless there is a responsible person located outside at the rear of the school bus giving directions with respect to the backing up of the school bus.

There are three different backing maneuvers that a driver may encounter: straight-line, parallel parking (driver and passenger side) and the country turnaround (left and right side).

When backing in a School Bus the driver may direct a responsible person to stand near the rear of the bus, on the driver’s side to give signals. Signals should be agreed upon, prior to backing. Stop immediately if you lose sight of your guide.

a. Reversing in a Straight Line

Prior to reversing, walk around the bus in a counter clockwise direction and check for obstacles and clearance. After re-boarding, check mirrors before putting the bus in reverse. Turn on
hazard lights, sound horn and recheck mirrors (focus on the left side flat mirror) before allowing the bus to move from a stationary position.

Once you are ready to reverse back slowly, at engine idle speed, with brake covered, using mirrors frequently. Listen intently for any indication of conflict or impending collisions (horn, shouts, someone banging on the side of the bus, etc.).

Straight Line Procedure:

- Pull the bus ahead and align it with the desired direction
- Keep front and rear wheels straight and centred
- Check mirrors and reverse the bus with brakes covered
- Stop when desired location is reached

The reverse movement is to be completed while staying entirely within the manoeuvre space and completed within reasonable amount of time.

b. Parallel Parking (Adjacent Parking Lane) Procedure

To parallel park a bus to a left spot;

- Drive the bus forward until the front of the bus is 1.5 times the total unit length past the front of the parking lane.
- Prior to reversing, walk around the vehicle in a counter clockwise direction and check for obstacles, possible hazards and clearance. After re-boarding, check mirrors and put the gear in reverse. Always select the lowest reverse gear available. Release park brake, start reversing, turning the steering wheel to the left to move the bus to the left.
- Begin to turn the steering wheel to the right direction at the appropriate time, aligning the bus with the adjacent lane.
- Straighten the bus, and continue to reverse into the final parking position.

To parallel park a bus to a right spot;

- Drive the bus forward until the front of the bus is 1.5 times the total unit length past the front of the parking lane.
- Prior to reversing, walk around the vehicle in a counter clockwise direction and check for obstacles, possible hazards and clearance. After re-boarding, check mirrors and put the gear in reverse. Always select the lowest reverse gear available. Release park brake, start reversing, turning the steering wheel to the right to move the bus to the right.
- Begin to turn the steering wheel to the left direction at the appropriate time, aligning the bus with the adjacent lane.
- Straighten the bus, and continue to reverse into the final parking position.
- Continue backing with the wheels turned right until the bus is parallel with the spot
- Straighten the steering wheel and straighten out the bus within the spot.
b. Country Turnaround

Passenger side (right side)

Some bus routes may require a driver to do a turnaround. The only time a turnaround should never be done on a two-lane highway is if it cannot be done on private property. Turnarounds are done by backing into a road on the right of the main roadway. Never back onto or across a highway. When a turnaround must be done, the following procedure is recommended:

- Check mirrors, shoulder check, signal right and pull the bus approximately one bus length ahead of the road you will be backing into and 1 to 1.5 metres from the simulated curb.
- Stop the bus in the proper position on the main roadway. Check traffic in all directions to ensure that there is enough time and space in the traffic to allow the turnaround. Wait for traffic to pass around you. For school buses, ask a responsible adult to act as a guide. Ask the guide to go to the inside rear of the bus to assist you with the turnaround.
- Sound the horn, turn on hazard lights and shift into reverse. Slowly begin reversing until you see your right rear wheels line up with the side road entry point.
- Begin turning the steering wheel to the right as the rear of the bus slowly enters the side road.
- Continue safely reversing into the side road using your mirrors and shoulder checking both right and left. Gradually straighten out the bus as you complete the turn and come as to stop. Reverse until the bus is fully on the road being backed into.
- Deactivate the hazard lights and ensure the bus is clear. Check for:
  - Sidewalks or driveways
  - Road signs
  - Correct alignment
- Signal left and re-enter the main roadway when it is clear and safe to do so.
Driver side (left side)

A left-side turnaround is particularly prone to poor sightlines, making visibility of oncoming traffic very difficult. If the sightlines are poor and safety is an issue, then this type of turnaround should be avoided.

While this type of turnaround is not illegal, it should be done only when absolutely necessary and where there is no safe alternative; keeping in mind that reversing a school bus is potentially dangerous and great caution must be exercised.

1. Signal Left:
This will indicate your intention to turn into the next road up ahead. Do this at approximately 100 metres. Scan your mirrors often and shoulder check before turning left. Turn left when safe.

2. Stop the bus and select reverse sound horn once for every bus length as you back, and using your mirrors and sightlines, back into the closest lane without crossing the centerline. Signal left and proceed when safe. If sightlines are obstructed or there are situations where the conditions and terrain could make backing into a road difficult, (i.e., narrow road, snow-bank).

Detailed information for the driver side turnaround for school bus passenger loading and unloading can be found in module 8.

**U-turn**

A U-turn can be done on a four-lane divided highway if the length of the bus is less than the width of the median separating the flow of traffic. The bus must be brought to a full stop on the crossroad. The front and back of the bus must be clear of all traffic lanes.

Size or Weight of Bus is greater than permitted on an upcoming roadway

If you encounter an unexpected situation where the width, height or weight of your bus is greater than permitted to drive on follow the same procedure as outline in the section - “Reversing in a Straight Line” to back the bus away from the structure or road way. If possible, request the assistance of passengers to act as a guide and to divert approaching traffic.
Module 5 Key points

- Reversing is considered a hazardous movement and should be avoided whenever possible
- Prior to reversing, get out and take a look around the bus for people, obstructions and clearance
- When reversing remember to move at engine idle speed and with foot covering the brake.
Practice Guide

At the end of the classroom portion of this module, instructor will practice backing maneuvers with the training.

Three forms of backing will be demonstrated by the instructor: Straight-line backing, parallel parking and the country turnaround. Each trainee must spend a minimum of 2 hours and 45 minutes practicing these outlined forms of backing.

The instructor will spend about 15 minutes to demonstrate each backing technique to the trainee.

A. Straight-line Backing (minimum 30 minutes)

Manoeuvre Space Straight-line backing manoeuvre will be in a space that is between 3.5 and 3.7 metres wide, and 2/3 the length of the vehicle

The trainee driver will:

- Check mirror set up
- Pull the bus ahead as often as necessary and position it to align to desired position
- Secure the vehicle and activate the hazard lights
- Exit the vehicle to examine the manoeuvre space and check vehicle position
- Re-enter the vehicle, open windows and silence audio devices
- Sound vehicle horn briefly
- Reverse into the space at idle speed
- Exit the bus to examine space and vehicle alignment as often as necessary
- Complete the reverse movement while staying entirely within the manoeuvre space
- Stop bus movement upon reaching the desired position
- Complete the backing manoeuvre within a reasonable period of time

B. Parallel Parking  (Adjacent Parking Lane) (minimum 1 hour)

Manoeuvre Space - Parallel parking manoeuvres will be into a space that is between 3.5 and 3.7 metres wide, and at least 2/3 the length of the vehicle. The manoeuvre will be learned from both sides.

The trainee driver will:

- Check mirror set up
- Drive the vehicle forward out of the starting position
- Secure the vehicle and activate the hazard lights
- Exit the vehicle to examine the manoeuvre space from outside the vehicle and check vehicle position if necessary
- Re-enter the vehicle, open windows and silence audio devices
- Sound vehicle horn briefly
☐ Reverse into the space at idle speed
☐ Pull up the vehicle as often as necessary to align it during the manoeuvre
☐ Exit the vehicle to examine space and vehicle alignment as often as necessary
☐ Stop vehicle movement upon reaching the desired position
☐ Complete the reverse movement while staying within 1 meter of the curb or curb markers
☐ Complete the backing manoeuvre within a reasonable amount of time

D. The Country Turnaround (minimum 1 hour and 15 minutes for both sides)
i. Passenger Side
☐ Check mirrors, shoulder check, signal right and pull the bus approximately one bus length ahead of the space you will be backing into and 1 to 1.5 metres from the side of the space
☐ Stop the bus in the proper position on the main roadway (space).
☐ Check traffic in all directions to ensure that there is enough time and space in the traffic to allow the turnaround. For school buses, ask a responsible adult to act as a guide. Ask the guide to go to the inside rear of the bus to assist you with the turnaround
☐ Sound the horn, turn on the hazard lights and shift into reverse. Slowly begin reversing until you see your right rear wheels line up with the side space entry point.
☐ Begin turning the steering wheel to the right as the rear of the bus slowly enters the side space
☐ Continue safely reversing into the side road using your mirrors and shoulder checking both right and left. Gradually straighten out the bus as you complete the turn and come as to stop. Reverse until the bus is fully on the road being backed into.
☐ Deactivate the hazard lights and ensure the bus is clear.
☐ Signal left and re-enter the main roadway (space) when it is clear and safe to do so.

ii. Driver Side
☐ Signal Left to indicate your intention to turn into the next road up ahead. Do this at approximately 100 metres. Scan your mirrors often and shoulder check before turning left.
☐ Turn left when safe.
☐ Stop the bus and select reverse sound horn once for every bus length as you back, and using your mirrors and sightlines, back into the closest lane without crossing the centerline.
☐ Signal left and proceed when safe. If sightlines are obstructed or there are situations where the conditions and terrain could make backing into a road difficult, (i.e., narrow road, snow-bank).

Detailed information for the driver side turnaround for school bus passenger loading and unloading can be found in module 8.
MODULE 6 - DOCUMENTS, PAPERWORK AND REGULATORY REQUIREMENTS

Purpose
The purpose of this module is to outline the purpose and importance of vehicle related documentation and associated regulations as well as route preparation and safety. It should take 1 hour and 15 minutes to cover the materials in this module.

General Learning Outcomes

At the end of this module, the trainees should be able to:
- Administer written workplace documents and communicate effectively through written means
- Plan ahead, anticipate problems, and begin to deal with emergency situations
- During this Module, Driving Instructors will introduce the documentation requirements and work through the various forms that drivers may be required to complete. Trainees will also be required to plan several trips with different scenarios.

Habits of Minds
Trainee will:
- Recognize the importance of carrying the required vehicle documents when operating on public roadways
- Recognize the importance of trip planning prior to operating the vehicle
- Know how to verify the validity of information on the documents
- Know the vehicle’s weight and dimension prior to driving

Skills and Processes
Trainee will:
- Demonstrate how to complete some of the documents
- Demonstrate trip planning using various outlined trip planning tools

Knowledge and Understanding
Trainee will:
- Know the all the documents that must be in the vehicle when operating on the road ways

Learning Environment

<table>
<thead>
<tr>
<th></th>
<th>Classroom</th>
<th>In-yard</th>
<th>In-Vehicle</th>
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<tr>
<td>Apply</td>
<td>(practice, perform, etc.)</td>
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<tr>
<td>Assess</td>
<td>(show, do, quiz, test etc.)</td>
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<td>Observe Trainer</td>
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<td></td>
</tr>
<tr>
<td>Apply</td>
<td>(practice, performance etc.)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>On-Road</td>
<td>(driving along)</td>
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<tr>
<td>Off-road</td>
<td>(backing)</td>
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</tbody>
</table>

1 hour & 15 minutes
Documentation Requirements

Carriers who operate National Safety Code (NSC) vehicles are required to follow safety performance standards for commercial vehicles, drivers and motor carriers in Canada. Commercial carriers with a manufacturer’s seating capacity originally designed for 11 or more persons including the driver are vehicles regulated under Alberta’s National Safety Code Program. Alberta Transportation, Carrier Services, ensures all carriers are licensed according to provincial and federal requirements. [http://www.transportation.alberta.ca/499.htm](http://www.transportation.alberta.ca/499.htm)

Carriers in Alberta are required to establish, maintain and follow a written safety plan and preventative maintenance program to operate and retain a Safety Fitness Certificate. Detailed information for Carriers can be found in the Commercial Driver's Guide [https://www.transportation.alberta.ca/850.htm](https://www.transportation.alberta.ca/850.htm) and the Educational Manual for Commercial Carriers [http://www.transportation.alberta.ca/671.htm](http://www.transportation.alberta.ca/671.htm)

All commercial drivers have a responsibility to know and follow the policies and procedures contained in their company’s safety plan and preventative maintenance program and understand their responsibilities.

Drivers must ensure all required paperwork is in the bus in the event that the documents are requested by a peace officer. The documentation that is required to be in the vehicle or to be carried by the driver can vary by the type or intended use of the bus. Document requirements may also vary by jurisdiction, so if travelling across provincial or national borders, drivers must be aware of documentation requirements.

The driver may be required to carry and produce the following documentation:

- Driver’s licence
- Registration documentation
- Insurance documentation
- Lease Agreements
- Safety Fitness Certificate
- Operating Authority Certificate
- Commercial Vehicle Inspection Certificate
- Permits
- Daily Log
- Trip Inspection Schedule and Report
- Route/Passenger Information
- Shipping Documentation

Driver’s Licence

It is important that a driver holds the correct licence when operating a vehicle. Not only does the driver need to obtain the proper class of driver’s licence for the vehicle they operate, but they also need to have the proper knowledge and skills to operate a vehicle safely. [Operator Licensing and Vehicle Control Regulation](http://www.transportation.alberta.ca/320.htm), AR 320/2002.

A Class 2-S driver may operate any bus and any vehicle that a Class 3, 4 or 5 driver may drive. A Class 2-S driver may operate Class 1 and 6 vehicles for learning only.
Registration and Insurance

Carriers must ensure that their vehicles are registered, insured, have the appropriate vehicle plate class, and have the appropriate permits and certification to operate. Additional information on Licensing, Registration and Insurance requirements can be found in the Commercial Vehicle Certificate and Insurance Regulation (AR 314/2002) and the Educational Manual for Commercial Carriers.

For more information, consult the Commercial Vehicle Safety Compliance in Alberta, Module 3

A carrier must ensure that they meet the insurance requirements for their operation. Drivers must also have these documents available on the bus.

Coverage requirements may include:

- Public Liability and Property Damage
- Passenger Hazard Insurance
- Cargo Insurance (if carrier offers express shipment service)

Safety Fitness Certificate and Operating Authority Certificate

Depending on how a carrier registers their vehicles, they may require a Safety Fitness Certificate and/or an Operating Authority Certificate if transporting passengers. The original or copy of the certificate must be carried in the vehicle. A summary of common vehicles that may need a certificate to operate can be found in Module 3 of the Educational Manual for Commercial Carriers.
<table>
<thead>
<tr>
<th>Vehicle or Operation Type</th>
<th>Safety Fitness Certificate Required</th>
<th>Operating Authority Type Required</th>
<th>Vehicle Plate Class Required</th>
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<tbody>
<tr>
<td>A. Passenger Transportation Services</td>
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<td>Corporations transporting their own employees.</td>
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<td>Private Bus</td>
<td>Class 2 Private bus plate</td>
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<tr>
<td>Governments – City, towns, counties, etc.</td>
<td>Yes</td>
<td>Private Bus</td>
<td>Class 3 Government plate</td>
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<tr>
<td>Government providing Community Service – transporting seniors, community groups, etc.</td>
<td>Yes</td>
<td>Charter Or Private Bus</td>
<td>Class 3 Government plate</td>
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<td>Charter Or Private Bus</td>
<td>Class 1 or 2 Private bus plate</td>
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<td>Not applicable</td>
<td>Class 3</td>
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<tr>
<td>Corporations providing transit service for and on behalf of a municipality</td>
<td>Yes</td>
<td>No</td>
<td>Class 1 Commercial bus plate</td>
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</tbody>
</table>

Basic Types of Operating Authority Certificates for Buses/Shuttles:

- **Charter Service** – pre-arranged passenger transportation service, transporting a group of passengers for a common purpose, from a common point to a common destination. Cannot be conducted on a recurring basis.
- **Scheduled Service** – passenger transportation service operated over a specific route or routes on a specified timetable. Usually operated between cities and towns.
- **Private Service** – service provided by a company or organization for the purpose of transporting their employees or members in a vehicle designed for 11 or more persons, including the driver.
- **Industrial Service** – transportation supplied to another person under a contract that has a term of over 30 days.

For more information, consult the [Commercial Vehicle Safety Compliance in Alberta, Module 3](https://www.gov.ab.ca/transportation/safety/compliance/index.html).
SAFETY FITNESS CERTIFICATE

Certificate Number

xxxxxx

IC Number

ABxxxx-xxxx

MVD Number

xxxx-xxxx

Authority: Provincial

Certificate Holder

Example Transport (Alberta) Limited

4221 - 53 St.

RED DEER AB T4N 2E1

Carrier Identification and Operating Status

Effective

JANUARY 01, 2014

Continuous

This Carrier holds a SATISFACTORY UNAUDITED Safety Fitness Rating in the Province of Alberta.

This Certificate is issued pursuant to the Traffic Safety Act. The holder of this Certificate may operate vehicles anywhere in Alberta that are registered for a gross weight of 11,794 kilograms or greater, or designed with a seating capacity of 11 or more persons including the driver. This Certificate is not valid when the carrier operates or intends to operate outside of Alberta.

The original or a copy of this Certificate must be carried in vehicles operating under the authority of this certificate and produced on demand of a Peace Officer.

This Certificate may be cancelled where the holder has not operated a vehicle authorized by this certificate for a 12 month period.

This Certificate may be suspended or cancelled for failing to comply with transportation legislation.

All carriers must read the conditions on their Safety Fitness Certificate. For example, this certificate states that carriers with a “Provincial” Operating Status may not operate vehicles outside of Alberta.

DIRECTOR ALBERTA TRANSPORTATION
Operating Status

Carriers who need a Safety Fitness Certificate must declare where they will be operating their vehicles in order to determine their Operating Status.

- Provincial Operating Status
  - Operate only in Alberta
  - Commercial vehicle with a registered weight of 11,794 kg or more
  - Commercial vehicle designed with a seating capacity of 11 or more including the driver
- Federal Operating Status
  - Operate in multiple provinces, territories or states
  - Commercial vehicle with a registered weight of 4,500 kg or more
  - Commercial vehicle designed with a seating capacity of 11 or more including the driver

For example, an Alberta-based carrier who operates commercial vehicles, with a seating capacity of more than 11, outside of Alberta must hold a Safety Fitness certificate with a “Federal” Operating Status.

Carriers with a “Provincial” Operating Status who operate near the Alberta/Saskatchewan border may operate within Lloydminster’s city limits and on Highway 17 as long as the trip starts and ends in Alberta and no services are provided or received in Saskatchewan.

More information about Alberta/Saskatchewan border requirements is available online at: www.transportation.alberta.ca/4560.htm.

Commercial Vehicle Inspection Certificate

Commercial Vehicle Inspection Program (CVIP)

Section 19 of the Vehicle Inspection Regulation (AR 311/2006) requires that all commercial vehicles have a signed Commercial Vehicle Inspection Certificate and decal. Buses designed to carry 11 or more people including the driver and/or operate under the authority of an Operating Authority Certificate are required to undergo a semi-annual commercial vehicle inspection as defined by the NSC. The driver of the vehicle must be able to produce the inspection certificate on the request of an investigator or peace officer.

- It is illegal for a commercial vehicle to be operated on a highway unless it has a valid inspection certificate and decal.
- Inspections in Alberta must be conducted in a government licenced facility by a licenced technician.
International Registration Plan (IRP)

The International Registration Plan (IRP) is an agreement between the United States and Canada that allows for the distribution of commercial vehicle registration fees. This plan was created to encourage the fullest possible use of the highway system between member provinces, territories and states. Federal carriers operating Alberta-plated vehicles can apply through Prorate Services for vehicle registration in other provinces or states. The Alberta government will issue a cab card for each vehicle the carrier operates.

The cab card will specify which member IRP locations a vehicle may operate in. An IRP registration does NOT:

- Exempt a carrier from paying motor fuel taxes in any province or state
- Exempt a carrier from obtaining an Operating Authority Certificate and/or a Safety Fitness Certificate
- Allow a carrier to operate outside of Alberta with a Provincial Operating Status
- Allow a carrier to exceed maximum height, length, width and axle limitations

For more details on the International Registration Plan (IRP) contact:

Alberta Transportation
Prorate Services
Phone: 403-297-2920
Toll Free from Within Alberta: 310-0000
Website: www.transportation.alberta.ca/561.htm
International Fuel Tax Agreement (IFTA)

The International Fuel Tax Agreement (IFTA) is an agreement between the United States and Canada that allows federal carriers to operate in more than one location. This plan was created to make it easier for carriers to register, licence, report and pay taxes for motor fuels (such as diesel and gasoline). A carrier licensed under IFTA is required to send quarterly fuel tax returns to its base jurisdiction, where it is registered.

To register under IFTA, a carrier must have a vehicle that is:
- Registered for a gross vehicle weight of 11,794 kilograms or more;
- A unit with 3 or more axles, regardless of weight.

For more details on the International Fuel Tax Agreement (IFTA), contact:

Alberta Treasury Board and Finance
Phone: 780-427-2731
Toll Free from Within Alberta: 310-0000
Website: [https://finance.alberta.ca/publications/tax_rebates/ifta/overview.html](https://finance.alberta.ca/publications/tax_rebates/ifta/overview.html)

Effective January 1st, 2019 commercial carriers will be allowed to carry their IRP cab cards and IFTA licences in electronic format. Carriers can choose to carry this documentation either in electronic or paper format in their vehicles.

The use of electronic images of IRP cab cards and IFTA licenses have been accepted by all jurisdictions in the United States and Canada. Documentation shown in an electronic image must be accessible by computer, tablet, smart phone, or other electronic device. If you choose to maintain an electronic format of this documentation, it is recommended that the document is saved as a file on an electronic device, such as PDF.

Permits

Permits may be required in order for a driver to travel in full compliance. It is important to apply for permits in advance in order to avoid costly delays or potential fines. For example, a vehicle that exceeds maximum weight or dimension limits may be allowed to operate if the carrier obtains a permit; or a driver may be able to extend hours of service with the appropriate permit. [http://www.transportation.alberta.ca/4484.htm](http://www.transportation.alberta.ca/4484.htm)

It is also important to consider what permits may be required if you are required to travel to another jurisdiction in Canada or to the United States. Contact the appropriate department prior to departure.
If a carrier is issued a permit, they must ensure that they and their drivers read and follow all applicable conditions.

Daily Trip Inspection Report

A driver is required to carry an Inspection Schedule and Daily Trip Inspection Report in the vehicle.

Provincially regulated carriers (those that operate solely within Alberta) and Federally regulated carriers (those that operate one or more vehicles outside the province of Alberta) must complete and keep a record of trip inspection reports on commercial passenger vehicles with a designed seating capacity of 11 or more persons (including the driver). Section 10 of the Commercial Vehicle Safety Regulation (AR 121/2009).

The daily vehicle trip inspection report is required to ensure early identification of vehicle problems and defects, and to prevent the operation of vehicles with conditions that are likely to cause or contribute to a collision or vehicle breakdown - Canadian Council of Motor Transportation Administrators, CCMTA, NSC Standard 13.

Completed by the driver, the owner, the carrier or the person authorized by the carrier or the owner, the daily vehicle trip inspection report is intended to serve as the communication tool between the driver, the carrier, and the maintenance department.

Upon completion of a trip inspection form, the driver must forward the original report to the home terminal of the carrier within twenty days. The carrier is then responsible for storing this record in its principal place of business within thirty days of receiving the report. Each inspection form must be kept in chronological order for each vehicle for at least six months after receiving it.

The daily trip inspection report must include the following:

1. The licence plate number, the commercial vehicle identification number or unit number of the commercial vehicle;
2. The odometer or hubometer reading of the commercial vehicle at the time of the inspection;
3. The name of the carrier operating the commercial vehicle;
4. The name of the municipality or location on the highway where the commercial vehicle was inspected;
5. Indication that either no defect was detected or each defect in the operation of every item required to be inspected in accordance with Schedule 2 of NSC Standard 13, Part 2; Schedule 3 of the NSC Standard 13, Part2 (motor coaches); or a modified schedule. If a modified inspection is used, deleted portions of the Schedule and information on additional items inspected must be indicated on the report;
6. The time and date that the report is made;
7. The name of the person who inspected the commercial vehicle and include a statement signed by that person stating that the commercial vehicle has been inspected in accordance with the applicable requirements; and
8. The name and signature of the driver or the person making the report.

Sample Bus Trip Inspection Report:

Under Vehicle Trip Inspection Report (motor coach)

- Performed over a pit or raised in a manner that provides access by a person who holds the proper technician certification or qualification.
- Valid for 30 days or until midnight the day the vehicle reaches 12,000 km from last inspection.
- The vehicle must not be driven if a major defect was detected during the under vehicle trip inspection.

Note: Trip Inspection information for buses can be found in Module 2: Vehicle Inspection Activities of this manual.

ACTIVITY: Instructor will work though the CCMTA NSC Inspection Schedules and complete a Trip Inspection Report with the trainees.

Daily Log
A driver may be required to complete a daily log and retain fuel and accommodation receipts in accordance with all regulations and the carrier’s policy. See Module 7 of this manual for details and exemptions for Provincial and Federal Hours of Service Regulations and additional information on Daily Logs (Section 11, AR 317/2002).
If a driver works for more than one carrier, they must provide each carrier with a copy of all logs.

**Route/Passenger Information**

It is important for drivers to know and understand where important information about their route, equipment, and, depending on the type of bus, passenger information is kept. The following is information drivers must be aware of:

- Route
- Instructions for lifts and securement systems
- Emergency information and equipment
- Seating plan (if applicable)
- Special medical information/passengers with disabilities (if applicable)

Passenger information that is provided to the driver may depend on the type of bus and the carrier’s policies and procedures.

**Collision Reporting**

If an incident occurs, the driver will be required to document the details of the collision and report back to the carrier. In addition to the information below, Carriers may have their own collision reporting requirements. *Details of how to handle emergency situations can be found in Module 9 – Handling Emergencies of this manual.*

All drivers are required to report all collisions to the police or local law enforcement if:

- Anyone has been injured;
- Anyone has been killed;
- Overall damage exceeds $2,000;
- If you damage any traffic control device, parking meter, or public property even if the damage is less than $2,000; or
- If police are called to the scene, all drivers must remain at the scene.

If you are involved in a collision, give assistance where you can, protect the scene, and notify emergency assistance if need.

- Exchange names, contact information and insurance details with the other driver(s) involved;
- Record the names and contact information of all witnesses;
- Do not discuss who is at fault;
- Record the time, location, weather, and any other details that may be important; and
- Notify your insurance company as soon as possible (Carrier may do on your behalf).

Accident reporting requirements can be found in Sections 145-149 of the *Operating Licencing and Vehicle Control Regulation.*

**Additional Information:**

*Carriers are responsible to maintain driver files, vehicle files, and safety and maintenance plans.*
Details can be found in the Commercial Vehicle Safety Compliance in Alberta Education Manual.

Trip Planning

It is important for a driver to have a plan before heading out on the road as well as have an awareness of regulations and travel restrictions. Trip planning is vital for the safe and responsible operation of a bus. Trip planning is key for time management and will help to reduce driver stress and unnecessary costs. Trip planning ensures that the vehicle can be operated legally on specific roads and in accordance with all requirements. Trip planning also ensures a comfortable and safe ride for passengers.

Communication between the driver and dispatch is a vital tool in ensuring a successful trip. In addition to route information that may be provided by the carrier, there are a number of navigation tools that can assist a driver with trip planning, such as GPS/Map Applications. The tools provided may depend on the carrier or type of vehicle being operated. The driver should use devices according to the jurisdictional regulations.

**Note:** The role of a driver may vary in trip planning. A carrier may provide the driver with designated route information, or the driver may be required to do the planning.

Things to consider when planning your trip:

- Travel distance
- Departure and arrival times
- Essential services – where you can rest, eat, etc.
- Weigh station locations
- Traffic conditions – rush hour, construction zones
- Vehicle Dimensions
- Passenger needs
- Loading zones
- Fuel costs, other expenses
- Terrain – mountain vs. prairie, urban vs. rural
- Safety
- Restricted routes
- Low or narrow clearances
- Weather conditions
- Border crossings
- Required documents – permits
- Emergency information and equipment
- Hours of Service Regulations

Tools for Trip Planning

It is important for drivers to have access to reliable information and to know when and how to use electronic devices and other available tools. The following are examples of trip planning tools:

Dispatching System

Drivers can use dispatch systems for transporting passengers. Carriers will have their own policies and procedures for devices and communicating with dispatch personnel.
Global Positioning Systems (GPS)
Drivers should know how to interpret traditional maps and program and read GPS devices. Drivers must follow jurisdictional distracted driving regulations. For information about driving with hand-held electronic devices, cell phones, display screens, GPS systems, etc., see Section 115 of Alberta’s Traffic Safety Act.

The following activities are not specifically restricted for commercial drivers under Alberta’s Distracted Driving Regulation:

- Using two-way radios or hand-held radios, such as those commonly referred to as CB (Citizen’s Band) radios, when escorting oversized vehicles, to contact one’s employer, or when participating in search, rescue and emergency management situations

Display screens that are permitted:
- A GPS navigation system – as long as the system is affixed to the vehicle and programmed before you begin driving or the system is voice activated. You cannot hold the unit or manually enter information while driving.
- A gauge, instrument, device or system that provides information about the vehicle’s systems or the vehicle’s location
- A dispatch system for transporting passengers
- A logistical transportation tracking system that tracks vehicle location, driver status or the delivery of goods for commercial purposes

**Activity: Calculating Travel Time and Fuel Usage**

The following formulas are often used by truck drivers to figure the distance, average speed, and trip time, but can be applied to commercial bus drivers:

**Distance** = Speed multiplied by time
80 km x 5 hours = 400 km

**Average Speed** = Distance divided by time
400 km / 5 hours = 80 km

**Trip Time** = Distance divided by average speed
400 km/ 80 km = 5 hours

**Calculating Personal Needs**
Drivers should consider personal needs when trip planning and retain receipts or other documentation of expenses. Each carrier will have their own policies and procedures for reimbursement.

Drivers should consider:
- Meals
- Lodging
- Fuel
- Any necessary repairs
- Permits
- Special fees

**Ports of Entry**

Ports of Entry are locations that drivers must stop and prove that the carrier has authority to operate in the jurisdiction. Inspections and weighing may take place at a port of entry. Drivers must follow directions and ensure that they are carrying all required documents.

**Roadside Safety Inspections**

Roadside Safety Inspections can be conducted at weigh stations, ports of entry, special safety inspection facilities, or a suitably safe area. The driver must produce their driver’s licence, medical certificate, driver’s logs, and cargo documentation. Cargo may be inspected even if sealed. Inspectors will provide a new seal and drivers should document both the old and new seal numbers.

A driver may be out of service at once for the following:
- Hours of service violation
- Unsafe vehicle
- Leaking hazardous materials

**Signs (recommended)**

Drivers need to know and understand traffic control signs and safety marks for dangerous goods. Information on signs can be found in Alberta Transportation’s Driver’s and Commercial Driver’s Guides. [https://www.transportation.alberta.ca/531.htm](https://www.transportation.alberta.ca/531.htm)

**511 Alberta – Helping You Arrive Safely**

*Alberta’s Official Road Reports can be found at [http://511.alberta.ca/](http://511.alberta.ca/) or by dialling 511 or 1-855-391-9743 (outside of Alberta)*
Drivers will want to check weather conditions and be prepared to drive in adverse conditions. Dispatch, local radio, and online sources can provide up-to-date weather information. Drivers should carry extra clothing, blankets, food and water in the event of becoming stranded.

Weather information for Canada can be found at https://weather.gc.ca/mainmenu/weather_menu_e.html
Planning Steps:

1. Ensure that paperwork is current and correct.
   - Registration and Insurance
   - Permits
   - Licences
   - Certificates
   - Logs

2. Select the route
   - Restrictions
   - Traffic and weather conditions

3. Estimate travel time and plan for stops
   - Essential services – food, rest, etc.
   - Compliance with hours of service regulations

4. Estimate the amount of fuel required.
   - Fuel stations on route

5. Estimate food and accommodation costs
   - Receipts and reimbursement (may vary according to carrier’s policy)

Workplace Safety and Emergency Equipment

The safety of passengers is of utmost importance - it is important to protect passengers, yourself and other drivers. Planning ahead and anticipating potential hazards plays an important role as does ensuring that your vehicle is maintained and knowing how to use emergency equipment in the event of an emergency.

Drivers must receive the training specified in the Carrier Safety Plan and know how to perform their duties properly and safely. Some topics in the Carrier Safety Plan may include:

- Safe use and operation of vehicles
  - Speed limits
  - Seat belts
  - Impaired Driving - drivers must be medically fit to drive, not fatigued and/or under the influence of alcohol or any drug (legal or illegal)
  - Defensive driving
  - Distracted driving
  - Cargo securement
  - Fueling

- Proper record completion and retention
  - Bills of lading, manifests, dangerous goods documents
  - Time records, drivers’ daily logs
  - Weigh slips
  - Vehicle information

- Compliance with the law
- Use of safety equipment
Special attention must be paid when driving through construction zones. Drivers must follow the speed limit, obey the flag person’s signal and be prepared to slow down and stop at all times.

**Note:** Details of how to handle emergency situations can be found in Module 9 – Handling Emergencies of this manual.

**Emergency Equipment**

It is recommended that all commercial vehicles be operated in a safe manner and have the available emergency equipment to do so. All drivers must be properly instructed in the use of all emergency equipment that is provided to them. Safety equipment on buses includes:

- Reflective Triangles
- Fire Extinguishers
- First Aid Kits
- Hazard Lights

The following legal requirements for safety equipment in vehicles apply:

**Reflective Triangles (Advance Warning Triangles)**

Section 4 of the *Commercial Vehicle Safety Regulation* (AR121/2009) requires commercial vehicles to carry at least two advance warning triangles with the exception of school buses which are required to carry three. An “advance warning triangle” is a reflective emergency warning device which is visible for a distance of at least 150 metres under normal atmospheric conditions.

Commercial vehicles that are operated solely within the boundaries of an urban area or between that urban area and an abutting urban area are exempt from carrying triangles.

**Fire Extinguishers**

Section 17 of Schedule 1 of the *Commercial Vehicle Safety Regulation* (AR121/2009) requires that a bus carry at least one fire extinguisher. That fire extinguisher must be marked and must have a rating of at least 2A:10B:C.

The fire extinguisher must be located in the forward end or near the entrance door of the bus so that it is readily available to the driver of the vehicle. The fire extinguisher must be secured in a quick release retaining band or be stored in a compartment that is not locked or require special tools to open it at any time.
First-Aid Kits
Section 16(1) of the Commercial Vehicle Safety Regulation (AR121/2009) also requires a bus to be equipped with a first aid kit. In the case of a school bus, the first aid kit must meet the requirements of CSA Standard D250. The first aid kit must be readily accessible to the driver. In the case of all other buses, an Alberta Occupational Health and Safety Code Number 3 Safety Kit prescribed under the Occupational Health and Safety Act must be readily accessible to the driver of the bus.

The type of first aid kit that should be kept in a vehicle is dependent on the details found in Schedule 2 of the Occupational Health and Safety Act which is available online at: https://www.alberta.ca/assets/documents/ohs-code-2009.pdf

Although not a regulatory requirement, it is strongly advised that all commercial vehicles carry first aid kits that are easily accessible to the driver.

Spill Kits
Although not a regulatory requirement, it is strongly advised that all commercial vehicles carry spill kits that are easily accessible to the driver.

Use of Personal Protective Equipment (PPE)
A carrier’s Safety Plan will document PPE requirements and will ensure that drivers receive training on the proper use of PPEs (such as protect hands, eyes, and feet, high visibility clothing and sound dampening headphones, etc.).

Drivers are required to wear PPE while conducting inspections.

The Occupational Health and Safety Act and Regulations provide specific instructions and the use of PPEs.

Module 6 Key Points
- Drivers must ensure all required paperwork is in the bus in the event that the documents are requested by a peace officer.
- Upon completion of a trip inspection form, the driver must forward the original report to the home terminal of the carrier within twenty days
- Buses designed to carry 11 or more people including the driver and/or operate under the authority of an Operating Authority Certificate are required to undergo a semi-annual commercial vehicle inspection
MODULE 7 - HOURS OF SERVICE COMPLIANCE

Purpose
The purpose of this module is to explain federal and provincial legislations that regulate commercial drivers’ hours of work and how to properly record and maintain a daily log of driver activities. It should take 2 hours and 25 minutes to cover the materials in this module.

General Learning Outcomes
At the end of this module, trainees should:

- Have a good understanding of the federal and provincial legislations for Hours of Service requirements
- Be knowledgeable in how to record and maintain a log of their hours of driving
- Have an understanding of driver and employer responsibilities regarding Hours of Service Regulations

Knowledge and Understanding
- Know the legislative hours of service for both provincially-operating and federal operating drivers
- Know the information required in a log book
- Know the exemptions to hour of service laws
- Know the consequences of violating the hours of service regulation and tampering with a log book

Habits of Minds
Trainee will:
- Recognize the importance of rest in collision avoidance
- Recognize the importance of keeping daily log of on-duty activities

Skills and Processes
Trainee will have:
- Ability to complete a log book using the following duty statuses
  - Driving time
  - On duty, other than driving time
  - Off Duty time

<table>
<thead>
<tr>
<th>Learning Environment</th>
<th>Classroom</th>
<th>In-yard</th>
<th>In-Vehicle</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>Deliver</td>
<td>2 hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply</td>
<td></td>
<td>25 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe Trainer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apply</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-Road</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Off-road</td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>2 hours &amp; 25 minutes</td>
</tr>
</tbody>
</table>
Legislation

Hours of service are regulated to help reduce collisions caused by driving while fatigued. Drivers are required to complete and carry a log book to verify that the hours they worked comply with regulations. It is also the driver’s obligation to understand and follow the hours of service legislation.

Both the federal and provincial governments oversee these regulations. Alberta legislation applies to carriers and their drivers who operate vehicles solely within Alberta. Federal

The sections below outline the main regulatory requirements. For more information on:

Alberta legislation, refer to Driver’ Hours of Service Regulation AR 317/2002:
http://www.transportation.alberta.ca/525.htm

Federal legislation, refer to Commercial Vehicle Drivers Hours of Service Regulations (SOR/2005-313):

Provincial Legislation

Hours of Service Compliance – Provincial Hours of Service

The Provincial hours of service regulations define the maximum driving hours and minimum off-duty requirements for driver commercial vehicles in Alberta. These requirements have been outlined to prevent fatigue related incidents. It is important that carriers and drivers understand and abide by the provincial driver’s hours of service laws.

Application

The law is applicable to:

- Carriers with a Provincial Operating Status (intra-provincial Operation).

Note: Carriers operating all regulated vehicles only in Alberta are referred to as provincially regulated carriers.

- A bus (a commercial vehicle designed to carry 11 or more people including the driver) s. 130(1)(a) Traffic Safety Act
- A vehicle registered for a weight of 11794kg or more Section 2(1)(b) AR317/2002 (Driver’s Hours of Service Regulation, “the provincial regulation”)

- Does not apply to
  - Passenger vehicles (e.g. cars) weighing less than 11,794 kilograms;
    - Commercial vehicles with a total registered gross vehicle weight (including trailers) of less than 11,794 kilograms;
  - “Emergency vehicles” as defined in Section 1(m) of the Traffic Safety Act;
  - Commercial vehicles transporting goods or passengers for the purpose of
  - Providing relief in the case of a natural disaster or a disaster caused by human intervention;
Commercial vehicles that are used primarily to transport an agricultural product where the driver of the vehicle:
- Is a bona fide farmer who owns or produced that agricultural product, or
- Is an employee of that farmer;
- Two or three-axle vehicles transporting primary products of a forest, lake or river, and the driver (carrier) is the producer of the products. This includes tree farms and fish farms;
- Recreational vehicles
- Urban transit buses
- Commercial vehicles with a mounted mobile service rig, or equipment used in the operation/transportation of a mobile service rig
- Commercial vehicles that are exempted by the Registrar

Duty Statuses

- Driving time
- On Duty, other than driving time
- Off Duty, other than time spent in the sleeper berth

Driver duty status is recorded on the driver’s daily log book.

Sample of a Driver's Daily Log Book
On-Duty Time

This is the period that begins when a driver begins work or when a driver is required by the employer/carrier to be available at work. This period ends when the driver stops work.

The on-duty hours (consisting of “driving” and “on-duty not driving” time) allowed for a driver are regulated in work shifts that generally start after having a period of eight consecutive hours off-duty and end when the driver has another period of eight consecutive hours off-duty. Some situations are considered equivalent to this eight hour off-duty requirement. On-duty time activities (“driving” and “on-duty not driving” time) include time spent:

- Checking in or preparing reports at the start or end of a work shift
- Inspecting, servicing, repairing, conditioning or starting a commercial vehicle
- Driving a vehicle
- In the case of a vehicle that is being operated by co-drivers, travelling as one of the drivers
- Participating in the loading or unloading of a commercial vehicle
- Inspecting or checking the load of a commercial vehicle
- Waiting, at the request of the carrier by whom the driver is employed or otherwise engaged, for a vehicle to be serviced, loaded or unloaded
- Waiting for a vehicle or load to be checked at customs, at a vehicle inspection station or by a peace officer

Driver activities are recorded on the grid. This is completed using a pen and ruler or a straight edge. Time on the grid is broken down as follows:

- Quarter hour (15 minutes)
- Half hour (30 minutes)
- One hour

Time is recorded by drawing a horizontal line that corresponds to the actual time up to the nearest Half-hour (30 minutes) or quarter-hour (15 minutes)
- At the request of the carrier by whom the driver is employed or otherwise engaged, travelling as a passenger to a work assignment when the driver has not been off-duty for at least eight consecutive hours immediately prior to departure
- Waiting at a point en route due to an accident involving the vehicle that the driver is operating or other unplanned event
- Performing any work for the carrier

**Work Shift Limit**
- Work shift is the period of time between 2 periods of 8 consecutive hours off-duty
- Work shift begins when the driver starts work or is required to be available for work (goes on duty)
- Work shift ends when driver is relieved of all responsibility by the motor carrier
- To start a work shift, a driver must take a minimum of eight consecutive hours of off duty time
- Section 5(2) Subject to subsections (3) and (4) of the *Driver’s Hours of Service Regulation*, a driver shall not commence a work shift unless the driver has been off duty for at 8 eight consecutive hours immediately prior to commencing the work shift.
  - No driving after 13 hours driving in a work shift.
  - No driving after 15 hours on duty in a work shift.

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**Work Shift**

No driving after 13 hours driving in a work shift
For example:

### Driving Time

- 8:00 – 13:00 5 hours
- 14:00 – 19:00 5 hours
- 20:00 – 23:00 3 hours

**Total** 13 hours

**Example: No Driving after 15 hours on duty in a work shift**

### On-Duty Time

- 8:00 – 13:00 5 hours
- 14:00 – 19:00 5 hours
- 20:00 – 24:00 4 hours

**Total** 14 hours

**Total On-Duty Time ≤ 15 hours**
**Time Breaks**

According to Section 7(1) of the *Drivers’ Hours of Service Regulation*, a driver may continuously drive a vehicle

(a) for a period of time of up to 4 consecutive hours if at the conclusion of driving for that period of time the driver takes at least 10 consecutive minutes off duty or of non-driving time, or

(b) for a period of time that exceeds that permitted under clause (a) but does not exceed 6 consecutive hours if at the conclusion of driving for that period of time the driver takes at least 30 consecutive minutes off duty or of non-driving time.

**Off-Duty Time**

“Off-duty” is considered any time where the bus is at a stop, and for the duration of the stop, the driver is at liberty to pursue activities of their choice and leave the premises where the bus is situated. The driver may operate the bus for personal use, up to 75 kilometres in a day when:

- There are no passengers
- No trailer is being towed
- No work of any sort is being done for the carrier
- The starting and ending odometer readings are recorded in the driver’s daily log

**Deferral of Off Duty Time**

- According to Section 5(4) of the *Drivers’ Hours of Service Regulation*, Subject to subsections (5) and (6), where the last work shift of a driver did not exceed 15 hours, the number of hours that the driver is off duty before the driver commences the driver’s next work shift may be reduced to not less than 4 hours if the total consecutive hours that the driver will be off duty immediately following that next work shift will not be less than 8 hours plus the number of hours by which the driver’s time off duty had been reduced before the driver had commenced that next work shift.

- According to Section 5(5), of the *Drivers’ Hours of Service Regulation*, a driver’s time off duty may only be reduced under subsection (4) once in any period of 7 consecutive days.

- According to 5(6) *Drivers’ Hours of Service Regulation*, if the Registrar is of the opinion that a reduction under subsection (4) of the number of hours that a driver is off duty will jeopardize or is likely to jeopardize the safety or health of the driver, the Registrar may
  (a) direct that off duty time not be reduced under subsection (4), or
  (b) specify the minimum number of hours that the driver must be off duty before the driver commences the driver’s next work shift.

- A driver may reduce the eight hours required to end a work shift provided:
  - They have not already done so in the past seven days
  - The previous work shift does not exceed 15 hours of elapsed time
  - The off-duty period is not less than four hours long
  - The time deferred is added to the next eight consecutive hours of off duty time (ex. If a driver only takes six hours to end their work shift, they must take 10 consecutive hours off duty [8+2] to end their next work shift)
  - The deferral does not affect the health or safety of the driver
Example:

- Unlike federal hours of service laws, a driver does not have to indicate in their logbook whether or not they are deferring hours, however it is good practice to do so.
- Be prepared to explain to an inspector that they are deferring hours.

Considering the above example:

- The driver is not in violation, because they take 4 hours off from 2330hrs on day one to 0330hrs on day two, then take 12 hours off to end their work shift (8+4).
- The previous work shift does not exceed 15 hours, and, as far as we can tell, they have not deferred in the previous seven days.

- Unlike federal hours of service laws, a driver does not have to indicate in their logbook whether or not they are deferring hours, however it is good practice to do so.
- Be prepared to explain to an inspector that they are deferring hours.
Example of a Daily Grid

Summary of the Above Example

<table>
<thead>
<tr>
<th>Time</th>
<th>Driver Activity</th>
<th>Duty Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midnight to 9:00a.m.</td>
<td>Sleep and eating breakfast</td>
<td>Off-duty time other than time spent in a sleeper berth</td>
</tr>
<tr>
<td>9:00a.m. to 10:00a.m.</td>
<td>Inspection and loading of vehicle</td>
<td>On-duty, other than driving time</td>
</tr>
<tr>
<td>10:00a.m. to 2:00p.m.</td>
<td>Drive</td>
<td>Driving time</td>
</tr>
<tr>
<td>2:00p.m. to 3:00p.m.</td>
<td>Lunch break</td>
<td>Off-duty time other than time spent in a sleeper berth</td>
</tr>
<tr>
<td>3:00p.m. to 7:00p.m.</td>
<td>Drive</td>
<td>Driving time</td>
</tr>
<tr>
<td>7:00p.m. to 8:00p.m.</td>
<td>Dinner break</td>
<td>Off-duty time other than time spent in a sleeper berth</td>
</tr>
<tr>
<td>8:00p.m. to 10:00p.m.</td>
<td>Drive</td>
<td>Driving Time</td>
</tr>
<tr>
<td>10:00p.m. to 11:00p.m.</td>
<td>Unloading of vehicle and completing paperwork</td>
<td>On-duty time other than driving time</td>
</tr>
</tbody>
</table>
**Daily Log**

A driver must account for every day by completing a daily log for each calendar day, or indicating in the remarks section of the daily log that the driver was off-duty on the indicated dates. The driver’s employer must ensure the driver follows the regulations; and maintain the daily logs, in an orderly manner, for each driver for six months.

Daily logs must be completed as follows:

- Enter required information accurately and legibly.
- Maintain the daily log current to the last change of duty status, such as off-duty time and driving time.
- Keep copies of documents received during the trip, such as hotel receipts and fuel receipts.
- Deliver the daily log, and all supporting documents, to the employer within 20 days.
- Keep a copy of each daily log and supporting documents for at least six months from the date that the information is recorded in the daily log (Section 17 of the Drivers’ Hours of Service Regulation)

**Completing Daily Logs**

**Start of the day:**
- The odometer reading at the commencement of driving.
- The vehicle’s unit or licence plate number.
- The name of the carrier for whom the driver worked during the work day.
- The name of the driver.
- The name of any co-driver.
- The time of commencement of the work shift and the location at which the driver commenced the work shift.
- The address of the principal place of business and of the home terminal of each carrier for whom the driver is employed or otherwise engaged during the work day.

**During the Day:**
- Completed on a graph grid.
- At each change in duty status:
  - Draw a continuous line between the appropriate time markers to record the period of time off duty, driving time and time on duty other than driving time.
  - Under “Remarks”, record (a) the name of the city, town or village or the highway location and the name of the province or state where each change of duty occurs, and (b) the name of each city, town or village or highway location and the name of each province or state where fuel was obtained and the number of litres or gallons of fuel.

**End of the day:**
- The total number of kilometers or miles driven by the driver during the work day.
- In the case where a vehicle is being operated by co-drivers, the total number of hours that the vehicle has travelled during a work day.
- Record the total number of hours of time off duty, driving time and time on duty other than driving time.
- Sign the log

**Exemptions**

**A. Adverse Driving Conditions**
Section 6(3) of the *Drivers’ Hours of Service Regulation*, A driver may, in the case of unexpected adverse driving conditions, exceed by not more than 2 additional hours the number of hours that the driver is permitted to drive under this Regulation if the trip as originally planned could have been completed within the driving time or the time on duty specified by subsection (2).

The driving, on-duty and elapsed time is not extended more than two hours. A driver may increase their driving and on duty limits by up to two hours provided the trip could have been completed as originally planned:

- The driver still takes the required eight consecutive hours of off-duty time;
- The trip could have been completed under normal driving conditions without the extension.
  - Heavy snow, sleet, fog, smoke, adverse weather or other road hazards that were not known immediately before the driver began driving from the last place of rest
- Does not include delays from border crossings, inspections, breakdowns

**Adverse Conditions may include:**
- Snow, sleet, fog or smoke in amount that obscure a person’s vision to extent that the person cannot safely drive
- A highway covered with snow or ice
- Physical circumstances, other than snow or ice, that make the highway or driving unsafe

**B. Emergency**
Section 6(4) of the *Drivers’ Hours of Service Regulation*, Where the safety of an occupant of a vehicle, the goods being transported by a vehicle or a vehicle itself is in jeopardy, the driver of the vehicle may exceed the number of hours that the driver is permitted to drive under this Regulation in order to reach a place of safety for the person, goods or vehicle, as the case may be.

Some examples of the cases may include but are not limited to:
- Sudden, urgent, unexpected situation that requires immediate action.
- Safety or security of people, goods, or vehicle is at risk or likely to be in jeopardy.
- Does not include shipper’s demands, driver’s desire to get home, loading/unloading delays or shortage of drivers.
- Limits do not apply in an emergency.
- Driver may drive to the first available safe location to remove people/load/vehicle from the situation.

**C. Radius Record Partial Exemption**

The daily log is not required to be completed if ALL of the following four conditions below are met (however, all other regulated requirements must still be met):

- The driver does not operate outside of a 160km radius from the home terminal.
- The driver starts and ends the work shift at the same place.
- The driver returns to the home terminal and does not exceed 15 hours elapsed in the work shift.
- The motor carrier maintains time records showing the start and end of the driver’s work shift for six months.

If one or more of those conditions cease to exist, the driver shall:

- Commence keeping a daily log.
- Record in the daily log the total number of hours on duty accumulated by the driver during the seven days immediately preceding the day on which that condition ceased to exist.

When a driver is not required to keep a daily log, they must (as noted above) still maintain time records showing, for each calendar day, the driver’s duty status and elected cycle, the hour at which each duty status begins and ends and the total number of hours spent in each status.

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Home terminal means the place of business of a motor carrier where a driver usually reports for work. This includes a temporary work site designated by the motor carrier. Refer to page 13 of this link for more information

http://www.transportation.alberta.ca/Content/docType276/Production/Module8.pdf
The following is an example of a radius record

<table>
<thead>
<tr>
<th>Day of Month</th>
<th>On-Duty Time</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Start</td>
<td>End</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
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Driver's Name (Print): ___________________________  
Driver's Signature: ___________________________

Automatic On-Board Recording Device

- According to Section 1(c) of the Drivers’ Hours of Service Regulation, “automatic on-board recording device” means any electric, electronic or electro-mechanical device that accurately and automatically does at least the following:
  
  (i) records
     
     (A) the driving time and the time on duty of drivers for each day that the device is in operation,
     (B) the remaining driving time and on duty time that a driver may use, and
     (C) the sequential changes in duty status and the time those changes occurred;

  (ii) indicates and records the time at which the device is disconnected;

  (iii) records the times that the vehicle is in motion;

  (iv) displays or prints out, at the request of the driver, at least the information referred to in subclause (i);

  Information contained in the device must be the same information that a driver would record on daily log in paper format.

  It must automatically record when it is disconnected and keep a date and time record of those occurrences.

  It must automatically record when vehicle is in motion.

  Driver must keep a written or printed record of the information collected by it

  Driver must sign each hard copy.

  If it is malfunctioning or not operating properly, driver shall maintain a regular log.
Production of Logs and Supporting Documents

- Driver must produce daily logs for the current day and the previous two days.
- Current day to the last change in duty status must be completed.
- Driver must produce any supporting documents or relevant records for the current trip (receipts, bill of lading, inspection reports, etc.).

Distribution and Keeping of Daily Logs

- According to Section 15(1) of the Drivers’ Hours of Service Regulation, where a driver is employed or otherwise engaged by more than one carrier in a calendar day, the driver shall forward a copy of the daily log for that day to each carrier by whom the driver was employed or otherwise engaged.
- According to 15(2) of the Drivers’ Hours of Service Regulation, A driver shall, within 20 days from the day that a daily log is completed, forward the original of the daily log to the home terminal of the driver or to the principal place of business of the carrier by whom the driver was employed or otherwise engaged.

Retention of Records by Carrier

- According to Section 16(1) of the Drivers’ Hours of Service Regulation, A carrier shall retain at its principal place of business
  (a) every copy of the daily log that is forwarded to the carrier pursuant to section 15(1), and
  (b) every daily record referred to in section 15(2),

(2) A carrier
  (a) shall retain the daily records and daily logs referred to in subsection (1) in a neat and orderly manner, and
  (b) shall, on request by a peace officer, produce forthwith to the peace officer the daily records and logs for inspection.

(3) A carrier shall, within 30 days after it has received the original copy of a daily log pursuant to section 15, place the original copy of the daily log at the location where the carrier retains the records relating to its drivers or at such other location as may be approved in writing by the Registrar.

- Section 17(1) of the Drivers’ Hours of Service Regulation, A driver shall retain a duplicate of all of the daily logs maintained by the driver for a period of at least 6 months from the date that the information is recorded in the daily log.

(2) A driver
  (a) shall retain the duplicate of the daily logs referred to in subsection (1) in a neat and orderly manner at the residence of the driver, and
  (b) shall, within 7 days from the day that a peace officer makes a request for the duplicate of the daily logs, produce the duplicate of the daily logs to the peace officer for inspection.
Inspections
- According to Section 18 of the Drivers’ Hours of Service Regulation, A peace officer may enter any facility or vehicle for the purpose of determining whether a carrier and a driver have complied with this Regulation.

Tampering with Daily Logs
- No driver shall
  - Keep more than one daily log.
  - Record inaccurate information on a daily log, whether it is handwritten or produced using an electronic device.
  - Falsify, mutilate, or deface a daily log or supporting documents.

- Safety officer or any other individual shall not:
  - Alter or tamper with original daily logs

Daily logs must be signed at the end of the driver's work shift to confirm that all of the information recorded in a log is accurate. If a log contains false information, a peace officer can still charge a driver with a violation even if the driver has not yet signed the daily log. A peace officer can also issue an out-of-service declaration for any of the violations listed above.

According to Section 86(2) of the Commercial Vehicle Drivers Hours of Service Regulations (SOR/2005-313), a carrier is responsible for ensuring their drivers do not falsify their logs.

Disciplinary Action and Enforcement
According to Section 8(1) of the Drivers’ Hours of Service Regulation, A peace officer may prohibit a driver from driving a vehicle where the peace officer determines that the driver

(a) has not had the time off duty as required under this Regulation,
(b) has been driving for a longer period of time than that permitted under this Regulation, or
(c) has been driving when prohibited from doing so under this Regulation.

If a driver has been prohibited from driving, they will not be permitted to drive a vehicle until the driver:
- Has had the time off duty as required under the regulation; and
- Has met all on-duty and time break requirements under the regulation.

Hours of service violations are included in the carrier's profile. An accumulation of these violations may result in the carrier being identified for further monitoring, penalties, or enforcement actions.

Hours of service violations will also be shown on the driver's commercial driver abstract (CDA). More information on the CDA can be found on the Alberta Transportation website at: www.transportation.alberta.ca/4664.htm.
Federal Legislation

The federal drivers’ hours of service regulations are more restrictive than the Alberta’s regulations. It is important to realize that the federal regulation has daily, work shift and cumulative cycle limits that all must be met every day. The following is only a summary of the main regulatory requirements.

Daily limit

During a day (a consecutive 24-hour period determined by the carrier) a driver cannot drive:

- After having driven 13 hours; or
- After being on-duty for 14 hours

In each day a driver must take 10 hours of off-duty time, eight of the hours off being consecutive. The other two hours must be taken in no less than 30 minute periods.

Shift limit

During a work shift (a work shift starts after the driver has eight consecutive hours off), a driver cannot drive:

- After having driven 13 hours
- After being on-duty for 14 hours
- After 16 hours of time has elapsed since the conclusion of their most recent 8 hours of consecutive off-duty time

Cycle limit

A carrier must ensure their drivers are following Cycle 1 or 2. The driver must then indicate which cycle they are operating under on their daily log. Depending on the cycle, the driver shall not drive after accumulating:

- Cycle 1 - 70 hours of on-duty time in seven consecutive days; or
- Cycle 2 - 120 hours of on-duty time in 14 consecutive days.

Drivers using Cycle 2 are required to take at least 24 consecutive hours off prior to reaching their 70th hour of on duty time. A driver operating on Cycle 1 may reset their accumulative hours back to zero by taking 36 consecutive hours off duty. A driver operating on Cycle 2 may reset their accumulative hours to zero by taking 72 consecutive hours off-duty. A driver cannot move from one cycle to the other without taking a reset.
No driver may drive unless they have taken at least 24 consecutive hours off in the preceding 14 days.

A driver need not complete a daily log if:

- The driver operates or is instructed by the motor carrier to operate a commercial vehicle within a radius of 160 kilometres of the home terminal
- The driver returns to the home terminal each day to begin a minimum of 8 consecutive hours of off-duty time
- The carrier maintains accurate and legible records showing, for each day, the driver’s duty status and elected cycle, the hour at which each duty status begins and ends and the total number of hours spent in each status and keeps those records for a minimum period of 6 months after the day on which they were recorded
- The driver is not driving under a permit issued under these Regulations

If a radius exemption from completing a log is used, all other requirements of the regulation must still be met.

**Off-duty time**

A driver may defer a maximum of two hours of the daily off-duty time to the following day if they are not splitting time-off duty time in accordance with Section 18 or 19 of the federal government’s *Commercial Vehicle Drivers Hours of Service Regulations* and if:

1. The off-duty time deferred is not part of the mandatory eight consecutive hours of off-duty time;
2. The total off-duty time taken in the two days is at least 20 hours;
3. The off-duty time deferred is added to the eight consecutive hours of off-duty time taken in the second day;
4. The total driving time in the two days does not exceed 26 hours; and
5. There is a declaration in the “Remarks” section of the daily log that states that the driver is deferring off-duty time under this section and that clearly indicates whether the driver is driving under day one or day two of that time

Off duty periods can be split into shorter periods as defined in sections 18 and 19 of the federal government’s *Commercial Vehicle Drivers Hours of Service Regulations*.

**Adverse conditions**

Federal regulations take into consideration situations where adverse conditions may inhibit drivers from adhering to driving time limits.

A driver who encounters adverse driving conditions while operating the vehicle during a trip in any province may extend the permitted 13 hours of driving time specified in sections 12 and 13 of the federal government’s *Commercial Vehicle Drivers Hours of Service Regulations*. 
and reduce the 2 hours of daily off-duty time required by subsection 14(3) by the amount of time needed to complete the trip if

1. The driving, on-duty and elapsed time in the elected cycle is not extended more than 2 hours;
2. The driver still takes the required 8 consecutive hours of off-duty time; and
3. The trip could have been completed under normal driving conditions without the reduction

Click here for more information on Federal Hours of Service Regulation - [http://www.transportation.alberta.ca/Content/docType276/Production/Module7.pdf](http://www.transportation.alberta.ca/Content/docType276/Production/Module7.pdf)

**Module 7 Key Points**

- Hours of Service Regulations were developed to ensure driver’s get opportunities for adequate rest. Drivers cannot drive if, within a day, they have driven for 13 hours or have been on duty for 15 hours (carriers and drivers who operate solely within Alberta) or 14 hours (if they fall into federal legislation)
- The Log book is a legal document and tracks the driver’s daily activity, therefore, all information should be recorded accurately and legibility;
- Log books must be retained for a minimum period of 6 months after the day on which they were recorded
MODULE 8 – PASSENGER MANAGEMENT, LOADING, UNLOADING AND TRANSPORTING PASSENGERS

Purpose

The purpose of this module is to familiarize trainees with the passenger management and general loading and unloading procedures. This module will be organized as follows, 3 hours and 25 minutes of classroom session, 1 hour in-yard session and approximately 3 hours of behind-the-wheel session. It should take a total of 7 hours and 25 minutes to complete this module.

General Learning Outcomes

At the end of this module, the trainees should be able to:

- Understand how to manage passengers and deliver effective customer service
- Understand the general passenger loading and unloading procedures
- Know the legal passenger loading limits and bus capacity
- Safely load, unload and transport passengers including passengers with mobility devices

Habits of Minds

Trainee will:

- Recognize the importance of professionalism
- Value the three R’s: right, respect and responsibility
- Recognize the importance of following procedure to keep passengers safe in all stages of the trip
- Recognize the importance of monitoring traffic ahead of and behind the bus
- Recognize and anticipate hazardous situations and respond appropriately

Knowledge and Understanding

Trainee will:

- Understand the components of professionalism
- Know the three R’s: right, respect and responsibility
- Know the procedures for loading and unloading passengers
- Know the basic procedures for loading and unloading passengers with mobility devices

Skill and Processes

Trainee will be able to:

- Conduct themselves in a professional manner by:
  - Caring for their appearance
  - Showing positive attitude
  - Dealing with difficult people respectfully
- Deal with and resolve conflict situations by being assertive
- Demonstrate an understanding of the general procedure to load and unload passengers
Passenger Management

Introduction
As a professional driver, your main objective is to safely transport passengers to their destinations. Your job demands far more than just driving the bus along a predetermined route, it also requires drivers to have upstanding interpersonal skills.

Regardless of how good a driver you may be technically, if you frequently encounter passengers with behaviour problems while driving, the safety of you and your passengers can quickly be jeopardized. Any successful business or operation rests on a thorough knowledge of its customers or clients. As a driver, your business is no different.

In order to properly manage your passengers, it is important that you
- Know you client/customers
- Know the capacity of the bus you are driving as well as the legal passenger limits
- Have a basic understanding of procedures on how to manage passengers in a way that allows you to do your job more easily and effectively

**Note:** With the exemption of transit buses, a bus shall not be operated with a greater number of persons being transported than the seating capacity of the bus is designated to carry.

Driver Objectives
As a key member of the passenger transportation system, you are expected to perform your job in a safe manner that is conducive to good relationships between you and your passengers. You will never have all your passengers behave exactly as you wish for every trip. However, there are ways for the driver to encourage, reinforce or discourage certain types of behaviour. In order to do this, there are three objectives related to passenger improvement that you should seek to attain:

1. To develop an atmosphere of friendly cooperation and a sense of responsibility between driver, passenger and your employer
2. To firmly establish, from the start, procedures and responsibilities of the passengers for loading, unloading and conduct on the bus
3. To be able to effectively and efficiently deal with and resolve “conflict” situations when they arise

Note: You are not only responsible for the safety of your passengers, but also for dealing with their behaviour while they are on the bus.

UNDERSTANDING THE THREE R’s:

Right
The passengers have a right to a safe and pleasant trip, as the driver, you play an important part of providing a positive experience to the clients.

Respect
The passengers first have to respect themselves. Secondly, they need to respect the other passengers’ rights to a safe and pleasant trip. Lastly, they need to respect the position of responsibility that the professional bus driver holds. Through your examples of respect for everyone that you come in contact with passengers, and your employer, this attitude will reciprocate back to you. Remember that the cycle of respect starts with you.

Responsibility
You have the responsibility to operate the bus safely and ensure that it is a pleasant ride for all of your passengers. Passengers also have responsibilities – to ensure that you can drive safely and free of unnecessary distractions. This means that passengers need to stay seated (with the exception of transit buses), keep noise levels down, and not engage in horseplay. This is their responsibility to themselves, other passengers, and the driver.

PROFESSIONALISM

Conducting yourself in a professional manner will go a long way to developing an atmosphere of friendly cooperation between passengers, and your employer.

Professionalism can be demonstrated in the following areas:

Appearance
An individual who takes the time for personal grooming and keeps their bus clean and in good condition sends a strong message to passengers that they care about their job and the passengers they are transporting. An unkempt bus driver sends the opposite message.

Attitude
Attitude can make the difference between an enjoyable ride and an unpleasant one.
Having respect for your passengers will earn you respect in return. Every passenger on your bus deserves your respect. You may have to be the one to initiate this cycle of respect. Do not automatically expect your passengers to respect you simply because you are an adult or a bus driver – you have to earn respect and you do that by respecting others.

Remembering that bus drivers may interact with clients of various age groups and different backgrounds. You may also encounter passengers who have a bad day and are not in the best mood when they board the bus.

Your attitude can have a great deal of influence in your passengers’ lives. Similarly, their attitude can greatly influence your job from one day to the next. In dealing with passengers a good sense of humour can be a wonderful attribute, “Your attitude influences your driving skills”.

A friendly SMILE goes a long way. Your smile may be the first warm greeting that some of your passengers have encountered that day. You may not always get a visible return on your smile, but it may still help to get the day off to a better start for everyone.

Your attitude is felt by your clients and in the way you treat them, and ultimately dictates how they treat you in return. Your attitude will affect your individual job security and satisfaction.

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<th>Positive Attitude</th>
<th>Negative Attitude</th>
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<td>Not smiling, no eye contact.</td>
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<td>Professional appearance</td>
<td>Unkempt appearance</td>
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<td>Behaving in a professional manner.</td>
<td>Speaking in an unpleasant tone</td>
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<td>Willingness to help</td>
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A good or positive attitude will enhance-
- The level of customer’s satisfaction
- Level of job satisfaction and job security

A bad or negative attitude will result in
- Increased complaints
- Less job satisfaction and job security
- Possible loss of job

A positive attitude is fostered by effective communication. Effective communication means to be clear and concise when speaking. It also involves actively listening, and understanding what is being told to you. The following guideline may assist in developing effective communication skills:

- Your words should be in a logical sequence and to the point
  - Appropriate body language, along with eye contact, and a pleasant manner is required when speaking to customers
• It is important to ask questions in a non-threatening manner to clarify the situation
  o Ask the other person to confirm or correct any assumptions you may have made. This shows the other person that you are listening and are trying to understand the situation

Cues for ineffective communication:

• When you are not listening
• When you are argumentative
• Your body language shows that you are indifferent to the issue
• You are not making eye contact

DRIVER’S CONDUCT

Setting a good example for passengers will encourage them to behave as such:

• Be on time; if you are never on time at a pick up point, you cannot expect your passengers to be on time
• Speak in a normal tone of voice; not raising your voice will encourage your passengers to do the same
• Be respectful of your passengers’ needs and concerns
• Allow your passengers to make mistakes and, with your guidance, to correct them as soon as possible
• Leave your personal problems at home, focusing on your job; try to be the same each day so your passengers know what to expect
• Act professionally towards passengers and your employer when conflicts arise; avoid focusing on emotions when resolving a conflict – concentrate, instead on how the incident can be resolved in a safe and professional manner. Safety should always be the first priority.

DEALING WITH DIFFICULT PEOPLE

Dealing with difficult people could include your passengers, other road users, management, or another bus driver. Since about one-third of our lives are spent at work associating with people whom you have not necessarily chosen to be with, and considering the pressures and high demands of passenger transportation, it is not unreasonable to have bad days on duty.

Passengers’ expectations of your service are great. The employer is there to intervene and assist you in passenger management; however, there will be times when their perception will be that you are not following through properly on your employer’s passenger management policies and procedures.

Road Rage
Road rage is a very real possibility with reports that many Albertans have experienced acts of road rage directed against them.
The individuals that we are required to deal with may just be having an extremely difficult day and act out aggressively without thinking. Remember people become angry when they feel that their judgement, performance or values are being challenged.

While there is no excuse for the actions of people who act with anger and aggression towards others, we need to understand that, some people will act out in this manner and that proper training will assist you in handling these situations should they occur. Some key points to remember are:

- **Take charge of the encounter.** When you are confronted by an angry individual, you are in control of how you chose to respond.
- **Avoid laying the blame elsewhere.**
- **Be prepared.** Many people are responsible for making decisions that affect what you do. Have a list of the following decision makers and their phone numbers. The route planner, transportation director, safety manager, fleet manager, etc.
- **When confronted by an angry passenger,** you can say “I understand your concern; here is the name and phone number of the person that is responsible for routing." Have a pen and paper to write the information on.
- **Empathy-** When being verbally attacked, it is extremely difficult to remain calm. Most people will feel threatened. Many will become defensive and some will react in anger. Taking a deep breath has a calming effect. Remember you are the professional and you are in control. In any situation, there is only one person you have complete control over – and that person is YOU!
- **Practice the following responses so that you are mentally prepared:**
  - “I can understand your concern”.
  - “Perhaps calling (give them the appropriate name) will offer a solution”.
- **Watch Your Body Language**
  - Taking that deep breath will visually relax your body. Acknowledge that you are listening by nodding and saying, “I understand”
- **Watch the Body Language of the Aggressor**
  - If you see someone approaching your bus with a longer than normal stride, fist balled, and angry face, do not open your door. Direct them to the driver’s side-window.

During your regular route you may not have time to enter into a discussion involving possible solutions to that person’s concern. Ask if they will give you their phone number so you or another responsible person can call them back. It’s very important that if you make a commitment – always follow through.

If you are in radio contact with your office, put them on alert that there may be a “driver in danger” incident occurring. If you are able to diffuse the person’s anger – great! If not, call for law enforcement.
Basic Guidelines to Handling Complaints
This section provides basic information on how to handle complaints. Every passenger wants to be taken seriously and have their complaints addressed in a timely and professional manner. A situation well-handled will make the customer and any passengers watching feel good about you, the employer you work for, and that kind of goodwill is always remembered. The following may provide some guidelines to handling complaints:

- Learn to address complaints professionally with a positive attitude
- Learn to see the other person’s point of view
- Remain calm and objective.
- Recognize how actions, words and tone may cause reactions in people
- Respectfully listen to the complaint without interruptions
- Avoid being argumentative

Note: it is important to note that, some passengers may be unruly and the situation may get out of your control. Specific situations should be handled according to your employer’s customer service policies and procedures. If you think the situation has escalated to the point of threatening your safety and that of the other passengers, do not hesitate to contact your local law enforcement agencies (motor coach and transit bus drivers)

School Bus Passenger Management

Bus drivers encounter diverse clientele everyday. Being prepared to interact with them is an important aspect of passenger management that applies to any type of bus driver. School bus drivers can get a sense of who their passengers are by introducing themselves to the school administration when they start a new route. The driver can ask how various situations can be handled such as misbehaviour, special assistance for Kindergarten or Grade One passengers, bus passes, parking at the school etc.

In all cases when handling discipline concerns, you will work in cooperation with the school principal or their designate. The school principal is ultimately responsible for handling serious discipline issues up to and including the suspension of a passenger’s bus riding privileges. By establishing communication and guidelines before there is a problem, in most cases solutions will be achieved quickly. With more serious discipline problems, a meeting between yourself, the school principal, the parents or guardians, and the passenger may be recommended. Notify your immediate supervisor (district transportation director or your employer) that a meeting is being arranged. They may want to attend.

Setting guidelines and limits on passenger behaviour can help create an understanding that passengers are just as responsible for a safe and enjoyable trip as the driver. Passenger responsibilities and consequences should be posted in the bus and reviewed at the start of the school year, after every major holiday or whenever the need arises.
When establishing passenger responsibilities:
- concise and easy to understand for all ages
- very specific - telling the passengers exactly what they are to do
- limited in number.

The following are samples of the responsibilities and consequences that have been approved by some school districts. They can be modified for your particular situation. When making modifications ensure that they are approved by the person responsible for passenger management in your district.

Passenger Responsibilities:
1. Always obey the directions of the bus operator.
2. Remain seated while the bus is in motion. The bus operator will let you know when you can get up and exit the bus.
3. Ensure that nothing is extended or tossed outside of the bus through open windows.
4. Stop fighting, teasing, and bullying.
5. Stop loud or distracting noises.

Whenever there are responsibilities there will also be consequences. Consequences are a result of an action. The passenger chooses their action and the consequence is a direct result. Whenever you are addressing a passenger regarding their poor choice, always remind them that it was their choice to do what they did, therefore the consequence is a direct result of their action. This consequence must be applied consistently each time and equally to every passenger.

When giving passengers a warning, use a strategy involving “progressively negative choice”. This means that they have a choice, one is more unpleasant than the other. An example would be “You can remain seated for the balance of the ride to school or you can move up to the front seat. What is your choice?” The passenger is allowed to maintain their dignity by making a choice and they will usually choose to stay seated in their seat. If they do not – remember it is still their choice. The consequence for making a poor choice is moving to the front seat of the bus.

Do not touch a passenger except to restrain them from hurting other passengers or themselves. A congratulatory high five is acceptable, and even a good idea, if recognizing some special achievement.

Acceptable Consequences:
1. warning
2. assigned seat
3. conference with the bus operator – (should be in private and not in front of the other passengers)
4. communication notice/conference with the principal, or
5. conference with the principal/suspension recommended
Most actions will stop with a warning. If they do not, after three warnings the consequence would move to the next stage, an assigned seat. The assigned seat is usually front passenger side of the bus. Never move a passenger to the back of the bus when applying a consequence.

The severity of the consequence is in direct relationship to the severity of the action. More serious incidents such as fighting would necessitate going immediately to number four of the acceptable consequences above involving the school principal. When having a conference with the passengers do not “nag”. We sometimes have a tendency to over-explain ourselves and that just turns the passenger off.

If you have reviewed passenger responsibilities, then the passengers know why they have to be seated. Instead, ask the question “What could happen to you if you are not seated and the bus has to suddenly stop or swerve to avoid something on the road?” This reaffirms their knowledge of the responsibilities and then you can ask, “Why did you choose to stand up?”

While unlikely, there could be a good reason. If so, then you can take that into account. If not, then you can again remind them of the poor choice they made and ask them what they are going to do to correct the behaviour. If they come up with a good solution, great – since it is their solution there is a better chance that it will work. If it doesn’t work, then move to the next step in the consequences. When having a conference with a passenger, you should be at the school, standing outside of the bus, and have another adult present (if possible). If other passengers are milling around, take the passenger into the school and ask if there is a room in which you can talk to the passenger. Do not close the door.

Sometimes you will have a passenger that will be very compliant and sit down immediately when asked, however what is important to the operator is not always that important to the passenger and within a short period of time they may forget, or choose to ignore your request.

Monitor their attention time-span, if they are only able to stay focused for three minutes, then at two minutes 30 seconds say, “Thank you for remaining seated”. It reinforces, in a positive way, what is required. This not only makes the passenger feel better – you will too.

Points to remember:
1. It is extremely important that all passengers have assigned seats. In some school districts in Alberta assigned seats are mandated by contract.

Other reasons for assigned seats are:
• in the event of vandalism, you will know who sits in that seat,
• assigned seats will aid in discipline concerns – you will be able to move passengers who seem to be in conflict with each other or feed off of each other’s energy,
• and most importantly – in the event of an emergency you will be able to account for each passenger on the bus.
When assigning the seats remember that there is a normal “pecking order” and it is usually wise to let the passengers pick the seats they would like. One exception would be the Kindergarten and Grade 1 passengers who are usually seated at the front of the bus.

Some parents may request that their Kindergarten or Grade 1 passenger sit at the back with an older sibling. Explain that when the younger passengers are at the back of the bus you cannot protect them from the language and actions of the older passengers. If it’s necessary for the siblings to sit next to each other, then the older passenger should sit up front with their younger sibling.

Once the passengers have chosen where they want to sit, inform them that if there are any discipline problems, you will make the necessary adjustments to the seating plan.

The seating assignments should be done after three or four days on the route (except for Kindergarten and Grade 1 – they are immediate). This gives you a chance to monitor the dynamics of the bus. The seating plan should be kept updated and together with your routing information at all

2. If bus passes are required, never refuse a ride to a passenger who does not have a bus pass. In the a.m. it could be a passenger just assigned to your route. In the p.m. when you are still at the school, you should check with the school supervisor for instructions.

3. Reinforcement of good behaviour by positive praise is the most effective tool in improving passenger behaviour. Keep in mind that food treats are not acceptable or effective. With the many food allergies that passengers could have, you could be held liable if a passenger has an allergic reaction.

Bullying
When establishing the passenger’s responsibilities, it is important to include the problems associated with bullying. Every child has the right to feel safe at home, at school, in the school bus and in the community. Bullying is not a normal part of growing up. It doesn’t usually go away on its own and often gets worse with time.

Bullying needs to be dealt with immediately. To stop hurtful behaviour, we all need to respond when it occurs and take steps to prevent it. The first step is recognizing when there is a problem. This can be extremely difficult for a school bus operator while, at the same time, manoeuvring a very large vehicle through traffic.

The following will help you recognize the children most at risk:
- Submissive
- Shy, reserved, quiet, sensitive
- The youngest or smallest
- Unwilling to stand up for themselves
- Exhibits annoying behaviours
• Expresses emotions quickly
• New kid on the block
• Previously traumatized
• Rich or poor
• From an ethnic minority
• Gender/sexual orientation

Once you identified the possibility of a child being at risk, early intervention may prevent a situation from occurring. Quite often you can change the dynamics of a group by simply changing the seating arrangement. Never hesitate to ask the school administration and staff for advice.

Types of bullying that you may encounter:

1. Physical: hitting, pushing/shoving, and stealing
   Physical bullying can hurt a child’s body, damage belongings or make a child feel badly about them self.

2. Psychological:
   a) Verbal - insults, treats, comments about how someone looks, or talks, or comments about someone’s ethnicity. Verbal bullying can make a child feel badly about himself or herself
   b) Social- gossiping, rumors, ignoring, and being excluded in group activities. Social bullying can make a child feel alone and not part of the group.

Suggested Steps for Intervening in Bullying Situations:
• intervene immediately - stop the bullying behaviour as soon as you see it or become aware of it
• talk to the bully, and talk to the victim, separately. If more than one child is involved in perpetrating the bullying, talk to each of the perpetrators separately, in quick succession. Whenever possible have another adult in attendance
• consult with school administration or the child’s parent or guardian to get a wider reading of the problem, and to alert them to this issue; get advice as to how this situation fits with school and board policies, and/or refer to written guidelines
• expect that the perpetrator(s) will minimize and deny their actions and responsibility
• tell the bully why their behaviour was unacceptable; tell them what behaviour you do expect of them
• inform the bully of the consequences that will be imposed in the event of another incident, and
• reassure the victim that all possible steps will be taken to prevent a recurrence

Most bullying happens when you are not looking. When you are told about it, take it very seriously since children usually go to adults with these problems only as a last resort. Do not ask the child who reports being bullied “What did you do first?” Bullying is not the victim’s fault.
Every child has the right and need to feel safe, and as an adult caring for children we have an obligation to stop and break the bullying cycle.

For more information on bullying, see the Alberta Government Children’s Services website at: http://www.bullyfreealberta.ca/

Rewards
Since passengers who misbehave have negative consequences, passengers who behave should have positive consequences or rewards. Positive rewards can change the atmosphere of an entire bus and make passengers look forward to the ride.

Positive rewards can be:
- something the passengers like
- age appropriate items such as stickers or music
- praise by the bus driver

A positive reward, once given, belongs to the passenger and should never be taken away.
“Catch kids being good!”

Skills for Dealing with Conflict

Have an Assertive Attitude. Assertive operators:
- are self assured, stay calm and use normal tones (with authority) and volumes in speech; do not yell, scream, swear or name call
- say what they mean, mean what they say and then follow through by doing what they say
- are always prepared to handle any behaviour problems that occur on their bus
- take the attitude that “no passenger will stop me from driving a safe bus”; and
- take the attitude that no passenger will stop another passenger from having a safe and pleasant trip

Broken Record

Learn to use the “broken record” method to prevent arguments:
- know what you want the passenger to do
- tell the passenger what you want
- if an argument ensues, repeat what you want, up to three times; and
- if the passenger still does not do it, then use a consequence

Guideline for Dealing with Conflicts:
- allow the passenger to propose their own solution to the conflict if this is acceptable to all parties.
- let the passenger make the choice to behave or face clearly explained consequences
• however you deal with it, you should strive to leave the dignity of the passenger and operator intact; and
• do not yell – if you yell, it is a sign to you and your passengers that you are out of control.

If you have pulled the bus over to the side of the road, and need to speak with a passenger, do so in a quiet and controlled manner. The passenger will have to listen and the other passengers will become very quiet because they want to hear what is going on. When you yell, passengers just turn you off plus they know how to get you upset or have you lose control.

You may not be able to solve all conflicts and behaviour problems on your bus. Keep in mind that your main objective is the operation of a safe bus to deliver passengers to their destination. While discipline problems can make a good driver quit, a great operator deals with the problems in a professional manner.

**Loading and Unloading Passengers at designated stops**

Trainees are required to apply their driving skills discussed in Module 3 in order to be able to perform the loading and unloading procedures.

**General Procedures**

These procedures have been developed with the assumption that the trainee is able to apply the learned driving skills.

1. **Check Mirrors Often As You Drive:**
   - Pay attention when you know a bus stop is coming up
   - Get a good reading of the traffic patterns for both following and oncoming vehicles
   - Before you stop, ask yourself the following questions:
     - Is traffic relatively clear?
     - Can the stop be made with little or no hazard to your bus, your passenger or other traffic?
     - Is there oncoming vehicle that may cause a problem?
     - Is there a long line of vehicles following your bus that have not had an opportunity to pass your bus?
     - Does the driver following appear to be impatient or anxious to pass?

If there is traffic following or oncoming and you have an opportunity to let it pass, do so by slowing down well before the stop and allow the traffic to clear. The safest place for other traffic is GONE.

Manage traffic with respect and consideration.

Do not use the shoulder or “Parking Lane” of a provincial highway as a driving lane for your bus.
2. For school bus
   Activate the Alternately Flashing Amber Lights (if by-laws permit):
   - Alternately flashing amber lights must be activated as you first begin to slow for the purpose of loading or unloading passengers.
   - This will give other road users ample warning of your intention to activate the alternately flashing red lights at an upcoming stop.

3. Signal Right:
   - This will indicate your intentions to change lane position. Do this at approximately 100 metres – if there is an approach or other driveway before your intended stop, hold your signal until you pass it.
   - Shoulder check and check your mirrors every time you change position in your lane.
   - Look ahead and choose a location that is as far right as practical, and one that will still give the passengers a safe footing, plus being at least 1 metre away from the nearest waiting passenger. Children often want to be first in line with the potential for pushing and shoving, increasing the possibility of someone being shoved under the bus as you prepare to stop.

Once the bus is stopped at the designated stop:

4. Secure the Bus:
   - Cancel the right signal, place the gear in neutral, set the parking brake, and maintain pressure on the brake pedal. This must be done every time.
   - Transit Bus: Interlock brakes on some transit buses prevents power from being transferred to the throttle and can be applied instead of setting the gear in neutral and applying the parking brake.

5. Mirror and Shoulder Checks:
   Check for vehicles approaching from the rear, both sides and from the front. If unloading, ensure passengers remain seated until you are ready to unload. (motor coach)

   Always double check again for vehicles that you may have missed the first time or vehicles approaching at a high rate of speed.
6. Open the Door:
   - Ensure that passengers entering and exiting the bus conduct themselves in an orderly fashion.
   - Do not close the door until passengers entering are safely seated (or standing-transit buses) or until passengers exiting have safely exited the bus.
   - Use mirrors to monitor passengers exiting from the vehicle from the rear door prior to closing the door (if applicable).

For school bus drivers - Once the bus is stopped, opening the door cancels the alternately flashing amber lights and the alternately flashing red lights are activated along with the stop arm and crossing arm.

**Note:** Never activate the alternately flashing red lights until the bus has completely stopped, the bus is properly secured and the traffic is controlled!

Do not close the door or deactivate the alternately flashing red lights until the passengers being loaded are safely seated or those leaving the bus are in the designated safety zone area.

7. Close the Door
   - Once all passengers have entered or exited the bus, all doors must be closed prior to moving the bus. Select the appropriate gear and release the parking brake.
   - Make sure all passengers are seated. (Except for transit buses, where standing passengers are permitted). Take one final look in the mirrors to ensure no individuals are around the bus.

For School bus drivers – Closing the door will deactivate the alternately flashing red lights and you can now allow motorists to pass your bus since the passengers are either safely in the bus or in the safety zone. When unloading, count students as they get off the bus and again when they reach their safety zone

8. Mirror Check, Shoulder Check and Signal Left:
   - When safe to do so, pull back into the driving lane and proceed on your route.
   - In addition to yielding the right of way to other road users, watch out for vulnerable road users prior to moving the bus.

**What does the driver of another motor vehicle see when following a bus that is about to make a stop?**
1. the alternately flashing amber lights (school bus only);
2. the right signal comes on;
3. the brake lights;
4. as the bus stops the right signal cancels; and
5. the alternately flashing amber lights cancel and the alternately flashing red lights come on, plus the stop sign comes out with its flashing red lights (school bus only).
Bus operators communicate to other motorists through the use of their lights, not by using hand-signals.

**School Basic Procedures - Loading and Unloading When Students Must Cross Highway (Left Side)**
The procedures when loading or unloading at a left-side stop where passengers must cross the highway are similar to the right-side stop except for a few fundamental differences that are outlined below:

1. Check Mirrors Often
2. Activate the Alternately Flashing Amber Lights
3. Signal Right: Move to the right as far as practical, allowing safe footing for the passengers. Stop the bus approximately 10 paces from the waiting passengers on the left side depending on road width.
4. Secure the Bus
5. Mirror and Shoulder Checks
6. Open the Door: Operators need to have set clear expectations about how this procedure will work. Passengers should be instructed from the very beginning that when loading they need to pay particular attention to the operator and traffic before they leave their safety zone to cross the highway.

Frequently, sufficient natural light conditions do not exist during early morning pickups. This may require the bus operator area be illuminated with the interior light, so the operator will be clearly visible to the awaiting passenger(s).

The operator should place their hands at top of the steering wheel and establish eye contact with passenger(s).

Prior to crossing the highway the operator signals the passengers to proceed using a hand gesture when it’s safe to cross. By leaving your hand on the steering wheel, you will not confuse other motorists into thinking you are waving them on. In fact, you should never wave another vehicle on as you might be held responsible if a passenger is injured.

By keeping your hands at the top of the wheel you also have quick access to the horn, should it be required.

For unloading, keep your passengers onboard until it is safe. Passengers should be instructed to walk 10 paces along the shoulder of the road in front of the bus and then cross the highway in front of the crossing arm.

Passengers should continually watch for traffic while crossing. It is a good idea to constantly talk to your passengers as they depart, letting them know about the traffic and reminding them to keep checking while crossing the highway.

7. Close the Door:
   Once the passengers are safe, either sitting down in the bus or outside in the safety zones, close the door.
8. Mirror Check, Shoulder Check and Signal Left:
Loading and unloading are especially critical procedures when children must cross the highway to board, or leave, their school bus. Routes should be designed to minimize the number of crossings that children must make to board or leave the bus. Wherever possible, passengers should be picked up and dropped off on the right side (home side) of the road. Computer programs are being used in many school systems, which can help in developing safe routes. Operators are out in the field everyday and can provide valuable input on bus routes and bus stop characteristics that may affect the safety of a stop. A stop that was safe at one time may become unsafe. Things can change on your route; trees and bushes may grow to create dangerous blind spots or traffic on a certain road could increase due to road construction or suburb development. These are things that need to be shared with your supervisor and the school district.

**Rural - Loading and Unloading of Students – With a Turnaround:**

On most bus routes in Alberta, you may have to make at least one turnaround to avoid driving unnecessary extra kilometres. There are two types of turnarounds:

1. a right-side turnaround where you back into a road on the right and drive out, and
2. a left-side turnaround where you drive into a road on your left and then back out without crossing over two traffic lanes.

**Right-Side Turnaround**

The right-side turnaround is the safer of the two but both, while necessary in certain situations, should be avoided as much as possible. When a turnaround is required, remember that it is extremely dangerous to back from or onto a main road. Never turn around at a road that necessitates backing out onto a provincial highway (single or two-digit highway) or any other heavily travelled road.

**DIAGRAM:**

- Load the passengers before the turnaround (in positions 1 or 2).
- Unload the passengers after reversing (in positions 3 or 4).

2. Close the door when loading complete.
   Ensure the passengers are safely seated and the alternately flashing lights have been cancelled:
3. Mirror Check, Shoulder Check and Signal Right: Pull the bus approximately one bus length ahead of the road that you will be backing into.
4. Check Traffic and Reverse: Shift into reverse and back into side road when safe using your mirrors and shoulder checking to the right. Sound horn once for every bus length as you back-up until fully on the road being backed into.
5. Signal Left: Select forward gear, signal left and turn when it is clear and safe to do so.
Basic Procedures – Unloading Students – Right-Side Turnaround

1. Check Mirrors Often
   Know where your traffic is. Start slowing down well in advance of the turnaround, and signal right as you pass the turnaround road.

2. Stop the Bus on the Main Road
   It should be approximately one bus length ahead of the road that you will be backing into.

3. Check Traffic and Reverse:
   Shift into reverse and back into side road when clear, using your mirrors and shoulder checking to the right. Sound horn once for every bus length as you reverse.
   Bus position on completion should allow good footing for the departing passengers.
   This can become a concern when there is ice or snow build-up along the edges of the road.

4. Activate the Alternately Flashing Amber Lights

5. Secure the Bus

6. Open Door and Activate Alternately Flashing Red Lights:
   Activate the alternately flashing red lights along with the stop arm and crossing arm (if applicable). Allow the passengers to get off the bus, counting them and ensuring they are all well past the end of the bus.

7. Close the Door:
   Deactivate the alternately flashing red lights. Signal left and re-enter the main road when it is clear and safe to do so.

Basic Procedures – Loading and Unloading Students – Left-Side Turnaround

The procedures for loading and unloading using a left-side turnaround are very similar. There are, however, some special considerations when doing a left-side turnaround. Again, this type of turnaround should never be done on a provincial highway or other heavily travelled road. A left-side turnaround is particularly prone to poor sightlines, making visibility of oncoming traffic very difficult. If the sightlines are poor and safety is an issue, then this type of turnaround should be avoided. In this type of situation, it is imperative that there are clearly designated safety zones, so that the waiting passengers know exactly where to stand.

**Note:** due to weather (i.e., amounts of snow) these safety zones may need to change.

Ensure that you openly communicate with passengers about these concerns and changes. While this type of turnaround is not illegal, it should be done only when absolutely necessary and where there is no safe alternative; keeping in mind that reversing a school bus is potentially dangerous and great caution must be exercised.

1. Signal Left:
   This will indicate your intention to turn into the next road up ahead. Do this at approximately 100 metres. Scan your mirrors often and shoulder check before turning left. Turn left when safe.

2. Activate the Alternately Flashing Amber Lights

3. Secure Bus

4. Open Door:
   Activate the alternately flashing red lights along with the stop arm and crossing arm (if applicable). Let the passengers on or off, watching them as they proceed to or away from the bus.
5. Close the Door:
Deactivate the alternately flashing red lights. Wait until the passengers are safely seated or you can see that they have moved a safe distance away from the bus, select reverse, sound horn once for every bus length as you back, and using your mirrors and sightlines, back into the closest lane without crossing the centerline. Signal left and proceed when safe.

The obvious advantage of using turnarounds is that by leaving a main road to a less travelled one, you reduce the potential traffic conflict hazard on the main road and increase safety for the passengers.
It should be kept in mind that when doing a turnaround it must be made before unloading and after loading. This means that passengers should never be near the bus when doing a turnaround.

If sightlines are obstructed or there are situations where the conditions and terrain could make backing into a road difficult, (i.e., narrow road, snow-bank), then safety becomes the main concern and other options for loading and unloading need to be considered.

Hazardous Situations
You must always be prepared for the unexpected while loading and unloading because so much is dependant on other drivers and the passengers.
Common courtesy and extreme caution are advised in all situations.

When Traffic is Following the Bus:
This is an occurrence that becomes more hazardous on highways that do not easily facilitate passing. Drivers may become impatient and anxious and eventually angry. Whenever you can, allow traffic to pass. If the pass appears to be safe, without creating a hazard:
• maintain your lane position, either in the centre of the lane or slightly to the right to allow extra clearance
• maintain or reduce your speed to a reasonable rate, avoid the tendency to accelerate.
Allowing vehicles to pass may take a couple of extra minutes, but greatly reduces the risk of having a driver pass during the loading and unloading process. It is generally preferable to allow a driver to pass when they are driving erratically or appear inattentive.

**Note:** Do not drive on the shoulder area or “parking lane” portion of a highway when other traffic is passing you.

After loading or unloading, allow traffic to proceed before you resume your position on the highway. School bus operators have been criticized for pulling back into traffic before turning off the alternately flashing lights, thus, “trapping” traffic behind them. The courtesy you show other users of the road will make it a safer place for everyone.
Students across North America have been killed in the process of loading or unloading when the very bus that they ride on has run them over. This happens because there is a danger zone around the bus. The bus has many areas that are not visible to the operator. Buses have pulled away thinking that the passengers have gone into their home or are down the street on the way home. In reality the passenger has gone under the bus to pick up something and the rear wheels ran over the passenger. Other tragic situations have occurred when passengers, after getting off the bus, have climbed onto snow banks beside the bus to talk to or wave to their friends still on the bus and then slipped off the snow bank and slid under the bus just as it was pulling away. The only way that you can know if one of your passengers is not under the bus is to assign a safety zone for passengers waiting for the bus and a safety zone for them to go to once they have gotten off the bus. In areas where you are required to use the alternately flashing lights:

- passengers living on the opposite side of the road would go to a designated safety zone on that side of the road where the operator can see them.
- passengers living on the same side of the road would go to a safety zone that is clear of the bus and where the operator can see them.

Prior to pulling away after unloading you would check both safety zones and ensure all of the passengers are accounted for. This is where counting the number of passengers leaving the bus at each stop is important. If you have lost track of a passenger you must secure your bus, do a total shut down, take the key, and go out to check around the bus. If the passenger is nowhere to be seen, you would write up the incident and take the report into the school the following morning. This is a potentially serious incident since the passenger was not visible to the operator by being in the safety zone as required prior to the bus pulling away.

**Examples of Safety Zones When Alternately Flashing Lights Are Being Used:**

**On rural roads when passengers do not have to cross the road:**

*On a rural road with a driveway the bus operator would block the driveway and the safety zone where the student(s) wait would be a minimum of one metre down the driveway.*
On rural roads when the passenger(s) cross the road:
The bus is positioned to allow the student(s) to walk ahead of the bus 10 paces, and wait for the operator’s signal to proceed. Once the operator has ensured the alternately flashing lights are activated and that all traffic is stopped, a signal would be given to the student(s) to cross the road. The student(s) should be trained to do one last check for traffic before leaving the safety of the front of the bus. The student(s) remain in the safety zone across the road until the bus leaves.

Urban Areas
The Traffic Safety Act defines “urban area” as follows:
1(vv): “urban area” means a city, town, or village or an urban service area within a specialized municipality.

Alternately flashing amber or red lights must be used at all times when loading or unloading unless a municipal bylaw or a Ministerial regulation specifically exempts the use of the alternately flashing lights and stop arm.

Section 73(4) of the Use of Highway and Rules of the Road Regulation states the following:
73(4) A person shall not operate the alternately flashing lamps or the stop arm located on a school bus other than as provided for under subsection (1) or a regulation or a bylaw referred to in Section 113(2) of the Act, whichever is applicable.

Section 113(2) of the Traffic Safety Act reads as follows:
(2) Subject to the regulations made under subsection (1), in the case of a highway or a portion of a highway
(a) that is under the direction, control and management of the Minister, the Minister may make a regulation; or
(b) that is under the direction, control and management of a municipality, the municipality may pass a bylaw, governing the times during which, the locations at which or the circumstances under which, as the case may be, the alternately flashing lights and stop arm on a school bus may be, shall be or shall not be used while the school bus is operating on that highway or that portion of highway.

There are many urban areas where local by-laws prohibit school bus operators from activating their alternately flashing lights. Other motorists are free to pass the bus any time. In such situations, it is important to remember the following guidelines for urban areas:
- If there are passengers living on both sides of the road, then you will have two safety zones.
- If you are picking up and dropping off in the same location, you will only need one safety zone.
- If the route is reversed, on the p.m. route you will need two safety zones, one for the a.m. and one for the p.m.
Once the bus has left, the passenger(s) walk back to the intersection, look both ways and cross the road when it is safe. Children should be encouraged to use the Point, Pause, & Proceed method to cross the road in urban areas. This is where they hold their arm straight out at right angles to their body pointing in the direction they wish to cross, all the while checking for traffic while in the crosswalk.

Prior to pulling away from the stop check the safety zone and ensure all of the passengers are accounted for. If you have lost track of a passenger you must secure your bus; do a total shut down, take the key, and go out and check around the bus. If the passenger is nowhere to be seen, you would write up the incident and take the report into the school the following morning. School personnel and caregivers may not understand the dangers of loading or unloading, and it may be necessary for the operator to repeatedly remind the passengers on safe loading and unloading procedures.

The procedure should be reviewed at the beginning of the year plus at least three additional times throughout the year, and whenever a new passenger boards the bus for the first time.

Remind the passengers that cross the road without the benefit of the alternately flashing lights to:

1. Wait in the safety zone until the bus departs.
2. Go to the intersection.
3. Look around 360 degrees and, when safe, cross the road using the Point-Pause-Proceed method.

**Safety Note:** At times caregivers, in their lack of knowledge of the safety zones, will walk a passenger in front or behind a bus before the bus has departed. In a respectful manner, explain that the children have been trained to wait in a designated safety zone. Emphasize that safety zones are important for the safety of their child. If they refuse to comply, bring it to the attention of the school administration.

Passenger loading or unloading in municipalities where there has been a by-law passed prohibiting the use of the alternately flashing lights

LANE CHANGE RIGHT: Mirror check, shoulder check, signal right and when safe, move to the right portion of the road or the curb, ensuring in each case that there is safe footing for the passengers.

STOP ONE METRE FROM THE NEAREST PASSENGER: Your passengers should be trained to wait in the designated safety zone. If they are playing and pushing as you approach, stop at least three metres away from the passengers - motion for them to go back to the designated safety zone and then pull up cautiously, stopping one metre from them.

When you are training your passengers on safe loading or unloading procedures, it is important that you emphasize that they are not allowed to move towards the bus until the door is fully opened, and you have motioned for them to proceed (the door open could be the agreed upon signal for the passengers not requiring a further signal on your part – keep in mind that hand signals could be misinterpreted by motorists).
SECURE THE BUS: Park brake on, transmission in neutral, and foot firmly on the foot brake. Cancel your signal. None of the steps can be eliminated in securing the bus. If the bus is not secured properly, there is a risk that it could move while passengers are loading or unloading. Even if you are driving a bus with an automatic transmission that has a park position you must still use the park brake.

OPEN DOOR: When you open your door fully it will be a signal for the passengers to start boarding the bus (or also a signal from you, if this has been agreed upon previously with your passengers).

WHEN THE LAST PASSENGER IS SEATED: Close the door, ensure passengers remain seated, select gear, release park brake.

MIRROR CHECKS: Before moving the bus check for latecomers, other pedestrians, animals etc. starting with the right side mirror, to the crossover mirror, then the left mirror for traffic. When safe, signal left, check crossover mirror one more time, and proceed.

When you are assigned a route there will be a map and/or running board that has been prepared by the school district or your company. Usually this information will tell you the location of the stop but not the stop position.

Even if the students do not have to cross the road they must wait in the safety zone until the bus has left.

The school bus industry standard is that most stops (when the alternately flashing lights are not being used) should be just through or past an intersection. Seldom will there be a mid-block stop. If there is a mid-block stop on your route discuss this with your supervisor. A mid-block stop is not recommended for passengers who have to cross the road.
T INTERSECTIONS:
T intersections follow the same rule. Always remember - the passengers are required to cross the road at an intersection and crosswalk after the bus has left.

If your route sheet indicates a turn (right or left) the best stop location would be after the turn. In many areas, transit stops are also designated stops for school buses. As a professional you will have to make a judgment call as to whether the position of the transit stop meets the criteria of a stop position through the intersection. Check with your supervisor if you are permitted to use transit stops and what conditions may apply.

Special circumstances may require routing changes that do not meet the criteria of a loading or unloading stop positioned “through the intersection”. The age of the passenger or medical requirements may necessitate the route planner to make exceptions. If that occurs, confirm with your supervisor that the routing information you received is correct, and that the safety of the passenger is assured.

Loading or unloading procedures in urban areas where there is no by-law prohibiting the use of alternately flashing lights Picking the right location for safely loading or unloading passengers requires that consideration be given to the traffic, road configuration, and any special circumstances.

Generally, a mid-block stop would be the safest. This location would only involve a road that is not divided by a median. If you stop close to an intersection, for the safety of passengers you would need to take cross-traffic into consideration. Remember your alternately flashing lights do not control traffic on the cross-street or intersecting road.

COMMERCIAL VEHICLE SAFETY REGULATION AR 121/2009
Embarking and disembarking students
26(1) The driver of a school bus shall not embark or disembark students onto or from a school bus unless
(a) it is at a time and a place that is safe to do so, and
(b) where applicable, it is in compliance with section 43 of the Use of Highway and Rules of the Road Regulation (AR 304/2002).
(2) When the driver of a school bus disembarks a student from the school bus, the driver shall not move the school bus after the disembarking until the student is observed by the driver to have reached a place that is safe from the traffic.

When Students Must Cross Highway
Application of crossing arm inside urban area
28(1) Subject to subsection (2), where a student must cross a highway inside an urban area before embarking onto or after disembarking from a school bus, the driver of the school bus shall, as far as practicable, direct the student to cross the highway in front of the crossing arm of the school bus with the crossing arm in its open position or at a crosswalk.

(2) Where a student must cross a highway inside an urban area before embarking onto or after disembarking from a school bus, the driver of the school bus shall, as far as practicable, direct the student to cross the highway at a crosswalk if the council of the urban area has enacted a bylaw that prohibits the school bus from using
(a) a crossing arm,
(b) a stop arm, or
(c) alternating flashing warning lamps.

If the alternately flashing lights are required in an urban area and the route planner indicates that a stop should be at an intersection, then it should be just prior to crossing the intersection and before the crosswalk. By choosing that location the passenger will be crossing in front of the bus, with the aid of the alternately flashing lights, in a crosswalk. Extreme caution still needs to be used. Drivers turning the corner may not see the alternately flashing lights or the passenger crossing the road.

When loading or unloading in an urban area, and where the road is divided by a median, only the traffic approaching from the rear must stop. In this situation, passengers having to cross the street would be doing so without the benefit of the alternately flashing lights since traffic on the other side of the median would not have to stop. This is where stopping just before an intersection or crosswalk would be preferable.

Please remember: Passenger loading/ unloading is the time of greatest danger for your passengers.
Do one thing at a time
- Never lose sight of your passengers and always be aware of other children, animals etc. that could be around your bus.
- There is no room for complacency. Just because a passenger has done right 122 days - on the 123rd day he or she just might go under the bus for a book that dropped.
- The only thing predictable about children is that they are unpredictable.

In School Yards
School yards, particularly at the end of the day, can present special hazards. Typically, the yard is filled with a large number of passengers. If this is the case, proceed with caution to the pick up or drop-off location and, if necessary, stop completely before reaching the designated stop and wait for the “excitement” to subside. Some schools have instituted special procedures or have assigned supervisors to assist in loading and unloading at the school. Give your fullest cooperation to these people in carrying out the procedures they have instituted. For these reasons, buses should be in position for the afternoon pick up prior to the dismissal of passengers from classes. Keep in mind that passengers who do not ride the buses also present a hazard as they may run in between buses or be in a rush to meet parents.

Safety Reminder: These are not the only loading and unloading situations you will face as an operator that involves a hazard to passengers or others. Therefore, it is essential that you constantly monitor what is going on around the bus and always be prepared for the unexpected.

Young Children with Special Needs:
- Special-needs children should never be required to cross a road unless they are accompanied by a responsible person such as a parent or caregiver. In certain cases an older child, if mature and responsible, could also assist.
- In most cases, where practical, loading and unloading should be done door-to-door.
- Bus operator must watch the special-needs child gain entry to the home/business/ school and a responsible person should acknowledge that they now have the child in their care.
- If no responsible person is there to receive the child and no prior arrangements have been made, contact your supervisor.

Basic Procedures to Loading and unloading Passengers with Disabilities and Mobility devices

As a driver, you may be driving people ranging from young children to senior citizens and you need to be aware of and sensitive to the needs of your passengers. Passengers needs may be unique due to disabilities (cognitive, developmental, sensory or physical and or use of mobility devices, child safety seats etc.)

Transporting people with disabilities, mobility devices, child seat may require some extra loading and unloading time, as a driver you need to exercise patience.
As noted earlier in this module, it is important to know your passengers. Awareness of different types of disabilities will determine how you drive, the kind of assistance your passengers may require in getting on or off the bus, and the measures required to ensure their safety on the route.

Knowledge of how to load and unload passengers with mobility devices is an important part of driving a bus. In addition to the general loading and unloading procedures, the following guideline may provide valuable information when loading or unloading passengers with mobility devices.

The best way to determine how to assist the passenger is just ask.

- Ask your passengers how you can best assist them
- Inform them of your actions before you do anything and check if it is the best approach.
- Keep asking until you get it right.

The procedures to safely load and unload passengers with mobility devices may vary depending on the type of bus you are operating, loading and unloading routes and facilities, and prevailing weather condition.

Prior to loading or unloading a passenger with a mobility device, you need to consider the following:

- Where to stop at a designated stop so that loading and unloading is faster and easier and will leave enough room for ramp/lift
- Where to stop so that you can be seen by other motorists
- Where to stop if your original stop is not available
- Understand how to properly operate the loading and unloading components/features of the vehicle you are operating.

Ensure that passengers with mobility devices and car seat are securely seated prior to moving the vehicle.

Employers may provide additional training on how to effectively load and unload passengers with disabilities, mobility aids and child safety seat.

The most common types of mobility aids are the standard manual wheelchair, the power drive (motorized) wheelchair, and the motorized scooter.
Mobility Aid and Passenger Restraint Systems

The following is a general guideline for securing passengers in wheelchairs with a four-point tie down. Always follow the manufacturer’s guideline and company policies on how to safely secure passengers if a different restraint system is used.

- Make sure your passengers have their chair’s lap belt (if equipped) properly secured
- Centre the chair on the four plates on the floor of the bus
- If passengers prefer to use a lap belt attached to the vehicle, take the belt and attach it to one of the rear tie-downs. Pass it around the passenger, holding it away from the passenger’s body. Take the other end and secure it to the other rear tie-down
- When using a shoulder strap, be sensitive to your passenger and be as unobtrusive as possible
- Take the shoulder strap from the wall, holding it away from your passenger’s body with one hand. While still holding the strap, use your other hand to clip it to the four-point tie down on the mobility aid
- Gently release the shoulder strap and pull the adjustment snugly
- Secure the two front tie-downs. Attach the clip into the floor plate and pull the belt to the estimated length required to secure the hook
- Attach the hook to a solid frame member on the wheelchair

**Note:** You cannot safely tip a power chair or scooter to the balance point since tipping may spill acids from batteries and cause severe burns. DO NOT tip the power chair or scooter more than a few inches unless the batteries have been removed. Whenever possible avoid curbs, don’t use stairs, and always ask your passengers how to provide assistance.
- Tighten the belt so it is secure but not forced and make sure the belt forms a 45-degree angle to the floor
- Over-tightening may damage the wheelchair
- Keep the belts clean and off the floor by securing the Velcro tabs
- Repeat the procedure with the rear belts, again having the belts form a 45-degree angle to the floor
- For manual wheelchairs, hook the belt to a solid frame member near the place where the chair seat meets the seat back
- When tied down, the wheelchair should be snug and not wiggle back and forth, but be careful not to over-tighten.

**Securing Scooters**

Three or four-wheel scooters can be a challenge to secure, particularly if there are no clips or rings attached to the rear framework. Some companies will not transport scooters unless they can be properly secured. Passengers are advised to contact the scooter manufacturer to make any adjustments and not leave the job to amateurs. Otherwise, the scooter can sustain damage and the safety of all passengers can be compromised.

Secure scooters using the same procedures for wheelchairs. As with securing wheelchairs, always follow the manufacturer’s guideline and company policies on how to safely secure passengers.

Tie down the scooter using the four-point system in the floor, tightening the straps so the straps are snug but not too tight. Scooters should be equipped with clips, bars or D-rings installed by the manufacturer on the rear framework.

The safest way to secure the back of the scooter is by looping the belts through the clip, ring or bar attached to the rear framework. The belts should form 45-degree angles to the floor. Less safe and less secure methods of tying down the back of the scooter are by attaching the clips around the pedestal or the chair frame. Secure the front of the scooter by hooking each belt to the tiller and crisscrossing them in front. Attach the belts to the two floor plates and adjust.

Note: If clips are attached around the pedestal or the chair frame there is a danger that these may detach during a collision.

**Loading using a Lift**

To help passengers on and off a vehicle using a lift requires knowledge of your vehicle’s entry system. The safest method of using a lift varies with the type of equipment, the size of the mobility aid, etc. Side loading lifts require the passenger to face away from the vehicle. Rear loading lift systems require the passenger to face the vehicle.

The following procedure is recommended for both types of lifts:

- Apply parking brake
- Check to ensure that the passenger in the chair has done up their lap belt
- Make sure the doors are locked open and cannot swing closed
- Lower lift to ground level, being careful not to pound it into the ground or leave it resting on uneven ground
- Place the mobility aid on the lift, with the passenger facing away from the vehicle, making sure that the passenger’s feet and legs or parts of the mobility aid will not get caught between the vehicle and the lift
- Put on the mobility aid’s brakes, if available
- Put up the safety plate on the lift (on some vehicles, this is done automatically)
- Operators should ride on the lift with the passenger when possible, but some scooters and electric chairs are too big to allow this. Operators must keep one hand on the mobility aid to ensure they are immediately aware of any movement of the chair while on the lift
- Release the brakes of the mobility aid
- Roll the mobility aid into the vehicle and apply it’s brakes
- Enter the vehicle and manoeuvre the mobility aid to the desired location, ensuring the passenger’s feet are clear
- Use tie-downs, seat belts, shoulder straps and mobility aid brakes
- Don’t forget to return the lift to the upright position and ensure the doors are closed before re-entering the vehicle
- Develop a routine. If distracted, return to the routine to ensure no steps are missed or are incomplete

**Note:** For more information on guide to loading and unloading senior and persons with disabilities, go to [http://www.transportation.alberta.ca/Content/docType56/Production/Drivers%20Guide.pdf](http://www.transportation.alberta.ca/Content/docType56/Production/Drivers%20Guide.pdf)
Follow the same procedures for all mobility aids, making sure the safety plate is up before you start the lift (if it does not go up automatically), and remembering to keep one hand on the mobility aid at all times.

Unloading Using a Lift
To unload, reverse the procedures in Loading Using a Lift.

Lift Failure
If you experience a power or equipment failure and you have a passenger on the bus, you will have to operate the lift manually. Follow the manufacturer’s instructions for manually operating the wheelchair lift.

Practical (In-vehicle) Components – Role Playing
At the end of the classroom portion of the module, the trainee will be required to learn and practice various driving skills under the supervision of the instructor. Trainees and the instructor will go on the road for the practical portion of module 8. The instructor will use 15 minutes to demonstrate the general procedures of how to load and unload passengers on the road. Students will then have 1 hour and 15 minutes to practice the general loading and unloading procedure on the road.

Loading and unloading passengers with disabilities
The instructor will demonstrate how to load and secure mobility devices using 20 minutes in the yard. Trainees will then have 40 minutes to practice operating accessibility equipment and securing mobility aids on the bus. Following the in-yard portion, the instructor and trainees will go on the road where the instructor will use 10 minutes to demonstrate how to load and unload passengers with disabilities. Trainees will then have 40 minutes to practice.

During in-vehicle instruction, trainee shall develop the skills and control required to safely load and unload passengers. As a way of practice, trainee must also perform daily inspection prior to leaving the yard.

Country Turnaround- Loading and Unloading Passengers
The instructor and trainees will go on the road where the instructor will use 10 minutes to demonstrate how to load and unload passengers while completing a country turnaround (driver side and passenger side). Trainees will then have 30 minutes to practice.
Practice – Loading and Unloading Passengers (minimum of 1 hour and 30 minutes for both practical A and B)

Trainees should be able to apply their driving skills and rules of the road in order to perform loading and unloading procedures. This practical is a general guideline for loading and unloading passengers. Each carrier may have specific company polices on loading and unloading passengers. Trainees should be allowed to perform these activities on approved routes and designated stops.

A. Starting/stopping bus to load and unload passengers

- Observation
- Rolls back
- Ability to use the Gear/Clutch/Accelerator/Brake to smoothly merge into traffic and slow down vehicle at a bus stop
- Vehicle manoeuvring: Turning/lane change/right of way judgement
- Speed: too fast/too slow
- Checks mirrors to ensure safe merge into driving lane

B. APPLICATION OF GENERAL PROCEDURES

- Awareness of upcoming bus stops
- Signal right prior lane change
- Use of mirror and shoulder checking prior to lane change
- Observation of other road users and traffic patterns
- Ability to use the mirror to monitor the doors
- Ability to stop and secure the bus at designated stops
- Ability to open and close the doors
- Ability to ensure passengers are entering and exiting safely
- Ability to use mirrors to maintain clearance of entrances and exits
- Ability to scan area for intending passengers, prior to moving vehicle
- Signaling left prior to moving the vehicle once loading/unloading is complete
- Ability to judge distances.

C. PASSENGERS WITH MOBILITY DEVICE (minimum of 1 hour in-yard and 50 minutes on-road)

- Ability to manoeuvre vehicle to allow clear and safe access to lift
- Ability to allow space for full travel of lifts and ramps
- Understand how to properly operate the loading and unloading components/features of the vehicle you are operating
- Ability to properly secure passenger using restraining devices
D. Practice- Country Turnaround with passenger loading and unloading (minimum of 40 minutes on-road)

Country turnaround must be practiced in a rural setting- as per the Use of Highway and Rules of the Road Regulation (AR304/2002):

33. In an urban area a person driving a vehicle shall not back up the vehicle so that the vehicle or any portion of the vehicle enters into or is in motion within an intersection or crosswalk.

Trainees should be able to apply their driving skills and rules of the road in order to perform the country turnaround procedures driver and passenger side) outlined in “Rural - Loading and Unloading of Students – With a Turnaround” section in module 8.
Module 8- Key points

A proper attitude towards all passengers, contributes to excellent customer service and a pleasant drive

To establish excellence in performing your duties, you should:

- Assess your own professional image.
- Wear a clean outfit as required by your employer.
- Ensure your vehicle is clean and has gone through a proper daily inspection to reduce breakdowns.
- Be knowledgeable about your routes.
- Adhere to your organizations loading and unloading procedures for all types of passengers.
MODULE 9 - HANDLING EMERGENCIES

Purpose

The purpose of this module is to educate trainees on proper procedures to be followed in the unlikely event of a variety of emergencies and incidents. This module is organized as follows, 1 hour and 45 minutes of classroom session and 2 hours of in-yard session. It should take 3 hours and 45 minutes to cover the materials in this module.

General Learning Outcomes

At the end of this module, the trainees should be able to:

- Understand how to handle minor emergency incidents in a professional manner
- Understand how to handle situations where they are involved in a vehicle collision
- Understand how to handle fire incidents
- Understand how to manoeuvre the bus in a safe manner in the event of a mechanical breakdown

Habits of Minds

Trainee will:

- Consider the safety of passengers as their primary concern
- Recognize the importance of remaining conscious and alert in emergency situations
- Be prepared to take control in emergency situations
- Understand the importance of remaining calm at all times

Knowledge and Understanding

Trainee will:

- Understand that in emergency situations there are areas which require evaluation
- Understand the priorities that determine response in emergency situations
- Identify the type of safety equipment found on buses
- Understand when approved warning devices need to be deployed
- Understand the correct procedures in which warning devices are employed
- Know the location and capabilities of fire extinguishers

Skill and Processes

Trainee will be able to:

- Prepare passengers for emergencies
- Organize bystanders to assist in bringing the collision scene under control
- Determine the need to evacuate bus in light of fire and unsafe position of the bus
- Demonstrate the correct procedure when using approved warning device
- Demonstrate the correct procedure when using fire extinguishers
# Learning Environment

<table>
<thead>
<tr>
<th>Classroom</th>
<th>In-yard</th>
<th>In-Vehicle</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deliver</td>
<td>Apply</td>
<td>Assess</td>
<td>Observe Trainer</td>
</tr>
<tr>
<td>(lecture, pairs, group, demo etc.)</td>
<td>(practice, perform, etc.)</td>
<td>(show, do, quiz, test etc.)</td>
<td>(watching instruction)</td>
</tr>
<tr>
<td>1 hour &amp; 30 minutes</td>
<td>15 minutes</td>
<td>45 minutes</td>
<td>1 hour &amp; 15 minutes</td>
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## Emergency Driving Techniques

### Skid Control

Skilled drivers drive so seamlessly that passengers do not feel anything when they shift gears (manual transmission), turn or brake. The key is to plan ahead, watch carefully and slow down, especially when driving down unfamiliar roads. Skids almost always happen because the vehicle was travelling too fast for conditions.

Most skids occur when the road surface is slippery. But no matter what the road’s surface condition is, driver errors contribute to skidding. Turning too sharply, entering a turn too quickly or excessive acceleration or braking will put a vehicle at risk for skidding. A number of factors could cause a vehicle to go into a skid. During a skid, the tires lose proper traction with the road surface. The normal means of controlling the vehicle are affected – steering, braking, decelerating and accelerating. A driver must be able to quickly detect a loss of traction in time to maintain or regain control.

Loss of traction may include:

- Skids caused by tire failure, resulting from under inflation or sudden deflation from a blowout;
- Front wheel skids resulting from faulty brakes, excessive acceleration or speed on curves, rough or slippery surfaces;
- Hydroplaning resulting from travelling too fast on a water covered road; or
- Skids caused by the oily film that develops on the road after the first few minutes of rain.

Once there is a loss in traction and the vehicle goes into a skid, the correct way to regain control is through steering and braking properly.

**Steering**

Turn your wheels in the same direction the rear of the vehicle is skidding. Be careful not to oversteer. You will be able to feel when the vehicle regains traction. Then, straighten the wheels.
Frequently a skid in one direction is followed by one in the opposite direction (often caused by over-steering while trying to correct the first skid). As the vehicle fishtails in the opposite direction, steer in the direction of the new skid.

**Braking**

ABS (anti-lock braking system) brakes have been around awhile, but there are still drivers who have not learned what they are, how they work and how to use them effectively. Most people do not get the chance to properly practice the skills required to deal with skids or loss of control situations.

Emergency braking with non-ABS brakes requires a sensitive touch on the brake pedal, using a technique called “threshold braking.” Threshold braking is what some people confuse with the practice of “pumping the brakes.” But that’s not really what it is. Awkwardly pumping the brakes with no “feel” for what the wheels and brakes are doing is counterproductive in a situation where maximum braking effort is needed.

Threshold braking means applying brake pressure right up to the point of almost locking the wheels (skidding), backing off just enough to prevent the skid, then constantly adjusting throughout the stop to keep the braking effort right at that point. This is not easy. The driver has to acquire a “feel” for it, literally. What works one millisecond would not work the next; be quick enough on the pedal to stay on the edge of just avoiding a skid, without actually locking the wheels. Once mastered, the technique will stop the vehicle faster than any other way.

ABS brake systems automate the technique of threshold braking. Computer-controlled sensors at each wheel “feel” when that tire is about to slip, and lessen the brake pressure at that wheel to keep the skid from occurring – hundreds of times a second.

With ABS brakes, allow the driver to maintain control of steering as the vehicle is braking. This is the important part. In a panic stop with ABS brakes, the driver can steer around the obstruction or hazard—whether it’s traffic cones or an animal. Remember this: pumping ABS brakes defeats the computer’s efforts to sense a wheel skid. If the vehicle has ABS brakes, and the vehicle needs to be stopped in a hurry, press the brake hard and hold foot on the pedal. ABS brakes pulsate, they rattle, and they make noise – but that’s normal – they’re doing what they are supposed to do.

Do not release pressure on the brake pedal on a vehicle with ABS brakes until braking is no longer necessary. As a suggestion, drivers can go to an empty parking lot and stop hard enough to activate your ABS system to get a sense of how the vehicle feels when the ABS brakes are applied.

**Tire Blowout**

Equally as frightening as going into an uncontrolled skid is a tire blowout. If one of the front tires blows, there will be a strong pull in your steering towards the side with the blowout. A back tire blowout may or may not cause the back end to swerve or ‘fish-tail’. A flat tire acts as a brake.
and the bus will pull hard to that side. Grip the wheel firmly to maintain steering control. When a blowout occurs:

- Take the foot off the accelerator pedal and allow the engine to slow the vehicle down;
- Grip the steering wheel firmly and steer your vehicle straight down the centre of the lane;
- Resist the urge to immediately apply the brakes;
- DO NOT apply the brakes immediately. When the vehicle is under control and speed is reduced, apply the brake with gentle and steady pressure;
- Safely move to the emergency stopping lane or edge of the road and park in a safe place; and
- Turn on the hazard warning lights and place triangles to warn other traffic.

**Loss of Brakes**

A loss of brakes occurs when the brake pedal is applied and there is no response.

With a loss of brakes, the driver should:

- Pump the brake pedal. If there is any resistance at all, the driver may be able to work up enough pressure in the brake system to activate the brakes
- Downshift to the lowest gear possible. If the way ahead is clear, allow the engine compression to slow the vehicle down and stay on the road. Try to slow the vehicle down more by gradually applying the park brake but be careful not to lock the rear wheels.
- As the vehicle slows down, select a path for leaving the travel portion of the road and bring the vehicle to a stop on the shoulder or as far to right as possible.
- If the vehicle must leave the road quickly to avoid a collision, select the path that will most likely minimize injury and property damage, in that order. Look for something to sideswipe, like a roadside bank, snow bank, or guardrail – anything that will slow the vehicle down. If it is inevitable for the vehicle to go into a ditch, do so at an angle to reduce the chance of a rollover.
- Once stopped, turn on hazard lights and place emergency triangles to warn other traffic.

**Loss of Visibility**

Several things can happen to cause a sudden loss of visibility – headlights failing, vehicle hood flies up, mud and slush gets splashed on the windshield, etc. Suddenly the driver has no visibility and must attempt to stop as quickly as practical before losing steering control or hitting something.

What can be done in each situation?

**Headlights fail:**

- Immediately hit the dimmer switch to see if the high-beams work
- Activate your right-turn signal
- Slow your vehicle quickly but safely. The idea is to reduce your speed before a slight steering error results in a collision
• Carefully steer out of the traffic lane and stop at the side of the road in as safe a location as practical
• Activate your hazard warning lights and place warning devices on the road as required by law

Hood flies up:
• Look out the left and right windows to keep a sense of direction and road position
• Apply brakes moderately
• Activate your right-turn signal
• Steer out of the traffic lane and stop in as safe a location as practical
• Activate hazard warning lights and place warning devices on the road as required by law

Mud or slush is splashed on the windshield:
• Turn on wipers and washers
• Look out side windows and apply brakes moderately
• If the windshield wipers have failed or you have no washer fluid, activate right turn signal
• Pull over as far as practical out of traffic and stop
• Activate hazard warning lights. If vehicle will remain stationary more than momentarily, put out warning devices on the road as required by law

Emergency Evasive Action
When an obstruction or potential hazard such as a pedestrian, animal, another vehicle, construction barrier, etc. suddenly appears in the path of the vehicle, the driver must take evasive action to avoid a collision.

Evasive action to avoid a collision is simply the exercise of fundamental driving manoeuvres under conditions of stress, limited time, space and distance.

The driver must decide which of these evasive actions is appropriate:
• Controlled emergency braking
• Quick steering, with or without braking
• Leaving the paved portion of the road both with or without roadside hazards present

For effective evasive action, resist the urge to always just immediately slam on the brakes. Generally, drivers tend to apply the brakes at the first sign of trouble. While effective in many instances, if the vehicle is not equipped with anti-lock brakes, hard and sudden braking could lock the wheels and cause loss of control, thereby reducing chances to avoid a collision.

Deciding that braking is the best option will depend on how fast the vehicle is travelling, how far away the object is, tire condition, and whether the road is wet or dry. Since this is an emergency situation, there will be limited time to think about options. If it’s not immediately obvious that the vehicle can stop in time, steer your vehicle in an alternate path.
At a glance, assess an escape path for the following:
- Is the escape path free of hazardous obstacles?
- Are clearances sufficient for a vehicle the size of the bus?
- Will an off-road surface still permit steering control?
- Is the path going to remain clear or will it be occupied by someone or something else by the time the vehicle gets there?

Focusing only on the obstruction prevents the ability to assess the best escape path. Look to where you want to go, taking in the ‘big picture’. The size and weight of a larger vehicle limits its ability to swerve sharply to avoid an object or to leave the pavement with any great amount of control. Overturning is always a danger, especially when the vehicle leaves the pavement and travels onto soft ground. Steer firmly and as gradually as possible to clear the obstruction.

Use controlled braking. Where a collision is unavoidable try to:
- Avoid a head-on collision. Colliding at an angle reduces the force of the impact
- Avoid hitting pedestrians. If there is an option, it’s far better to hit inanimate objects than people

**Breakdowns**

In the event of a breakdown stop the bus in safe place as far off the roadway as practical. Analyze the situation and display emergency warning equipment. Communicate the situation to the passengers. When it becomes necessary to evacuate the bus, assist passengers off of the bus and direct them to stay together, in a safe location away from the bus. If there is no danger, it is usually safer for passengers to stay on the bus.

Place warning triangles 30 metres in front of and behind the bus. During sunset and sunrise and any time where there is not sufficient light to clearly see persons or vehicles on a highway at a distance of 150 metres, warning devices must be placed 75 metres in front of and behind the vehicle. In the case where the lighting equipment on the vehicle is not functioning, approved warning devices must be placed as described above within 10 minutes of the vehicle becoming stationary.

Ensure that all passengers are accounted for and report to dispatch your exact location and nature of the problem. Check with local policy to ensure you are aware of what is required of you in the event of a collision

In general, the procedures for a breakdown will apply in the event of a collision. However, depending upon the circumstances, location, degree of injury, the following procedures are recommended.
Collisions

Minor Collision without Injury

- Stop the bus
- It is a general rule, under most conditions, to NOT MOVE the bus until directed by a police officer. However, if there is a danger to other motorists, do not hesitate to move the vehicle off the roadway, where possible. An example of unsafe position is the bus is positioned across both lanes of traffic on a blind curve
- Assess the scene. Check on the condition of everyone involved and check the vehicle(s) to ensure that there is no danger of fire. Fire may be likely if there is fuel leak, you see smoke emitting from vehicles involved or if the collision occurred near flammable material
- Evacuate if necessary (there is a fire, danger of fire or the bus is in an unsafe position)
- Place approved warning devices as required
- Summon assistance and the police. Arrange to have another vehicle continue your route if necessary
- Contact Dispatch
- Obtain the information required by the carrier, insurance company, and school board (for school buses). This may include licence numbers, names and addresses of occupants of other vehicles involved in the collision, names and addresses of any witnesses or anyone photographing the scene
- Do not discuss who was at fault
- Note the time and place of the collision, vehicle positions and any marks on the pavement
- Check with local policy to ensure you are aware of what is required of you in the event of a collision
- Report the particulars in accordance with local policy and procedures

You are required to report all collisions to the police or local law enforcement if:

- Anyone has been injured
- Anyone has been killed
- Overall damage exceeds $2,000
- Any damage has been done to any traffic control device, parking meter or public property
- If police are called to the scene, all drivers must remain

Major Collision

- The severity of the collision will determine the order in which you proceed. People may panic and therefore your first job will be to remain calm and attempt to calm others
- Quickly assess the situation and evacuate if necessary
- Assign someone to protect the scene to prevent other motorists from becoming involved
- Set out approved warning devices as required.
Drivers with first aid training should treat the injured in order of seriousness with the most serious first. Start with those who have stopped breathing, then to those who are bleeding but still have a chance for survival. Treat for shock and more minor injuries last.

- Summon help to the scene as required (police, ambulance, fire department).
- Follow the last three steps of minor collision procedures.

**Unsafe Bus Position**

In the event that a bus is stopped due to a collision, mechanical failure, road conditions, or driver error, you must determine immediately whether it is safer for passengers to remain in the bus or whether the passengers should be evacuated.

Passengers should be evacuated if:

- The final stopping point of the bus is in the path of any train or immediately adjacent to any railroad tracks.
- The stopping position of the bus may change and increase the danger. If, for example, a bus should come to rest near a body of water or precipice where it could still move and go into the water or over a cliff, it should be evacuated. You must be certain that the evacuation is carried out in a manner which affords maximum safety for the passengers.
- The stopping position of the bus is such that there is danger of a collision with traffic on the highway. In normal traffic conditions, the bus should be visible for a distance of 300 metres or more. A stopped position just over a hill or around a curve where such visibility does not exist should be considered sufficient reason for evacuation.

Your assessment of the emergency will determine the type of evacuation to be performed. Always evacuate the passengers starting with those nearest the door. Getting the passengers off the bus safely in the shortest time possible, in an orderly fashion is the objective, regardless of which method is used under a given set of circumstances.

**Front Door Evacuation procedures:**

- The driver must stop the bus, set parking brake, turn off engine and remove key.
- The driver stands, opens the front door, faces the passengers to get their attention and inform them of the situation.
- Everybody evacuating should have their hands free and not take anything out of the bus – getting out is first priority.
- The driver controls the order of evacuation.
  - Passengers would start evacuating from the front of the bus alternating seats from side to side until all passengers have left the bus. The driver would be the last person off the bus after ensuring that all the passengers had left.
  - Evacuate passengers from the rear first if the hazard is stemming from the back of the bus.
- After you leave the bus, go to the safe area where the passengers are gathered.
School Bus Evacuations

Front Door Evacuation

The front door evacuation procedures listed above also apply to the front door evacuation on a school bus. Further to the steps above, school bus drivers may appoint “helpers” to assist in the evacuation, helpers should be older responsible passengers. When the bus is secured and the driver has indicated that evacuation of the bus is necessary the two people off the bus should be helpers. The first helper will stand outside of the bus by the front door and help other passengers off the bus, ensuring that the passengers are exiting smoothly, safely and quickly. The second helper will lead passengers to a safe area at least 35 metres away from the bus.

Rear Door Evacuation Procedure

- The driver must stop the bus, set the parking brake, turn off engine and remove the key
- Stand facing the passengers and notify them of the situation and need to evacuate
- The driver must instruct passengers to use the aid of the helpers and not to jump out the door as they may injure themselves or the helpers
- The driver must also instruct passengers to maintain a safe distance apart from each other when evacuating
- Appoint a responsible helper to exit the bus and lead passengers to a safe location (at least 35 metres away from the bus)
- Appoint two responsible helpers to proceed to the outside of the bus rear door
- Both helpers will assist passengers in exiting the bus by:
  - Facing each other with knees bent, one foot slightly forward, waist slightly bent, and arms bent at the elbow
  - Helpers will reach up, one hand cupping the evacuating passenger’s elbow and the other gripping the wrist firmly; when this has been achieved they will say “NOW”

Note: All buses are equipped with emergency windows. These are only to be used if the standard exits are impossible to use due to position of the bus or damage to the bus. Buses may also be equipped with least one roof hatch.
- The evacuating passenger will then push off with back leg and step (not jump) to the ground with the assistance of the two helpers.
- Helpers should not pull the passengers from the bus and not let go of the passenger until they have firm footing on the ground.
- The driver remains at the front of the bus directing the order in which the passengers evacuate and makes a last check that everyone is out of the bus before going to the safe area.
- All evacuated passengers are to be brought to a safe location.
- The driver must then take a head count to ensure all passengers are accounted for.

Split Evacuation

A split evacuation is when passengers use both front and rear doors to leave the bus. This is the fastest method of getting everyone off the bus in an emergency.

Split Evacuation Procedure:

- The driver must stop the bus, set the parking brake, turn off engine and remove the key.
- Stand facing the passengers and notify them of the situation and need to evacuate.
- The driver appoints two helpers at the front and three at the rear doors to assist in moving passengers off the bus (helper roles will be the same as the front and rear helpers described in the front and rear door evacuations).
- The driver must instruct passengers to use the aid of the helpers and not to jump out the door as they may injure themselves or the helpers.
- The driver must also instruct passengers to maintain a safe distance apart from each other when evacuating.
- All passengers should go to the same safe place at least 35 metres away.
- The operator must remain in the bus and check that everyone is out of the bus before going to the safe area where passengers are gathered.
Evacuation of Persons with Disabilities

Passenger Limitations

Knowing the limitations of your passengers: what the passengers can and cannot do is important for a school bus driver in an emergency situation. The driver should know the following:

- which passengers can come off the bus by themselves
- which passengers can be removed from their wheelchair
- which passengers must not be removed from their wheelchair.

Wheelchairs should be left on the bus if it is faster to remove only the person. If possible, have the able-bodied passengers assist you with passengers who require extra help.

Techniques for removing a wheelchair passenger:

Any of the three techniques can be used:

1. the one-person lift
2. the two-person lift
3. the blanket drag

1. Guideline for the One-Person Lift:

- pass the passenger’s closest arm over your shoulder
- place one of your arms behind the passenger’s shoulders with your hand under the passenger’s other arm
- place your other arm under the passenger’s knees
- squat down with feet shoulder-width apart
- lift the passenger with the load equally divided between both arms, holding the passenger close to you.

2. Guideline for the Two-Person Lift:

- move the passenger in a wheelchair as close to the exit as possible
- slide the passenger on a seat next to the aisle
- the taller person stands behind the passenger and the second person stands in front of the passenger and off to the side
- if the passenger is in a wheelchair, the person in the front should remove the armrests and fold up the footrests

NOTE: All school buses are equipped with emergency windows. These are only to be used if the standard exits are impossible to use due to position of the bus or damage to the bus. Buses may also be equipped with side doors and all school buses are equipped with at least one roof hatch. Also, the windshields, the rear windows to the right and left of the rear emergency door as well as the window in the emergency door are designed to be pushed or kicked out.
- the person in the back reaches under the passenger’s arms and grasps the right hand to passenger’s right wrist and left hand to passenger’s left wrist. Another way is to clasp hands across the passenger’s chest
- the person in the front lifts the lower extremities under the thighs and hips
- squat down and lift together on a count of three
- move to the designated area and lower the passenger on the count of three.

3. The Blanket Drag

Using a blanket will reduce stress on the passenger’s body and will reduce the chance of injury to your passenger and you. The blanket drag is also a way to move a passenger who is too heavy to lift or a passenger who might be hurt by lifting. This is not a recommended method for a passenger who is medically fragile.

Blanket Drag Technique

- fold a blanket in half and place it on the floor next to the passenger
- lower the passenger’s legs onto the blanket first, then the body
- place the passenger with their head toward the exit
- wrap the blanket around the passenger to prevent their arms and legs from being caught on obstacles
- grasp the blanket near the passenger’s head and carefully drag the passenger to the exit.

Remember, in all emergency situations, it is not enough for you, the operator, to know what you will need to do in an emergency, but it is equally important for your passengers to know what to do as well.

Always review local policies and procedures with your company and school board.

Restraint Cutters

Special restraint cutters allow you to remove tie- down straps or other occupant restraints quickly in an emergency situation. The restraint webbing fits into the slot on the restraint cutter and the razor-sharp blade in the slot cuts the strap.

Store the restraint cutter in a location that is easily accessible for the bus operator yet out of easy reach of the passengers.

With all emergency situations, communicate with all of your passengers as to what is happening.

Organize Bystanders to Render Assistance
A collision scene is frequently chaotic. In addition to those who are actually involved, there will likely also be bystanders around curious to see what is happening. In a very short time, bedlam and confusion could reign.

It is hardly the type of situation conducive to cool, calm thinking. Yet, that is exactly what is required. Most people who find themselves at the scene of a collision, excluding the injured, would like to help, but often do not know what to do.

Unorganized, they tend to cause congestion and confusion at the scene. However, if you take charge and approach them in a calm, assertive manner, they can help you bring the collision scene under control by performing the following tasks:

- Rendering first aid assistance
- Finding witnesses
- Directing traffic
- Setting out emergency devices to protect the scene
- Obtaining blankets, bandages, etc.
- Notifying medical, police and/or school authorities
- Supervising passengers.

There are many ways in which you could recruit others to help you. To maximize your chances of gaining cooperation and getting the job at hand done, the following points are suggested for organizing others to help you.

- Remain calm at all times. This will instill confidence and increase the chances that they will be willing to follow your instructions
- Select responsible individuals to help
- Ask for their cooperation to carry out specific tasks
- Outline the directions for your request briefly, but clearly, keeping to the point
- Ask your assistant to repeat the directions back to you to ensure they clearly understand what is required

This may seem somewhat formal and unnecessary, but rest assured that it is important. The extra few seconds it may take is a good investment. This is not a time for people to be coming back with the right solution to the wrong problem.

- Upon completion of the task, have the assistants report back to you on the successful completion, or other relevant information. This is important to avoid assumptions that certain tasks may have been done when, in fact, they have not

The following is an example of how you might give instructions to others to obtain their assistance in directing traffic around the scene.

“I need your help to direct traffic around the scene. I would like you to:

- Go about half a kilometre back down the road”
- Begin to direct traffic around the crash"
- Instruct people that everything is being handled and to keep moving slowly past the scene"
- Would you repeat what I have just asked you to do?"

**Emergency Equipment**

*Approved Warning Device*

These triangles must comply with the specifications established by the Society of Automotive Engineers J774.

All buses must have a minimum of three emergency warning devices items in the bus. They are used to warn other drivers of a problem or collision ahead, and this helps avoid any further problems at the collision or breakdown scene.

Properly placed and utilized warning devices protect your passengers, other drivers and yourself. Whenever a collision or breakdown occurs, you must put out the devices you have on your bus to mark and protect the scene.

Placement of these warning devices is most important. They provide a warning to drivers approaching from both directions to give these drivers ample time to slow down and make any necessary lane changes. In the event of an emergency, place approved warning device on the highway in line with the vehicle at a distance of approximately 30 metres (100 feet) to the rear of the vehicle and at a distance of approximately 30 metres (100 feet) in front of the vehicle. When visibility is reduced to 150 metres, warning devices must be placed 75 metres in front and behind the bus.

*Hazard Warning Lights*

When involved in a collision or other emergency situations, you must use the hazard warning lights on your bus as a further warning device in addition to the warning devices placed on front of and to the rear of your bus.

*Fire Extinguishers*

Whenever a collision occurs, there is a chance of fire. While the types of fire extinguishers may vary, all are reasonably effective in putting out the fires you may encounter.

*The Dry Chemical Extinguisher*

This is the type of extinguisher has a pin release and gives off a snow-like powder. This powder is forced from the extinguisher by pressurized gas. It is advisable during your pre-trip inspections to remove the extinguisher from the bracket and shake it once a week.

The range of these extinguishers, in the size likely to be on a bus, is four to five metres. If you have an extinguisher of this type on your bus, be familiar with it so you know its range.
Direct the discharge at the base of the fire using a sweeping motion to cover the flames. For maximum coverage and personal protection, try to be upwind from the fire when using the extinguisher. An extinguisher of the type generally carried on a bus will totally discharge in approximately eight to 10 seconds. Therefore, proper technique is extremely important. Even when the fire appears out, do no turn your back on it. Keep watch for flashback until the area on fire has completely cooled.

**Extiguisher Operation**

While you encounter many extinguisher types, they are all used in basically the same way. The procedure is to:

- Remove it from the bracket
- Pull the safety pin by breaking the seal
- Approach the fire from upwind if possible
- Hold the extinguisher in an upright position
- Point the discharge apparatus (hose, horn, nozzle) at the base of the fire, approximately two to three metres (six to eight feet) away
- Do not allow the flames to come between you and the exit
- Squeeze the handle
- Continue to use until fire is out and extinguisher is fully discharged
- Ensure all discharged fire extinguishers are replaced with fully charged ones before the bus is used again.
Remember the word PASS
P – Pull the pin
A – Aim low
S – Squeeze lever
S – Sweep from side to side

Fire Extinguisher Certification
Fire extinguishers expire 6 years from the manufacturer date (located on the bottom of the fire extinguisher) and require an annual re-certification, which includes a 14-point inspection.

Practice Guide
At the end of the classroom portion of this module, instructor will practice evacuation procedures in the yard. School bus trainees shall practice the three school bus evacuations (front door, rear door, and split) as outlined in module 9. Motor coach and transit bus driver trainees shall practice evacuation procedures as specified by their respective bus company policies.

Trainees must spend a minimum of 1 hour and 15 minutes practicing evacuations

For school bus drivers, the instructor will spend about 15 minutes to demonstrate each type of evacuation to the trainee and 45 minutes for trainees to practice. Motor coach and transit instructors have about 45 minutes to demonstrate evacuation procedures to trainees and trainees have about 1 hour and 15 minutes to practice.

Module 9 Key points

- In the event of a collision, the bus should be moved to a safer location if the stopping position of the bus will cause imminent danger to passengers or other motorists
- When in an emergency situation, drivers with first aid training should treat injuries in the following order of seriousness. First are those who have stopped breathing, followed by those who are bleeding but have a chance for survival. Treat for shock and minor injuries last
APPENDIX

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