

Driver Education
Classroom and In-Car Curriculum

Unit 5

**Vision and
Space Management**



HSS, LLC

Unit 5 Vision and Space Management

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- Unit 5 Review of Objectives
- Unit 5 Test and ANSWER KEY



Overview

Unit 5 will introduce operator procedural and information processing tasks in a low risk driving environment. Basic vehicle maneuvering tasks will include vehicle operating space and an introduction to the space management system. The space management system will be used to determine appropriate roadway position, appropriate vehicle speed and appropriate communication with other users. Roadway characteristics discussed will be interaction with intersections, surface conditions and traffic controls. Looking for open, closed and changing areas of space and divided attention/multi-tasking will also be discussed.



Objectives

The student will:



1. Identify and describe how effective visual skills help to manage risk when operating a motor vehicle.
2. Identify the vehicle operating space and maintain an adequate space cushion.
3. Define stopping distance and how it applies to the space around the vehicle.
4. Demonstrate knowledge of the space management system SEE.
 - Demonstrate knowledge of the search process and describe where, when, how and what a driver needs as part of the **search** process.
 - Demonstrate knowledge of the **evaluating** risk process.
 - Demonstrate knowledge of the **executing** process for making an appropriate response.
5. Demonstrate knowledge of procedures for selecting and positioning a motor vehicle in the proper lane for safe, smooth driving.
6. Identify how to divide attention between path of travel and demands inside the vehicle.
7. Key words associated with the unit objectives.



Words to Know

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> • Braking distance • Central vision • Changing areas of space • Closed areas of space • Communication • Divided attention / multi-tasking • Evaluate • Execute | <ul style="list-style-type: none"> • Field of view • Following distance • Fringe vision • Lane positions • Line of sight • Open areas of space • Path of travel • Perception distance • Peripheral vision | <ul style="list-style-type: none"> • Reaction distance • Search • Space management system (SEE) • Space margin • Total stopping distance • Vehicle operating space • Visual lead |
|---|--|---|

Unit 5 Vision and Space Management

Unit 5 Introduction	Lesson Overview Time Frame – 6 hours	
Teacher Information and Resources		
Slides	PowerPoint Slides 5.1 – 5.119	
Videos	5.2 Managing Space (6 minutes 47 seconds) 5.3 Stopping Distance (3 minutes 5 seconds) 5.4.1 Searching Ahead (9 minutes 37 seconds) 5.4.2 Searching to the Sides and Looking Behind (5 minutes 45 seconds) 5.4.3 Hazard Recognition (6 minutes 59 seconds) 5.4.4 Communicating (6 minutes 19 seconds)	
Video Review	5.2 Managing Space 5.3 Stopping Distance 5.4.1 Searching Ahead	5.4.2 Searching to the Sides and Looking Behind 5.4.3 Hazard Recognition 5.4.4 Communicating
Fact Sheets	5.1 Vision and Perception Requirements 5.2 Vehicle Operating Space 5.3 Stopping Distance 5.4 Space Management System (SEE)	5.5 Lane Positions and Making Safe Lane Position Choices 5.6 Divided Attention / Multi-tasking 5.7 Words to Know Definitions Page
Worksheets	5.7 Words to Know Matchup	
Learning Activities	5.0 Key Words – Word Wall 5.4.1 Flash Slide Activity	5.4.2 Juggling Multiple Hazards 5.4.3 SEE Steps
Textbooks	<div style="border: 1px solid black; background-color: #e6f2ff; padding: 5px; margin-bottom: 10px;"> Preferred Textbook:  HOW to DRIVE Chapters 7, 8 and 11 </div> Other Textbooks: <u>Drive Right</u> : Chapters 5, 6 and 9 <u>Responsible Driving</u> : Chapters 4, 5, 7, 8 and 12 Other Textbook: _____	
Unit 5 Test	Unit 5 Test – Vision and Space Management – 10 questions	

Unit 5 Vision and Space Management

Key Words

Unit 5 Activity Lesson Content



Unit Objectives:

Student will define the meaning of the key words in Unit 5.

Lesson Content

Materials and Resources

Key Words

➤ Learning Activity 5.0

Throughout the instruction of Unit 5, conduct learning activity to help students with vocabulary and spelling of key words.

➤ Learning Activity 5.0: Key Words – Word Wall

Learning Activity 5.1

Key Words – Word Wall



Topic

Word Wall

Information

Students begin to assimilate a new language in driver and traffic safety education. Some words are familiar, but others are new. The use of a word wall helps students with vocabulary and spelling as well as provides students with a tool for reference without “giving away” answers.

Materials Needed

1. Make word cards out of paper, poster board, or card stock cut in strips.
2. Markers in various colors.
3. A space to post words (i.e., bulletin board).
4. Tape or stapler and staples to affix cards on the word wall.



Learning Activity

1. As the instructor introduces new words in a unit, the instructor should post these words on the word wall.
 - a. The instructor should remind students to use the words on the wall for recall and correct spelling.
 - b. When an instructor poses a question and a student correctly answers the question, the instructor should allow that student to make a word strip and post the strip in the designated location on the word wall. Because this is new learning, recalling words are part of the learning process.
 - c. Students often enjoy decorating their word with a particular flair, color, or design.
2. Words may remain posted for just the unit or remain posted throughout the course.

Unit Objectives and Vision and Perception Requirements **Part 1**
Lesson Content



Lesson Objective:

Student will identify and describe how effective visual skills help to manage risk when operating a motor vehicle.

Lesson Content	Materials and Resources
<p><u>Unit Objectives</u></p> <p>➤ Slides 5.1 and 5.2</p> <p>Give an overview of what students should know and be able to do by the end of this unit.</p> <p><u>The Importance of Vision</u></p> <p>➤ Fact Sheet 5.1</p> <p>Duplicate and distribute Fact Sheet 5.1 for students to use as a resource and study guide.</p> <p>➤ Slide 5.3</p> <p>Discuss the importance of vision for the safe operation of a motor vehicle.</p> <p>➤ Slides 5.4 and 5.5</p> <p>Discuss the 3 types of vision:</p> <ul style="list-style-type: none"> • Central • Fringe or focal • Peripheral 	<p>➤ Slides 5.1 and 5.2: Title and Objectives</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> </div> <p>➤ Fact Sheet 5.1: Vision and Perception Requirements</p> <p>➤ Slide 5.3: The Importance of Vision</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> </div> <p>➤ Slides 5.4 and 5.5: Three Types of Vision</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px; width: 45%;"> </div> <div style="border: 1px solid black; padding: 5px; width: 45%;"> </div> </div>

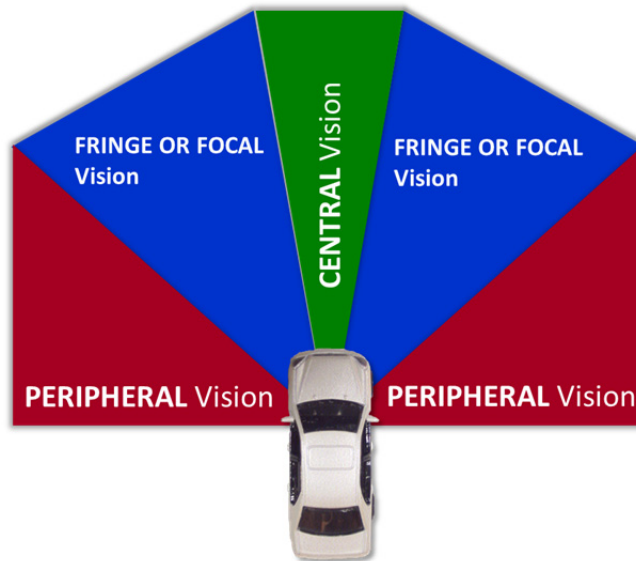
The Importance of Vision

Effective use of vision is critical to safe driving. No human sense is more important to the driving task. Thus, it is useful for drivers to know about the different types of vision, the type of information that can be obtained from each, and how to develop effective visual habits.

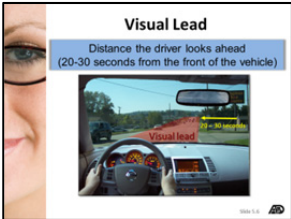
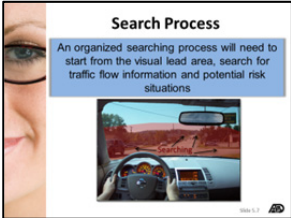
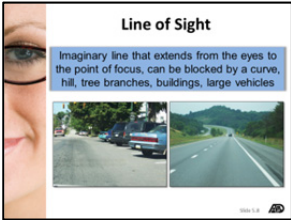
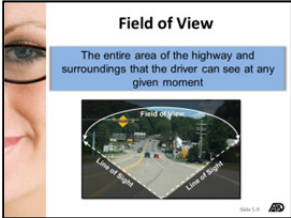

Visual functions - 60% of the human brain is devoted to vision.

There are three basic ways in which a driver gains information through the eyes.

1. **Central vision** is the five-degree cone that makes up only three percent of a driver’s total visual field. It provides detail of objects and conditions and is the primary visual function employed in targeting. Direct your central vision to your target area and front zones.
2. **Fringe or focal vision** is used to judge depth and position. It provides information about objects close to the travel path and lane position. Use your fringe vision to check reference points and detect changes in your rearview and side view mirrors.
3. **Peripheral vision** is conical in shape around the other vision fields. It detects changes in color and object movement, providing you with information about moving or stationary objects that could be threats along the intended path of travel. Peripheral vision is strongly affected by fatigue, drugs, and speed of travel. It often gives the driver an initial warning of a changing or closed space area.



Vision and Perception Requirements **Part 1 continued**
Lesson Content

Lesson Content	Materials and Resources
<p><u>Vision and Perception Requirements</u></p> <ul style="list-style-type: none"> ➤ Slide 5.6 Discuss what visual lead is and how to establish a visual lead. ➤ Slide 5.7 Discuss what a search process is and what it consists of. ➤ Slide 5.8 Discuss what line of sight is and how to maintain a line of sight. ➤ Slide 5.9 Discuss what field of view is and how it relates to a drivers line of sight. ➤ Slide 5.10 Discuss what path of travel is and why it is critical for driver performance. Emphasize the importance of maintaining an open line of sight, searching skills and targeting a line to maintain a safe path of travel. 	<ul style="list-style-type: none"> ➤ Slide 5.6: Visual Lead  ➤ Slide 5.7: Search Process  ➤ Slide 5.8: Line of Sight  ➤ Slide 5.9: Field of View  ➤ Slide 5.10: Path of Travel 

Vision and Perception Requirements

Establishing visual lead

A novice driver will need to develop a visual lead in order to keep steering reversals to a minimum. With very little free play in new vehicle steering mechanisms, it becomes critical to limit wheel movements to the left and right of the path of travel. Keeping eye focus farther away from the vehicle will allow the driver to take more time to make decisions.

A **visual lead** is an area 20 to 30 seconds of travel time to the front of the vehicle. Various driver systems have methods designed to keep eye focus centered in the path of travel at a distance that is 20-30 seconds away from vehicle. This is critical in gaining as much information as possible in the driving scene ahead. Good searching sets up good sightlines and good peripheral fields for seeing changes and identifying alternate paths of travel.

Search process

An organized searching process will need to start from the visual lead area. Eye focus and eye movements from the path of travel in an organized pattern describes a visual search process. The search for traffic flow information and potential risks is the function of a visual search process.


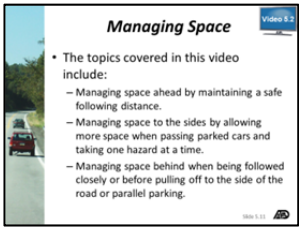

Maintaining an open line of sight

This is the ability to see the center of the driver's path of travel. When you drive you must have a clear field of vision to gather information and guide a motor vehicle effectively. Good visibility depends on the distance you can see ahead and to the sides. It consists of your line of sight and field of view.

Line of sight is the imaginary line that extends from your eyes to the point of focus. The line of sight can be blocked by a curve, hill, tree branches, buildings, large vehicle, etc. To maintain an open line of sight you will have to make changes in speed and position. When sightlines are blocked, a speed adjustment is needed until the area is visible or the sightline is restored. Blind intersections, for example are high risk areas and speed/lane position should be adjusted before proceeding into the intersection.

Field of view is the entire area of the highway and surroundings that you can see at any given moment.

Path of travel is the space into which you can safely direct your vehicle with the lowest possible risk. Selecting the path of travel is a combination of line of sight, standard visual references, and guided experiences. Gathering information about your path of travel and alternate paths of travel is critical for driver performance.

Vehicle Operating Space		Part 2 Lesson Content
 <p>Lesson Objective: Student will be able to identify the vehicle operating space and how to maintain an adequate space cushion around the vehicle.</p>		
Lesson Content	Materials and Resources	
<p><u>Space Cushion Around The Vehicle</u></p> <p>➤ Video Review 5.2</p> <p>Duplicate and distribute Video Review 5.2. Students should complete the worksheet as they watch the video.</p> <p>➤ Slide 5.11 and 5.12 - Video 5.2</p> <p>Discuss the topics covered in Video 5.2.</p> <p>Play Video 5.2 <i>Managing Space</i> (Time: 6 minutes 47 seconds)</p> <p>After viewing, review Video Review 5.2, using Answer Key to gauge student understanding of the video.</p>		
	<p>➤ Video Review 5.2 and Answer Key: Managing Space</p> <p>➤ Slides 5.11 and 5.12: Video 5.2 <i>Managing Space</i></p> <div style="display: flex; flex-direction: column; align-items: center;">   </div>	



Video 5.2 Overview: Managing Space

Title

Managing Space

Time

6 minutes 47 seconds

Topics Covered

1. Managing space ahead by maintaining an adequate following distance.
2. Managing space to the sides by allowing more space when hazards are present like passing parked cars and how to separate hazards; take one at a time.
3. Managing space behind when being followed closely or before pulling off to the side of the road or parallel parking.

Video Review

1. Have students complete a video review worksheet as they watch the video.
2. After viewing the video, review the worksheet to gauge students' understanding of the video.

Instructor Notes

Unit 5 Vision and Space Management

Vehicle Operating Space

Video Review 5.2

Video 5.2 Review: Managing Space

Name

Date

1. The faster you drive the _____ room you need to stop.

2. During what types of situations is a greater distance in front of your vehicle needed?

3. What should you do when driving next to parked cars? _____


4. What should you do when two potential hazards occur at the same time?

5. How can you protect yourself from a tailgater? _____



Video 5.2 Review: Managing Space ANSWER KEY

1. The faster you drive the _____ room you need to stop.
Answer: More
2. During what types of situations is a greater distance in front of your vehicle needed?
Answer: Wet or slippery surface, when following large vehicles, when someone behind wants to pass, following vehicles with loose cargo, following motorcycles, following people hauling loads, when stopping behind anyone on a hill
3. What should you do when driving next to parked cars?
Answer: Keep as far away from parked cars as possible
4. What should you do when two potential hazards occur at the same time?
Answer: Take potential hazards one at a time
5. How can you protect yourself from a tailgater?
Answer: Switch to another lane if possible, slow down gradually to encourage passing or pull off the road if that doesn't work

Vehicle Operating Space		Part 2 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Space Cushion Around The Vehicle</u></p>		
<p>➤ Fact Sheet 5.2</p> <p>Duplicate and distribute Fact Sheet 5.2 for students to use as a resource and study guide.</p> <p>➤ Slide 5.13</p> <p>Discuss maintaining space ahead and using a 3 to 4 second following distance behind other vehicles.</p>	<p>➤ Fact Sheet 5.2: Vehicle Operating Space</p> <p>➤ Slide 5.13: Following Distance</p> <div style="text-align: center;">  </div>	

Space Cushion Around The Vehicle

At all times, you will need adequate operating space in front of, to the sides of, and to the rear of the vehicle. It is important to maintain open space in these areas so that you can move the vehicle there, if necessary. Operating space can be thought of as a space cushion, extending in each direction from the vehicle.

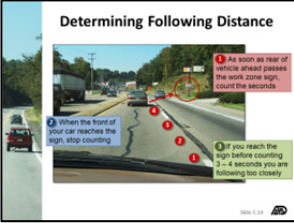
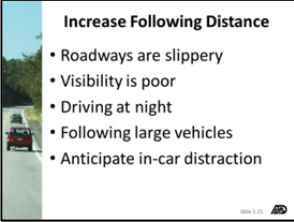
- **Space ahead**

You must always share the road with other roadway users. The more distance between your vehicle and other roadway users, the more time you have to react. This space is a large space cushion designed for your protection. Always maintain a safe space cushion around your vehicle.

- **Following distance** – the distance between your vehicle and the vehicle ahead, which gives you more space between vehicles, in case of an emergency.

The distance for steering is much shorter than the distance for stopping. Response time with the hands is close to 1/2 second, while response time with the foot is normally 3/4 second. This does not take into account any lag in perception time due to fatigue, drugs, a distraction or inattention. Another concern to note is the ability to stop when following vehicles of different weights.

- **2 seconds** permits a driver time to steer out of problem areas at all listed speeds on a dry surface and braking out of problems at speeds less than 35 mph.
- **3 seconds** permits a driver time to steer out of problem areas at all listed speeds on a dry surface and braking out of problems at speeds to 45 mph.
- **4 seconds** permits a driver time to steer out of problem areas at all listed speeds on a dry surface and braking out of problems at legal speeds to 65 mph.

Vehicle Operating Space		Part 2 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Space Cushion Around The Vehicle</u></p>		
<p>➤ Slide 5.14</p> <p>Discuss how to determine your following distance by counting the seconds it takes to reach a fixed object.</p>	<p>➤ Slide 5.14: Determining Following Distance</p> 	
<p>➤ Slide 5.15</p> <p>Discuss certain situations where you need more space in front of the vehicle.</p>	<p>➤ Slide 5.15: Increase Following Distance</p> 	

Space Cushion Around The Vehicle

You should keep a minimum of 3 to 4 seconds following distance behind another vehicle during ideal conditions.

To determine your following distance:

- Pick out a fixed object at the road side: a road sign, light post or other fixed object along the road ahead.
- As soon as the rear of the vehicle ahead of you passes the fixed object, start counting “One-thousand-one, one-thousand-two, one-thousand-three,” etc.
- When the front of your car reaches the fixed object, stop counting. If you reach the fixed object before you finish counting three to four seconds, you are following too closely.

There are certain situations where you would need more space in front of your vehicle. As speed or road conditions change, the need for a change in following distance is apparent. Your vehicle needs more distance to stop. You should increase your following distance to at least 5 seconds:

- When roadways are slippery
- When visibility is poor due to weather conditions
- When driving at night
- When driving at higher speeds (50 mph or more)
- When following large vehicles
- When you anticipate dealing with an in-car distraction

Space Cushion Around The Vehicle

- **Space to the sides**

The space to your sides should be enough to provide for errors in judgment and an escape path or way out. Therefore, you should have at least one car width of space to one side of your car at all times. When practical, it is best to have space (at least 8 feet) on both sides. Most cars range in width from 5 to 7 feet. Since traffic lanes usually are 9 to 12 feet wide, you should have little trouble identifying an adequate travel path.

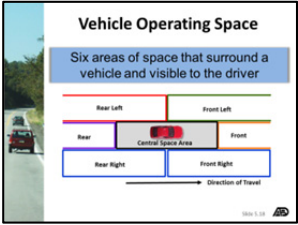
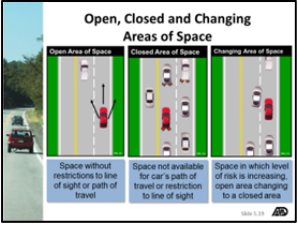
To maintain space on both sides of your vehicle:

- Avoid driving next to other vehicles on multi-lane roads. Increase or reduce your vehicle speed to stay clear of other vehicles that may be trying to enter your lane or space.
- Keep as much space as possible between your vehicle and oncoming vehicles. Drive in the center of your lane so you can move your vehicle left or right to avoid a potential problem. When multiple lanes are available drive in the right portion of the lane to increase the space between you and oncoming vehicles.
- Keep extra space between your vehicle and parked cars by moving to the left portion of your lane without crossing the centerline.
- When a vehicle is passing you, especially a large vehicle, leave a little space by moving to the right portion of your lane.

- **Space behind**

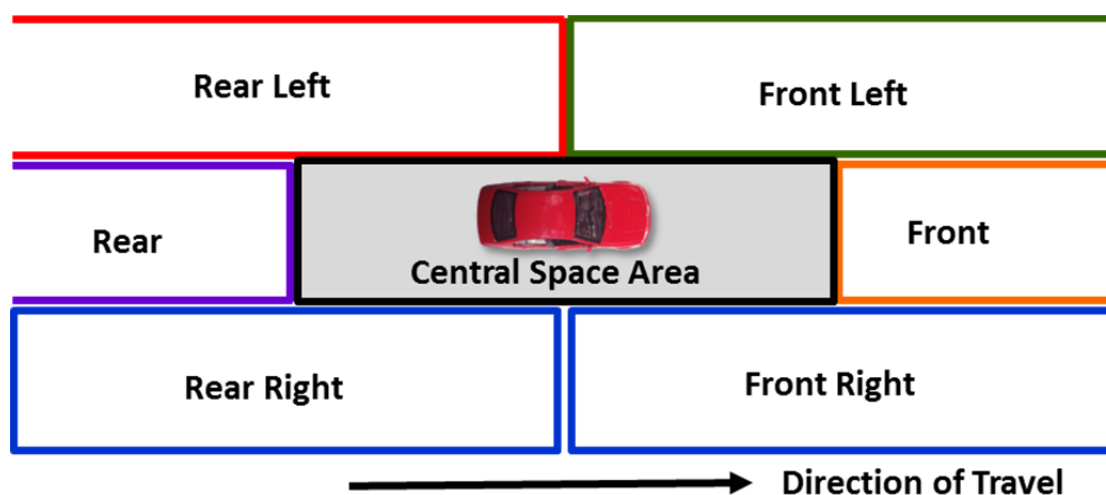
This distance is more difficult to control. You can help keep the driver behind you at a safe distance by keeping a steady speed, signaling in advance, and keeping more space to the front of your vehicle before reducing speed or changing position.

When cars follow too closely (tailgate), allow more distance ahead and maintain an escape route to at least one side. Encourage a tailgater to pass by slowing gradually and moving to the right side of the lane or roadway.

Vehicle Operating Space Part 2 continued Lesson Content	
Lesson Content	Materials and Resources
<p><u>Vehicle Operating Space</u></p> <ul style="list-style-type: none"> ➤ Slide 5.18 Discuss vehicle operating space. Emphasize to the students that there are 7 areas of operating space around a vehicle. ➤ Slide 5.19 Discuss how to look for open, closed and changing areas of space. 	<ul style="list-style-type: none"> ➤ Slide 5.18: Vehicle Operating Space  ➤ Slide 5.19: Looking for Open, Closed and Changing Areas of Space 


Vehicle Operating Space

There are seven basic areas of operating space around a vehicle. The diagram below shows the six areas or spaces surrounding the car that are visible to the driver. The vehicle occupies the central area, which includes the driver and the space occupied by the vehicle that is not visible to the driver.



The areas or spaces around the central space area may have the following conditions:

- **Open:** Space or area to operate within that is without restrictions to the line of sight or path of travel.
- **Closed:** The space or area that is not available for the car's path of travel or there is a restriction to the driver's line of sight. An alternative path of travel must be identified.
- **Changing:** A space or area condition in which the level of risk is increasing. It is often an open space or area that is changing to a closed line of sight or path of travel or a closed space or area with additional traffic conflicts or changes.

Vehicle Operating Space		Part 2 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Vehicle Operating Space</u></p> <p>➤ Slide 5.20</p> <p>Increase in speed: Discuss what happens as speed increases.</p> <p>Emphasize that as you travel faster, additional space will allow you more time to respond to a situation.</p> <p>Miscalculating space: Discuss what happens when you miscalculate space.</p> <p>Seeing what you expect to see: Discuss how experienced drivers become a victim of seeing what they expect to see.</p>	<p>➤ Slide 5.20: Vehicle Operating Space</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;">  <p style="text-align: center;">Vehicle Operating Space</p> <ul style="list-style-type: none"> • Increase in speed • Miscalculating space • Seeing what you expect to see </div>	

Vehicle Operating Space

Increase in speed

As speed increases, the operating space required also increases, especially space to the front of the vehicle. As you travel faster, having additional space will allow you more time to respond to a situation.

Miscalculating space

If you incorrectly judge the amount of space needed to operate a vehicle in a given situation, the possible outcomes range from a minor fender bender to a destroyed vehicle with potential for serious injury. Adjustments in speed and position must be made in direct proportion to the space around your vehicle. Speed and space adjustments must be made to closing space. The closing space could be a danger to the driver (oncoming vehicle) or a danger to other roadway users (pedestrians/bicyclists).

Seeing what you expect to see

The more driving experience you have, the more likely it is that you will become a victim of seeing what you expect to see and not seeing what you don't expect. A typical driving expectancy is a mental set that makes a driver think things are not as threatening as they actually are.

As a result, the driver continues to maintain a constant speed/path of travel when conditions dictate that an adjustment in both or either is needed. This means that the driver should do something to the speed or path of travel of the vehicle to position it in the most controllable space.

Stopping Distance **Part 3**
Lesson Content



Lesson Objective:

Student will be able to define stopping distance and how it applies to the space around your vehicle.

Lesson Content	Materials and Resources
<p><u>Safety Restraints</u></p> <p>➤ Video Review 5.3</p> <p>Duplicate and distribute Video Review 5.3. Students should complete the worksheet as they watch the video.</p> <p>➤ Slides 5.21 and 5.22 – Video 5.3</p> <p>Discuss the topics covered in Video 5.3.</p> <p>Play Video 5.3.</p> <p><i>Stopping Distance</i></p> <p>(Time: 3 minutes 5 seconds)</p> <p>After viewing, review Video Review 5.3, using Answer Key to gauge student understanding of the video.</p>	<p>➤ Video Review 5.3 and Answer Key: Stopping Distance</p> <p>➤ Slides 5.21 and 5.22: Video 5.3 <i>Stopping Distance</i></p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: right;">Stopping Distance <small>Video 5.3</small></p> <ul style="list-style-type: none"> • The topics covered in this video include: <ul style="list-style-type: none"> – How to determine stopping distance. – What you can do as a driver to compensate for the distance needed to stop a vehicle. </div> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: right;">Stopping Distance <small>Video 5.3</small></p> <p>Video Review</p> <ol style="list-style-type: none"> 1. Why does speed increase our chances of a crash? 2. About how long does it take for a driver to react to a hazard and put their foot on the brake? </div>

Stopping Distance

Video Overview 5.3



Video 5.3 Overview: Stopping Distance

Title

Stopping Distance

Time

3 minutes 5 seconds

Topics Covered

1. How to determine stopping distance.
2. What you can do as a driver to compensate for the distance needed to stop a vehicle.

Video Review

1. Have students complete a video review worksheet as they watch the video.
2. After viewing the video, review the worksheet to gauge students' understanding of the video.

Instructor Notes

Unit 5 Vision and Space Management

Stopping Distance

Video Review 5.3

Video 5.3 Review: Stopping Distance

Name

Date

1. As speed increases from 55 to 75 mph, the chances of dying in a crash _____

_____.

2. Why does speed increase our chances of a crash? _____

3. About how long does it take for a driver to react to a hazard and put his/her foot on the brake?

4. A vehicle going 40 mph needs _____ times as much distance to stop as one traveling 20 mph.

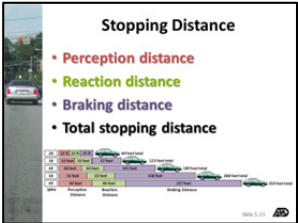


Stopping Distance

Video Review 5.3
ANSWER KEY

Video 5.3 Review: Stopping Distance ANSWER KEY

1. As speed increases from 55 to 75 mph, the chances of dying in a crash _____.
Answer: Triples
2. Why does speed increase our chances of a crash?
Answer: The faster we are going the longer it will take to stop if we have to, it makes the car more difficult to handle
3. About how long does it take for a driver to react to a hazard and put his/her foot on the brake?
Answer: 1 second
4. A vehicle going 40 mph needs _____ times as much distance to stop as one traveling 20 mph.
Answer: Three

Stopping Distance		Part 3 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Stopping Distance</u></p> <p>➤ Fact Sheet 5.3</p> <p>Duplicate and distribute Fact Sheet 5.3 for students to use as a resource and study guide.</p> <p>➤ Slide 5.23</p> <p>Discuss and define the components of total stopping distance.</p> <p>Emphasize a three to four second following distance is the minimum you should allow between your vehicle and the vehicle ahead of you. This will provide you with time to stop quickly or identify an open path of travel.</p>	<p>➤ Fact Sheet 5.3: Stopping Distance</p> <p>➤ Slide 5.23: Stopping Distance</p> <div style="text-align: center;">  </div>	

Stopping Distance

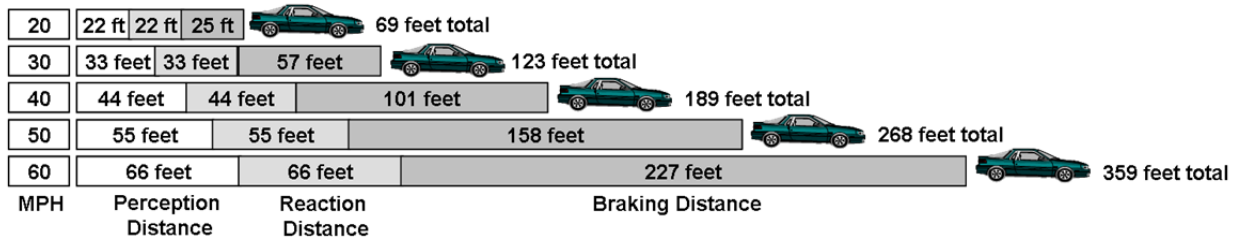
Fact Sheet 5.3
Content Information

Stopping Distance

You need to ensure that you have enough time to bring your vehicle to a stop and enough space between you and the vehicle ahead. For safety, a vehicle must have a clear path ahead equal to the minimum-stopping distance necessary for the speed traveled.

- **Perception distance** is how far your vehicle travels, in ideal conditions; from the time your eyes see a hazard until your brain recognizes it (seeing the situation). Certain mental and physical conditions can affect your perception distance. The average perception time for an alert driver is $\frac{3}{4}$ second to 1 second.
- **Reaction distance** is how far your vehicle continues to travel, in ideal conditions; before you physically apply the brakes, in response to a hazard seen ahead (moving foot to brake pedal). The average driver has a reaction time of $\frac{3}{4}$ second to 1 second.
- **Braking distance** is how far your vehicle will travel, in ideal conditions; while you are braking (pushing down on brake until the vehicle comes to a stop).
- **Total stopping distance** is the total minimum distance your vehicle has traveled, in ideal conditions; with everything considered, including perception distance, reaction distance and braking distance, until you can bring your vehicle to a full stop.

A three to four second following distance is the minimum you should allow between your vehicle and the vehicle ahead of you. This will provide you time to stop quickly if it is safe to do so. If it is not safe to stop, you will have time to steer into an identified open path of travel. Following closer may restrict your field of vision and limit your ability to take action.



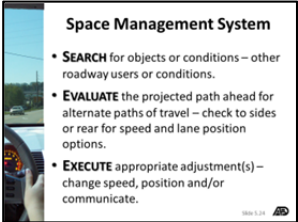
Unit 5 Vision and Space Management

Space Management System (SEE)	Part 4 Lesson Content
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Lesson Objective:

Student will demonstrate knowledge of the space management system SEE.

Lesson Content	Materials and Resources
<p><u>Space Management System (SEE)</u></p> <ul style="list-style-type: none"> ➤ Fact Sheet 5.4 <p>Duplicate and distribute Fact Sheet 5.4 for students to use as a resource and study guide.</p> <ul style="list-style-type: none"> ➤ Slide 5.24 <p>Discuss the basic space management concepts.</p>	<ul style="list-style-type: none"> ➤ Fact Sheet 5.4: Space Management System ➤ Slide 5.24: Space Management System <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  <p>Space Management System</p> <ul style="list-style-type: none"> • SEARCH for objects or conditions – other roadway users or conditions. • EVALUATE the projected path ahead for alternate paths of travel – check to sides or rear for speed and lane position options. • EXECUTE appropriate adjustment(s) – change speed, position and/or communicate. </div>

SEE - Space Management System

The SEE space management system is a three-step process that can help you understand what is going on in traffic and allows for planning and implementing a course of action.


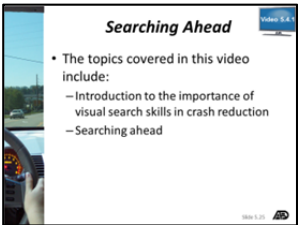
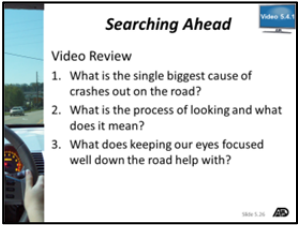
The three steps of SEE are:

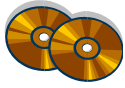
1. **SEARCH for objects or conditions** – Look for other roadway users or conditions in or adjacent to the projected path of travel that could increase the level of risk.
2. **EVALUATE the projected path ahead for alternate paths of travel** – Check to the sides and rear for speed and lane position options and make predictions as to what other drivers may do.
3. **EXECUTE appropriate adjustment(s)** – Change speed, change position and/or communicate.

These three steps must be actively practiced to develop them into a decision-making process. During the practice sessions, all three steps will be used for any one situation. When there is more than one hazard, SEE will be used over and over. Once the driver deals with the most critical hazard and it has been eliminated, the driver must use SEE to deal with the next critical hazard.

The most important goal is to achieve the very best use of speed control, lane positioning and communication. Since "best" is a comparative term, space management sets the guidelines for the most appropriate decision in any given situation.

Unit 5 Vision and Space Management

Space Management System (SEE)	Part 4 continued Lesson Content
 Lesson Objective: Students will demonstrate knowledge of the search process and describe where, when, how and what a driver needs as part of the search process.	
Lesson Content	Materials and Resources
<p><u>Space Management System (SEE)</u></p> <p>➤ Video Review 5.4.1</p> <p>Duplicate and distribute Video Review 5.4.1. Students should complete the worksheet as they watch the video.</p> <p>➤ Slides 5.25 and 5.26 - Video 5.4.1</p> <p>Discuss the topics covered in Video 5.4.1.</p> <p>Play Video 5.4.1.</p> <p><i>Searching Ahead</i></p> <p>(Time: 9 minutes 37 seconds)</p> <p>After viewing, review Video Review 5.4.1, using Answer Key to gauge student understanding of the video.</p>	<p>➤ Video Review 5.4.1 and Answer Key: Searching Ahead</p> <p>➤ Slides 5.25 and 5.26: Video 5.4.1 <i>Searching Ahead</i></p> <div style="margin-top: 20px;">  </div> <div style="margin-top: 20px;">  </div>



Video 5.4.1 Overview: Searching Ahead

Title

Searching Ahead

Time

9 minutes 37 seconds

Topics Covered

1. Introduction to the importance of visual search skills in crash reduction.
2. Searching ahead.

Video Review

1. Have students complete a video review worksheet as they watch the video.
2. After viewing the video, review the worksheet to gauge students' understanding of the video.

Instructor Notes

Unit 5 Vision and Space Management

Space Management System (SEE)

Video Review 5.4.1

Video 5.4.1 Review: Searching Ahead

Name

Date

1. What is the single biggest cause of crashes out on the road? _____

2. What is the process of looking and what does it mean? _____

3. What does keeping our eyes focused well down the road help with?

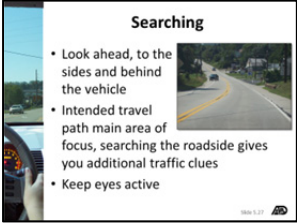

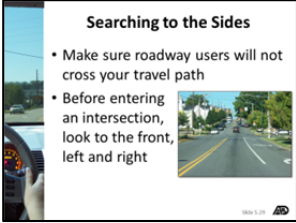
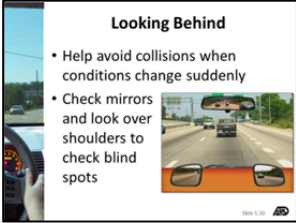
4. How far ahead do we need to look? _____

5. When determining how many seconds ahead we are looking, what does it mean if we reach the point before we reach 15 seconds?



Video 5.4.1 Review: Searching Ahead ANSWER KEY

1. What is the single biggest cause of crashes out on the road?
Answer: Drivers running into things they can't see
2. What is the process of looking and what does it mean?
Answer: Visual search, means that seeing well is more than taking in the highway scene, actively searching places where trouble lurks
3. What does keeping our eyes focused well down the road help with?
Answer: Gives us a heads up to what is happening, lets us come to a gradual, even stop, helps keep us moving
4. How far ahead do we need to look?
Answer: Far enough ahead to give ourselves ample time to adjust, at least 15 seconds ahead
5. When determining how many seconds ahead we are looking, what does it mean if we reach the point before we reach 15 seconds?
Answer: We need to look further ahead

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<u>Searching</u>		
<p>➤ Slide 5.27</p> <p>Introduce the first part of SEE, searching and why this step is so important when driving.</p> <p>Discuss how to search ahead and the need to look for risky situations. Students will enter intersections during this BTW session and will need to begin the process of identifying risks and problem areas.</p>	<p>➤ Slide 5.27: Searching</p> 	
<p>➤ Slide 5.28</p> <p>Discuss how to develop a visual lead.</p>	<p>➤ Slide 5.28: Develop a Visual Lead</p> 	
<p>➤ Slide 5.29</p> <p>Discuss how to search to the sides, especially at intersections.</p>	<p>➤ Slide 5.29: Searching to the Sides</p> 	
<p>➤ Slide 5.30</p> <p>Discuss how to look behind your vehicle by checking your mirrors and looking over your shoulders (blind spot check).</p>	<p>➤ Slide 5.30: Looking Behind</p> 	

Searching

To be a safe driver, you must know what is happening around your vehicle. You must look ahead, to the sides and behind the vehicle. While your intended travel path is your main area of focus, searching the roadside gives you additional traffic clues. Keeping your eyes active helps you resist distractions, reduces inattention and prevents a fixed stare.

- **Search ahead**

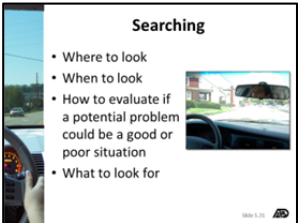

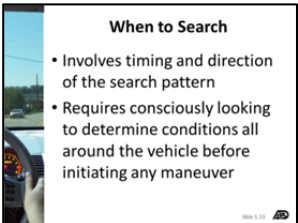
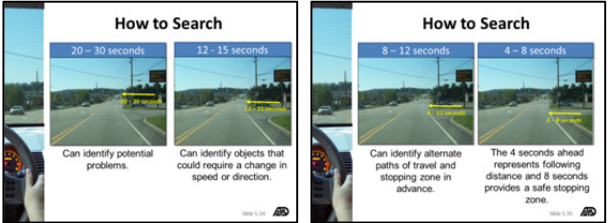
- The distance you look ahead is your **visual lead**. This is an area 20 to 30 seconds from the front of the vehicle. Having a good visual lead and using good searching skills helps you see changes in your travel path and identify alternative paths of travel.
- To develop a visual lead, pick out a fixed roadside object well ahead and begin counting, “one-thousand-and-one, one-thousand-and-two, etc., until you reach the object. The number of seconds you have counted is the number of seconds ahead that you were looking.
- Searching helps you to see problems ahead that may cause you to change speed or roadway position. When searching ahead you should look for road and surface characteristics, traffic control markings and devices, and other roadway users. This will help you identify potential dangerous situations in your path of travel.

- **Search to the sides**

- Concentrating on any one object or situation interferes with your ability to detect other potentially dangerous conditions. You should search to the sides to make sure other roadway users will not cross your travel path. You must make a conscious effort to maintain wide-ranging eye movements.
- Before entering an intersection, look to the front, left, right and left again for approaching vehicles and pedestrians.
- Make sure the travel path is clear beyond the intersection before entering so you will not block it if you have to stop in a line of traffic.

- **Look behind**


- Developing skills to check traffic behind you will help avoid collisions when conditions change suddenly.
- Check your rearview and side mirrors to see if anyone is following too closely, approaching fast or preparing to pass.
- Look over your left or right shoulder to check a blind spot, the areas around the vehicle that you cannot see from the driver’s position or any of your mirrors.
- Use your mirrors to check behind you when you slow down.

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Searching</u></p>		
<p>➤ Slide 5.31</p> <p>List what students need to know to search effectively.</p>	<p>➤ Slide 5.31: Searching</p>  <p>Slide 5.31: Searching</p> <ul style="list-style-type: none"> • Where to look • When to look • How to evaluate if a potential problem could be a good or poor situation • What to look for 	
<p>➤ Slide 5.32</p> <p>Discuss where to search by moving the eyes from the instrument panel and mirrors to 20 to 30 seconds ahead.</p>	<p>➤ Slide 5.32: Where to Search</p>  <p>Slide 5.32: Where to Search</p> <p>Mirrors</p> <p>Instrument panel</p> <p>20 to 30 seconds ahead</p>	
<p>➤ Slide 5.33</p> <p>Discuss when to search by continuously looking.</p>	<p>➤ Slide 5.33: When to Search</p>  <p>Slide 5.33: When to Search</p> <ul style="list-style-type: none"> • Involves timing and direction of the search pattern • Requires consciously looking to determine conditions all around the vehicle before initiating any maneuver 	
<p>➤ Slides 5.34 and 5.35</p> <p>Discuss how to search by looking far ahead to near, left, right and rear.</p> <p>Emphasis should be placed on the importance of using central and fringe vision while adjusting to objects in or near the path of travel.</p>	<p>➤ Slides 5.34 and 5.35: How to Search</p>  <p>Slide 5.34: How to Search</p> <p>20 – 30 seconds</p> <p>12 – 15 seconds</p> <p>Can identify potential problems.</p> <p>Can identify objects that could require a change in speed or direction.</p> <p>Slide 5.35: How to Search</p> <p>8 – 12 seconds</p> <p>4 – 8 seconds</p> <p>Can identify alternate paths of travel and stopping zone in advance.</p> <p>The 4 seconds ahead represents following distance and 8 seconds provides a safe stopping zone.</p>	

Searching

To search effectively, drivers need to know where to look, when to look, how to evaluate if a potential problem could lead to a good or poor situation and what to look for.

- 1. Where to search** involves moving the eyes from the instrument panel and mirrors, to 20 to 30 seconds ahead of the vehicle to identify objects or conditions that could increase your level of risk.
- 2. When to search** involves timing and direction of the search pattern. When to search requires consciously looking to determine conditions all around the vehicle before initiating any maneuver.
- 3. How to search** involves looking in a systematic pattern of far ahead to near, as well as to the left, right and rear of the vehicle and making efficient use of both central and fringe vision. Always concentrate on your path of travel with quick glances to other areas by turning your head.
 - **Searching 20 - 30 seconds ahead** - By searching ahead 20 to 30 seconds you can identify potential problems.
 - **Searching 12 – 15 seconds ahead** – By searching ahead 12 to 15 seconds you can identify objects that could require a change in speed or direction.
 - **Searching 8 – 12 seconds ahead** – By searching ahead 8 to 12 seconds you can identify alternate paths of travel and stopping zone in advance, giving you more time and space to exercise options.
 - **Searching 4 - 8 seconds ahead** - The 4 seconds ahead represents your following distance and the 8 seconds provides a safe stopping zone under most conditions.


Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Searching</u></p> <p>➤ Slide 5.36</p> <p>Discuss what to search for when driving by looking for specific categories of information.</p> <p>Communication between drivers, how to group elements by category, and how to gather information more efficiently should be emphasized.</p>	<p>➤ Slide 5.36: What to Search For</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; margin: 0;">What to Search For</p> <ul style="list-style-type: none"> • Signs, signals and markings • Roadway characteristics • Motorized vehicles • Non-motorized highway users  </div>	

Searching

4. **What to search for requires forethought and planning** - To be effective when searching the highway and traffic scene, the driver must look for specific categories of information.

- **Signs, signals and pavement markings** - Warning, regulatory, directional and informational. Provide information about the road environment and what to expect up ahead.
- **Roadway characteristics** - Road and lane width, lane markings, roadway surface, shoulder condition and slope, curb type and height, hills and curves, intersections and interchanges, areas of limited visibility, location and type of structures adjacent to the roadway. These can affect your ability to control your vehicle.
- **Motorized vehicles** - Automobiles, SUV's vans, pickup trucks, motorcycles, mopeds, recreational vehicles, large trucks, buses, construction vehicles/farm tractors and other slow moving equipment. These vehicles have different capabilities, sizes and limitations.
- **Non-motorized highway users** - Pedestrians, bicyclists, horse drawn equipment, pets and/or wild animals. They are the least protected and sometimes the least predictable in terms of giving cues to risky behaviors.

Unit 5 Vision and Space Management

Space Management System (SEE)	Part 4 continued Lesson Content
Lesson Content	Materials and Resources
<p><u>Searching</u></p> <p>➤ Slide 5.37</p> <p>Discuss guidelines for improving your eye habits for vehicle control.</p> <p>Tell students to remember these when you practice during the flash slide activity and during the in-car sessions.</p> <p>Emphasize that using your eyes for vehicle control is basic to the development of effective search habits.</p>	<p>➤ Slide 5.37: Eye Habits for Vehicle Control</p> 

Searching

5. **Eye habits for vehicle control** – The following are guidelines for improving your eye habits for vehicle control. These are basic to the development of effective search habits.

- **Picture intended path of travel**

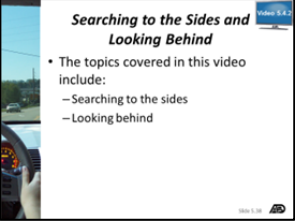
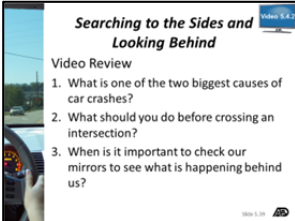
- Define a safe path of travel toward which to steer. Therefore, you should get a good picture in your mind of where you intend to go.
- Imagine a pathway the width of your vehicle, stretching ahead of you.
- It should be wide enough and long enough to permit the safe movement of your car.

- **Look down middle of path**

- Guide your vehicle along an imaginary line down the middle of your intended path of travel.
- We tend to steer where we look. Thus, drivers who use the right edge of the roadway or the centerline as a main point of reference, usually end up with poor lane positioning and low-aim steering.
- You can use these as a quick reference for your lane position, but you should always get your eyes back to the center of the path ahead of you.

- **Look far ahead**

- Have a visual lead of at least 20 to 30 seconds when conditions permit it. You need space and time for controlling your vehicle and for making decisions.

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Space Management System (SEE)</u></p>		
<p>➤ Video Review 5.4.2</p> <p>Duplicate and distribute Video Review 5.4.2. Students should complete the worksheet as they watch the video.</p> <p>➤ Slides 5.38 and 5.39 - Video 5.4.2</p> <p>Discuss the topics covered in Video 5.4.2.</p> <p>Play Video 5.4.2.</p> <p><i>Searching to the Sides and Looking Behind</i></p> <p>(Time: 5 minutes 45 seconds)</p> <p>After viewing, review Video Review 5.4.2, using Answer Key to gauge student understanding of the video.</p>	<p>➤ Video Review 5.4.2 and Answer Key: Searching to the Sides and Looking Behind</p> <p>➤ Slides 5.38 and 5.39: Video 5.4.2 <i>Searching to the Sides and Looking Behind</i></p> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div>	



Video 5.4.2 Overview: Searching to the Sides and Looking Behind

Title

Searching to the Sides and Looking Behind

Time

5 minutes 45 seconds

Topics Covered

1. Searching to the sides.
2. Looking behind.

Video Review

1. Have students complete a video review worksheet as they watch the video.
2. After viewing the video, review the worksheet to gauge students' understanding of the video.

Instructor Notes

Unit 5 Vision and Space Management

Space Management System (SEE)

Video Review 5.4.2

Video 5.4.2 Review: Searching to the Sides and Looking Behind

Name

Date

1. What is one of the two biggest causes of car crashes? _____

2. What should you do before crossing an intersection? _____

3. When is it important to check your mirrors to see what is happening behind you?



Unit 5 Vision and Space Management


Space Management System (SEE)

Video Review 5.4.2

ANSWER KEY

Video 5.4.2 Review: Searching to the Sides and Looking Behind ANSWER KEY

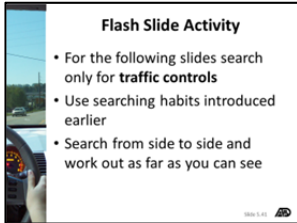

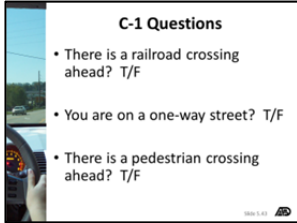

1. What is one of the two biggest causes of car crashes?
Answer: Not seeing cars at intersections
2. What should you do before crossing an intersection?
Answer: Look to the front, left, right and left again
3. When is it important to check your mirrors to see what is happening behind you?
Answer: When changing lanes, when stopping, when slowing down suddenly

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Searching</u></p> <p>➤ Slide 5.40</p> <p>Discuss searching habits for identification. We learned how eye habits can guide your car; we will add the searching habits for identification.</p> <p>Note how path of travel becomes the key point from which to guide, scan and search for relevant events.</p>	<p>➤ Slide 5.40: Searching Habits for Identification</p> <div style="text-align: center;">  </div>	

Searching

6. Searching habits for identification – We can focus our attention on only one thing at a time for perceiving, but we can shift our eyes quickly from one event to another. Constant searching helps prevent both fixed and blank stares; it also reduces fatigue and helps us resist the many distractions.

- **Search the scene ahead and to the sides** – This is the first visual habit to improve your identification skills.
 - Look up and down your travel path.
 - When behind cars, look over and around them to the second and third vehicles ahead.
 - When behind trucks, move to one side of the lane for a better view ahead.
 - The key is to search out as far as possible and to identify the clues that enable the driver to make safe and efficient decisions.
 - Search from side to side by moving your eyes from the center of the intended path to other areas and back again. Make these a quick glance.
- **Search the road surface** – This is the second visual habit to improve your identification skills.
 - Using quick glances, watch the road surface for the pavement markings and changes in width or conditions.
 - Make a habit of observing the pavement under parked cars for clues to pedestrian actions.
 - Observe the pavement beside a moving car to help judge its speed or change in position.
 - The road surface provides a good reference point in relation to determining the speed and position of other vehicles.
 - Be sure not to focus your attention too long on anyone area.
- **Scan the mirrors and dash** – This is the third visual habit to improve your identification skills.
 - Check your mirrors the instant you observe a conflict ahead. Also, see if your signals are being noticed.
 - Make these checks at least every five seconds in urban areas and every ten seconds in rural areas.
 - Specific times for mirror checks are: any type of lane change, approaching an intersection, exiting an intersection, when anticipating a speed or position adjustment.

Space Management System (SEE)	Part 4 continued Lesson Content
Lesson Content	Materials and Resources
<p><u>Searching</u></p> <p>➤ Learning Activity 5.4.1</p> <p>To help students identify traffic and highway conditions in a short period of time and test their short recall ability, show students slides of traffic scenes and ask them questions about those scenes.</p> <p>Duplicate and distribute answer sheets for the flash-slide training activity. Have students print their name at the top of the sheet and listen carefully to a brief description of the activity.</p> <p>Explain that slides of traffic situations will be flashed on the screen for a period of about five seconds. You are to assume you are driving and that the picture on the screen is what you would see through your windshield.</p> <p>This practice should help you identify traffic and highway conditions more quickly when driving. It should also test your short recall ability, which can be very important in some traffic situations.</p>	<p>➤ Learning Activity 5.4.1: Flash Slide Activity</p> <p>➤ Slides 5.41 through 5.92 (one set shown below)</p> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">  <p>Flash Slide Activity</p> <ul style="list-style-type: none"> • For the following slides search only for traffic controls • Use searching habits introduced earlier • Search from side to side and work out as far as you can see </div> <div style="width: 50%;">  <p>C-1</p> </div> <div style="width: 50%;">  <p>C-1 Questions</p> <ul style="list-style-type: none"> • There is a railroad crossing ahead? T/F • You are on a one-way street? T/F • There is a pedestrian crossing ahead? T/F </div> <div style="width: 50%;">  <p>C-1</p> </div> </div>

Learning Activity 5.4.1

Flash Slide Activity



Topic

Searching

Information

Drivers need to be able to identify traffic and highway conditions in a short amount of time. This learning activity helps the students identify these conditions more quickly when driving and tests their short recall ability, which can be very important in some traffic situations by displaying traffic scene on a screen for a short period of time and then asking students questions about that scene.

Materials Needed

1. Answer sheet for each student.
2. Slides 5.41 through 5.92 containing driving scenes shown from the driver’s point of view.
3. Instructor Question/Answer Key sheet.
4. Stopwatch

Learning Activity

1. Duplicate and distribute answer sheet to students.
2. In a completely darkened room, show each scene for about five seconds. This time can be monitored with a stopwatch or by counting one-thousand-and-one, two-thousand-and-two, etc. for each second. It is important that students believe they are provided with ample time. If some complain about the lack of time, it can be explained that in a moving vehicle a driver has only 3 or 4 seconds to perceive something in one area before looking to another part of the scene.
3. The first scene is to be used for demonstration purposes. Leave the picture on the screen while the questions are asked and discussed. For the other scenes in each set, ask the three true-false questions after the scene is flashed off. The traffic scene is then shown again for scoring. The questions, with the correct answers, are provided in the Instructor Question/Answer Key provided on the next page.

Unit 5 Vision and Space Management

Learning Activity 5.4.1	Flash Slide Activity Answer Sheet
Searching	
Name _____	Date _____
<p>Directions: Slides of traffic situations will be flashed on the screen for a period of about five seconds. You are to assume you are driving and that the picture on the screen is what you would see through your windshield. After each slide is shown you will be asked three true/false questions about each situation. Place your answer in the space provided.</p>	
<p><u>Traffic Controls</u></p> <p>C-1 A _____ B _____ C _____</p> <p>C-2 A _____ B _____ C _____</p> <p>C-3 A _____ B _____ C _____</p> <p>C-4 A _____ B _____ C _____</p> <p><u>Other Users</u></p> <p>O-1 A _____ B _____ C _____</p> <p>O-2 A _____ B _____ C _____</p> <p>O-3 A _____ B _____ C _____</p> <p>O-4 A _____ B _____ C _____</p>	<p><u>Highway Conditions</u></p> <p>H-1 A _____ B _____ C _____</p> <p>H-2 A _____ B _____ C _____</p> <p>H-3 A _____ B _____ C _____</p> <p>H-4 A _____ B _____ C _____</p> <p><u>All Groups</u></p> <p>A-1 A _____ B _____ C _____</p> <p>A-2 A _____ B _____ C _____</p> <p>A-3 A _____ B _____ C _____</p> <p>A-4 A _____ B _____ C _____</p>

Unit 5 Vision and Space Management

Learning Activity 5.4.1

Flash Slide Activity ANSWER KEY

Searching ANSWER KEY

Directions: Slides of traffic situations will be flashed on the screen for a period of about five seconds. You are to assume you are driving and that the picture on the screen is what you would see through your windshield. After each slide is shown you will be asked three true/false questions about each situation. Place your answer in the space provided.

Traffic Controls

C-1 A T B F C F

C-2 A T B F C T

C-3 A T B F C F

C-4 A T B T C T

Other Users

OU-1 A T B T C T

OU-2 A F B F C F

OU-3 A T B F C F

OU-4 A T B T C F

Highway Conditions

HC-1 A F B T C F

HC-2 A F B F C T

HC-3 A F B T C T

HC-4 A F B F C T

All Groups

AG-1 A F B T C F

AG-2 A F B T C T

AG-3 A T B F C F

AG-4 A T B F C T

Traffic Controls

Slide C-1 is a practice slide and will remain on the screen for demonstration and discussion. For these slides, you are only **searching for traffic controls**. Remember to use the searching habits that were introduced earlier, e.g., search from side to side in relation to your projected path of travel and look out as far as you can see.

C-1 Before putting C-1 on the screen, tell the students “You are searching for Traffic Controls.” After the practice slide is on the screen, select individual students to identify a traffic control, its meaning and/or required action, e.g.

- Traffic control: Railroad crossing sign.
- Meaning: A railroad crossing is located here.
- Required action: Look both ways before crossing and proceed with caution. If a train is approaching stop at the stop line and wait for the train to pass.

Once all of the above is identified and discussed, go to next slide and ask the following questions:

- | | |
|--|-------|
| A. There is a railroad crossing ahead? | True |
| B. You are on a one-way street? | False |
| C. There is a pedestrian crossing ahead? | False |

Go to next slide, C-1 will be shown again for scoring and discussion. If you have it wrong, put an "X" over the response.

- A. True, there is a railroad crossing sign ahead.
- B. False, there is a vehicle traveling in the opposite direction and there are no signs indicating a one-way street.
- C. False, there are no pedestrians crossing ahead.

You are now ready to do the actual test slides. You will put the slide on the screen for at least five seconds, then go to the next slide and ask three questions. The students should respond with True or False. Once the questions are asked, go to the next slide, the practice test slide will be shown again to score and discuss.

C-2 Search for Traffic Controls...Ready?

- | | |
|---|-------|
| A. You are permitted to make a right on red at this intersection? | True |
| B. The traffic light ahead is green? | False |
| C. There is a white stop line ahead? | True |

Traffic Controls continued

Go to the next slide, C-2 will be shown again for scoring and discussion. If you have it wrong, put an "X" over the response.

- A. True, you are permitted to turn right on red, there is no sign indicating no turn on red.
- B. False, the traffic light is red.
- C. True, there is a white stop line ahead.

C-3 Search for Traffic Controls... Ready?

- | | |
|---|-------|
| A. You are approaching a sharp right turn? | True |
| B. There is a traffic control signal ahead? | False |
| C. The advisory warning speed is 35 mph? | False |

Go to the next slide, C-3 will be shown again for scoring and discussion.

- A. True, there is a sharp right turn warning sign ahead.
- B. False, there are no signs for a traffic control signal ahead.
- C. False, the advisory warning speed around the turn is 30 mph.

C-4 Search for Traffic Controls... Ready?

- | | |
|--|------|
| A. There are two pedestrian crosswalks ahead? | True |
| B. This is a four-lane street? | True |
| C. There is a pedestrian entering the crosswalk ahead? | True |

Go to the next slide, C-4 will be shown again for scoring and discussion

- A. True, in some states pedestrian crosswalks are highly visible and maybe marked differently depending on the environment.
- B. True, this is a four-lane street with two lanes in either direction.
- C. True, even though the pedestrian is off to the right caution should be given due to the uncertainty of some pedestrians' actions.

Highway Conditions

Slide HC-1 is a practice slide and will be left on the screen for demonstration and discussion. For these slides, you are only **searching for highway conditions**.

HC-1 Before putting HC-1 on the screen, tell the students “You are searching for Highway Conditions.”

After the practice slide is on the screen, select individual students to identify the highway conditions, e.g.

- Space is limited with construction cones on the left side.
- View to the sides is reduced.
- The shoulders are uneven.
- Traction does not appear to be a problem.

Once these conditions are identified and discussed, ask the following questions:

- | | |
|--|-------|
| A. The shoulder to the left is level with the roadway? | False |
| B. You are in an area of limited space? | True |
| C. You have a good sight distance? | False |

Go to the next slide, HC-1 will be shown again for scoring and discussion

- | |
|---|
| A. False, the shoulder to the left is lower than the roadway. |
| B. True, there is less space to the sides because of the road construction. |
| C. False, sight distance is reduced to the sides because of construction cones and equipment. |

You are now ready to do the actual test slides.

HC-2 Search for Highway Conditions... Ready?

- | | |
|---|-------|
| A. You are in an area of less traction? | False |
| B. You have a good sight distance? | False |
| C. You are in an area of less space? | True |

Highway Conditions continued

Go to the next slide, HC-2 will be shown again for scoring and discussion

- A. False, the traction is good.
- B. False, your sight distance is reduced because of vehicles parked on the roadway, telephone poles and signs..
- C. True, you have limited space because of vehicles parked on the right side of the roadway.

HC-3 Search for Highway Conditions ...Ready?

- | | |
|--|-------|
| A. The shoulder is level with the roadway? | False |
| B. You are approaching a blind curve? | True |
| C. You have a limited sight distance? | True |

Go to the next slide, HC-3 will be shown again for scoring and discussion

- A. False, the shoulder is uneven with the roadway and is gravel.
- B. True, you are approaching a steep blind curve.
- C. True, your sight distance is limited because of the blind curve.

H-4 Search for Highway Conditions... Ready?

- | | |
|--|-------|
| A. Your sight distance is poor? | False |
| B. You have limited visibility to the sides? | False |
| C. The shoulder is gravel? | True |

Go to the next slide, HC-4 will be shown again for scoring and discussion

- A. False, your sight distance is good.
- B. False, visibility to the sides is good.
- C. True, the shoulder is gravel.

Other Users

Slide OU-1 is a practice slide and will be left on the screen for demonstration and discussion. For these slides, you are only **searching for user clues**.

OU-1 Before putting O-1 on the screen, tell the students “You are searching for User Clues.” After the practice slide is on the screen, select individual students to identify other user clues, e.g.

- There is a vehicle ahead.
- There are construction workers ahead.

Once these clues are identified and discussed, ask the following questions:

- | | |
|--|------|
| A. There are two construction workers ahead? | True |
| B. The vehicle ahead is braking? | True |
| C. There is a construction vehicle ahead. | True |

Go to the next slide, OU-1 will be shown again for scoring and discussion.

- A. True, there are two construction workers ahead.
- B. True, the vehicle ahead is braking because traffic is stopped due to construction.
- C. True, there is a construction vehicle ahead.

You are now ready to do the actual test slides.

OU-2 Search for Other User Clues...Ready?

- | | |
|---|-------|
| A. There is a pedestrian walking along the side street ahead? | False |
| B. There is a bicyclist coming towards you? | False |
| C. There is a motorcyclist ahead? | False |

Go to the next slide, OU-2 will be shown again for scoring and discussion.

- A. False, there are no pedestrians walking along the street.
- B. False, there is a bicyclist ahead of you, not coming toward you.
- C. False, there is a bicyclist ahead of you, not a motorcyclist.

Other Users continued

0U-3 Search for Other User Clues...Ready?

- A. The vehicle coming towards you is getting ready to turn left? True
- B. The vehicle ahead of you is in the middle of your lane? False
- C. There is a pedestrian on the right side of the roadway? False

Go to the next slide, OU-3 will be shown again for scoring and discussion.

- A. True, the vehicle coming towards you has their left turn signal on.
- B. False, the vehicle ahead of you is exiting your lane and moving to the right lane.
- C. False, there are no pedestrians present.

0U-4 Search for Other User Clues. . . Ready?

- A. The parked vehicle on the right has its brake lights on? True
- B. There is a pedestrian standing along on the right side of the roadway? True
- C. The vehicle coming towards you is continuing straight across the intersection? False

Go to the next slide, OU-4 will be shown again for scoring and discussion

- A. True, the parked vehicle has its brake lights on. It is either parking on the space or preparing to exit the space.
- B. True, there is a pedestrian on the side of the street waiting to cross.
- C. False, the vehicle coming towards you is turning left in front of you.

Unit 5 Vision and Space Management

Learning Activity 5.4.1

Flash Slide Activity Questions/Answer Key

All Groups

Slide AG-1 is a practice slide and will be left on the screen for demonstration and discussion. For these slides, we are ready to put it all together; you are searching for **all groups**, traffic controls, highway conditions and other users.

AG-1 Before putting A-1 on the screen, tell the students “You are searching for All Groups.” After the practice slide is on the screen, select individual students to identify the various groups, e.g.

- There is a left turn lane only to your left and there is a traffic light ahead.
- There are no vehicles ahead, but there are oncoming vehicles going in the opposite direction.
- There are parked vehicles on the right side ahead.

Once all the groups are identified and discussed, ask the following questions:

- | | |
|---|-------|
| A. The traffic light is turning to green? | False |
| B. There is a pedestrian crosswalk ahead? | True |
| C. There is a motorcyclist in your lane? | False |

Go to the next slide, AG-1 will be shown again for scoring and discussion.

- | |
|---|
| A. False, the traffic light is yellow and turning to red. |
| B. True, there are white crosswalk lines on the road ahead and there is a crosswalk sign further ahead. |
| C. False, there are no vehicles in your lane ahead. |

You are now ready to do the actual test slides.

AG-2 Search for all groups . . . Ready?

- | | |
|--|-------|
| A. You have a good sight distance? | False |
| B. There is a car pulling out of a driveway ahead? | True |
| C. The roadway is level with the shoulder? | True |

Go to the next slide, AG-2 will be shown again for scoring and discussion.

- | |
|---|
| A. False, your sight distance is limited because of the approaching hill. |
| B. True, there is a car waiting to pull out of a driveway. |
| C. True, the roadway is level with the shoulder. |

All Groups continued

AG-3 Search for all Groups . . . Ready?

- | | |
|---|-------|
| A. The truck is making a left turn? | True |
| B. The traffic light is green? | False |
| C. You have a good sight distance ahead and to the sides? | False |

Go to the next slide, AG-3 will be shown again for scoring and discussion.

- A. True, the truck has their left turn signal on.
- B. False, the traffic light is yellow and turning to red.
- C. False, you do not have a good sight distance to the front and sides because of the large truck ahead.



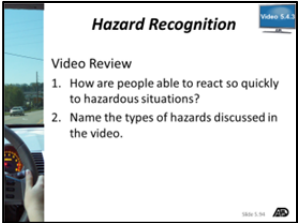
AG-4 Search for all groups. . . Ready?

- | | |
|--|-------|
| A. You are on a divided highway? | True |
| B. The truck is moving into your lane? | False |
| C. You have a limited sight distance? | True |

Go to the next slide, AG-4 will be shown again for scoring and discussion.

- A. True, the yellow line on the right side and grass divider indicate a divided highway.
- B. False, the truck is in the lane to your right.
- C. True, you have a limited sight distance because of the truck on your right.

Unit 5 Vision and Space Management

Space Management System (SEE)		Part 4 continued Lesson Content
 Lesson Objective: Student will demonstrate knowledge of the evaluating risk process.		
Lesson Content	Materials and Resources	
<p><u>Space Management System (SEE)</u></p> <p>➤ Video Review 5.4.3</p> <p>Duplicate and distribute Video Review 5.4.3. Students should complete the worksheet as they watch the video.</p> <p>➤ Slides 5.93 and 5.94 - Video 5.4.3</p> <p>Discuss the topics covered in Video 5.4.3.</p> <p>Play Video 5.4.3.</p> <p><i>Hazard Recognition</i></p> <p>(Time: 6 minutes 59 seconds)</p> <p>After viewing, review Video Review 5.4.3, using Answer Key to gauge student understanding of the video.</p>	<p>➤ Video Review 5.4.3 and Answer Key: Hazard Recognition</p> <p>➤ Slides 5.93 and 5.94: Video 5.4.3 <i>Hazard Recognition</i></p> <div style="display: flex; flex-direction: column; align-items: center;">   </div>	



Video 5.4.3 Overview: Hazard Recognition

Title

Hazard Recognition

Time

6 minutes 59 seconds

Topics Covered

1. How to recognize hazards and react to them.

Video Review

1. Have students complete a video review worksheet as they watch the video.
2. After viewing the video, review the worksheet to gauge students' understanding of the video.

Instructor Notes

Unit 5 Vision and Space Management

Space Management System (SEE)

Video Review 5.4.3

Video 5.4.3 Review: Hazard Recognition

Name

Date

1. How are people able to react so quickly to hazardous situations? _____

2. Name the types of hazards discussed in the video. _____



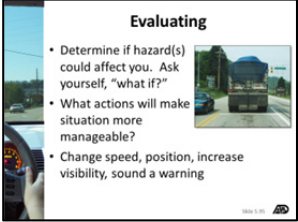
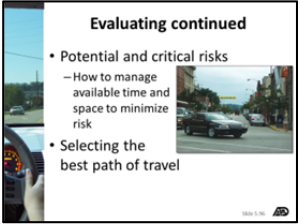
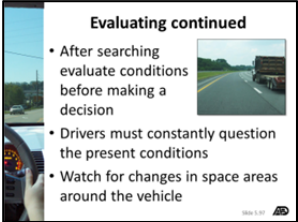
Video 5.4.3 Review: Hazard Recognition ANSWER KEY

1. How are people able to react so quickly to hazardous situations?

Answer: As experienced drivers they have seen situations like this before and sounds an alarm that tells them to get their foot off of the accelerator, their eyes to start looking for a way out and their hands to get ready to steer so they are prepared

2. Name the types of hazards discussed in the video.

Answer: Person on the road who can't see us, people who can see us but who are distracted, situations that create a problem for some drivers, which suddenly become our problem

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Evaluating</u></p> <p>➤ Slides 5.95 through 5.97</p> <p>Introduce the second part of SEE, evaluate and the need to have a process to determine a perceived risk in relation to a real risk.</p> <p>Discuss potential and critical risks you may face as a driver and decisions you must make to minimize risks.</p> <p>Learning and understanding the probability and consequences are key to making effective decisions.</p> <p>Discuss how to select the best path of travel.</p>	<p>➤ Slides 5.95 through 5.97: Evaluating</p> <div style="margin-bottom: 10px;">  </div> <div style="margin-bottom: 10px;">  </div> <div>  </div>	

Evaluating

Once you have identified the hazard(s), the next step is to quickly determine if they could affect you. Ask yourself, “what if?” Think about how hazards can interact to create risks for you. Anticipate potential problems and have a plan to reduce or eliminate the risk. Think about the dangers around your vehicle and what adjustments you must make within speed or lane position to maintain your safety. You must leave yourself time to react if a dangerous situation occurs.

As soon as you identify an object, condition or area of blocked vision that could cause a problem, you must decide what to do. You should choose the action that involves the lowest possible level of risk. What actions will make the situation more manageable? Maybe you should change your speed or position, increase your visibility or sound a warning. You may combine several of these actions for good risk management.

- **Potential and critical risks**

Many driving situations offer limited choices, so sometimes deciding what action to take is simple, such as when encountering highway control devices and design features, you either conform to them or ignore them and accept the consequences.

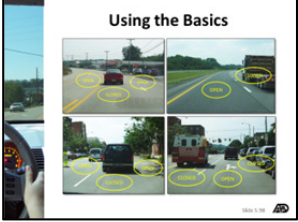
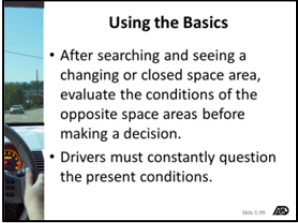
Other more complex traffic situations may call for more difficult decisions that require you to make critical judgments about your speed and path of travel. You must decide what to do and when. Drivers face increased risk because of roadway conditions, their own actions, the actions of other users or vehicle malfunctions. Your most important decisions will involve how to manage available time and space to minimize risk.

- **Selecting the best path of travel**

One of your tasks as a driver is to identify your intended path of travel, defined as the space into which you can safely drive your vehicle with the lowest possible risk. Selecting a path of travel is a continual process of deciding which options are best. Depending on your circumstances, the shoulder of the roadway may sometimes be the best choice. When selecting your path of travel ask yourself:

- Which path offers maximum visibility?
- Which path provides clear space ahead?
- Which path provides the clearest space to the side?
- Which path provides the smoothest flow of traffic?
- Which path provides the best roadway surface?
- What traffic laws apply?

Unit 5 Vision and Space Management

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Searching</u></p> <p>➤ Slides 5.98 through 5.99</p> <p>Discuss how to look for open, closed and changing areas of space.</p> <p>Discuss how to recognize high-risk situations and the need to evaluate conditions before making a decision.</p>	<p>➤ Slides 5.98 and 5.99: Using the Basics</p>  <p>Using the Basics</p>  <ul style="list-style-type: none">• After searching and seeing a changing or closed space area, evaluate the conditions of the opposite space areas before making a decision.• Drivers must constantly question the present conditions.	

Evaluating

Using the basics

The structure of the space management system can give a rapid response to a number of variables. There are many ways a driver can be involved in a crash. Most crashes result from a change in the driver's ability to control sightline, or travel path and driving into a threatening situation.

Examples of changes:

- A red traffic light is a closed area front travel path.
- A hill crest is a closed front sightline.
- A parked car on the right is a closed right front sightline and travel path.
- A bicyclist on the right is a closed right front path.
- An oncoming car or truck is a closed left front travel path.
- A car traveling in the left mirror blind space area is a closed left rear travel path.
- A motorcycle in the right mirror blind space area is a closed right rear travel path.
- A truck following closely is a closed rear sightline and travel path.

After searching and seeing a changing or closed space area, drivers need to evaluate the conditions of the opposite space areas before making a decision. After evaluating the related space areas, act on selecting the best speed, lane position and/or communication tool.

New conditions are always presenting themselves when driving. A driver must constantly question the present conditions. What speed is most appropriate for each situation? What is the legal speed limit? What should the lane or lane position be? What is a good speed for this situation? What would be a high risk or poor speed selection, with little to gain? Each situation has different and changing conditions.

These are some of the processing evaluations that a driver would make for any driving situation. The speed and lane position selected are usually based upon what the legal limitations are, what the destination is, and what is best for the driver.

Whatever the choices for speed and position, the space management system recommends visualizing how the group of ongoing conditions could cause less control over **line of sight** and/or **path of travel**. In other words, watch for changes in the space areas around the vehicle.




If drivers are able to watch for slight changes, make minor adjustments for best speed control and lane position, and use effective communication—they very seldom will be surprised by the actions of others that would require a critical high stress or evasive response.

Space Management System (SEE) **Part 4 continued**
Lesson Content



Lesson Objective:

Student will demonstrate knowledge of the **executing** process for making an appropriate response.

Lesson Content	Materials and Resources
<p><u>Executing</u></p> <p>➤ Slide 5.100</p> <p>Introduce the third part of SEE, execute, which involves carrying out your decision and involves adjusting your speed, position, and/or communicating your presence and intentions.</p> <p>➤ Slide 5.101</p> <p>Discuss how to adjust your speed to create more space and minimize any harm from hazards.</p> <p>Discuss how to adjust your speed in response to risk or danger.</p>	<p>➤ Slide 5.100: Executing</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">Executing</p> <ul style="list-style-type: none"> • Carrying out your decision • What are you going to do and how are you going to do it • Adjust your speed, adjust your position, communicate your presence  </div> <p>➤ Slide 5.101: Adjusting Your Speed in Response to Risk or Danger</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">Adjusting Your Speed in Response to Risk or Danger</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Decelerate</p>  </div> <div style="text-align: center;"> <p>Accelerate</p>  </div> </div> </div>

Executing

This part of the SEE system involves carrying out your decision. What you are going to do and how you are going to do it. To create more space and minimize any harm from hazards:

1. Adjust your speed by accelerating, slowing or stopping.
2. Adjust your position and/or direction.
3. Communicate your presence and intentions with lights and/or horn.



1. Adjusting your speed

A reasonable and proper speed for any set of conditions is one that provides the driver a safe path of travel. The ideal speed provides time and space to brake or steer to a safe alternative path **4 to 8 seconds ahead** if an emergency develops.

If you drive too fast for conditions, then you will not be able to stay on your intended path of travel or stop in time to avoid crashing. Traveling too fast for conditions also makes it difficult for other drivers and pedestrians to predict your actions.

- **Adjusting your speed in response to risk or danger** – Your decision to make an adjustment in your speed can result in a variety of actions.
 - **Decelerate** – At times the action you take will be to decelerate. The amount of braking needed will vary with the situation. Always check behind you before decelerating or braking in any manner. For example, if a vehicle ahead of you comes to a sudden stop or makes a turn.
 - **Accelerate** – Other times the action you take will be to **accelerate**. For example, when another vehicle is about to hit you from the side or from behind and there is room to the front to get out of danger.

Unit 5 Vision and Space Management

Space Management System (SEE)	Part 4 continued Lesson Content
Lesson Content	Materials and Resources
<p><u>Executing</u></p> <p>➤ Slide 5.102</p> <p>Discuss how to adjust your speed in response to traffic conditions.</p> <p>➤ Slide 5.103</p> <p>Discuss how to adjust your speed in response to roadway conditions.</p>	<p>➤ Slide 5.102: Adjusting Your Speed in Response to Traffic Conditions</p> <div style="text-align: center; margin: 10px 0;">  </div> <p>➤ Slide 5.103: Adjusting Your Speed in Response to Roadway Conditions</p> <div style="text-align: center; margin: 10px 0;">  </div>


Executing

- **Adjusting your speed in response to traffic conditions**
 - **Reduce speed and keep pace with other traffic flow traveling within the legal limits.** If you are going faster than traffic flow patterns, you will have to pass other roadway users. Each time you pass one another, there is a chance for a collision.
 - **If you have to drive slower than the flow of traffic, drive in the right lane or pull over and let other vehicles pass.** Driving more than 15 mph slower than the traffic flow pattern can be just as dangerous as excessive speed.
 - **When merging with traffic, try to enter at the same speed that other traffic flow is moving.** Multiple lane highways generally have an acceleration lane to provide time to build-up vehicle speed.
 - **When using a deceleration lane, do not slow down until you have moved onto the deceleration lane.** In heavy traffic, it is important to know where your exit is because it is difficult to change lanes. Plan to get into the proper lane about one-half mile before the exit.
 - **When a right lane ends near the city limits plan the left merge early.** Most drivers wait until the last minute to merge when a lane is ending. At the edge of town or in a construction zone a driver should plan the merge early and stay in the lane with a proper following distance.
 - **Reduce speed in crowded spaces,** such as during rush hour or in shopping centers.
- **Adjusting your speed in response to roadway conditions**

There are road conditions, where to travel safely, you must reduce speed, such as reducing speed before a sharp curve, when the roadway is slippery or when there is water or loose sand on the roadway.

 - **Curves** - Reduce speed prior to entering the curve, maintain a safe speed through the curve and follow posted warning signs with and without advisory speeds.
 - **Slippery roads** - Reduce speed at the first sign of rain, snow or sleet. Roadways are most slippery when it first starts to rain, snow or sleet as the water will mix with dirt, oil and other substances on the roadway. You should reduce your speed about 10 mph to allow for additional stopping distance and potential traction loss while steering.
 - **Water on the roadway** - When you go faster than 35 mph, the steering tires will start to ride up on any pooled water on the roadway, similar to the action of water skis. This loss of roadway contact is called “hydroplaning.” The best way to avoid traction loss due to hydroplaning is to slow down in the rain or when the road is wet with pooled or standing water.

Unit 5 Vision and Space Management

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Executing</u></p> <p>➤ Slide 5.104</p> <p>Discuss how to adjust your speed in response to vehicle balance.</p>	<p>➤ Slide 5.104: Adjusting Your Speed in Response to Vehicle Balance</p>  <p>The image is a slide titled "Adjusting Your Speed in Response to Vehicle Balance". It features two side-by-side photographs of a car's interior. The left photo is labeled "Accelerating" and shows a white bag on the passenger seat leaning towards the rear of the car. Below it, the text reads "Weight shifts to rear". The right photo is labeled "Braking" and shows the same white bag leaning towards the front of the car. Below it, the text reads "Weight shifts to front". At the bottom of the slide, a blue box contains the text: "Avoid sudden inputs, perform smooth inputs one at a time to maintain maximum traction". The slide number "504 5.104" and the AD logo are in the bottom right corner.</p>	

Executing



- **Adjusting your speed in response to vehicle balance**

Single-vehicle crashes occur when a vehicle leaves the roadway and hits a fixed object or overturns. These crashes usually involve improper steering, improper braking or a combination of the two, which can upset a vehicle's balance and lead to a loss in traction and an unintended path of travel.

A transfer of weight from one point of the vehicle to another occurs whenever the driver accelerates, brakes, turns or carries out a combination of these actions.

- **Accelerating** - when a vehicle accelerates, its weight shifts to the rear. If acceleration is aggressive, there will be a noticeable rise of the vehicle's front and a drop of the rear.
- **Braking** - when the brakes are applied, the vehicle's weight is transferred to the front. If braking is hard, there is a noticeable drop of the vehicle's front and a rise of the rear. Apply too little brake pressure, and the vehicle will not stop at the desired point or within the distance available. Apply too much pressure, and the wheels may lock up, resulting in loss of traction and directional control.
- **To maximize traction and minimize the chance of traction loss**, avoid sudden inputs when accelerating and braking. For example, applying the brakes when cornering too fast will slow the vehicle very little and may cause a skid because of severe weight shift.
- **Focus on executing one input at a time** – brake, then steer, then accelerate. Performing smooth inputs one at a time will help maintain maximum traction.

Unit 5 Vision and Space Management

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<u>Executing</u>		
<p>➤ Slide 5.105</p> <p>Discuss how to adjust your position and/or direction to create more space and minimize harm from existing hazards.</p> <p>Discuss how to adjust your position and/or direction in response to risk or danger.</p>	<p>➤ Slide 5.105: Adjusting Your Position and/or Direction in Response to Risk or Danger</p> 	
<p>➤ Slide 5.106</p> <p>Discuss how to adjust your position and/or direction in response to traffic conditions.</p>	<p>➤ Slide 5.106: Adjusting Your Position and/or Direction in Response to Traffic Conditions</p> 	

Executing

2. Adjusting your position and/or direction


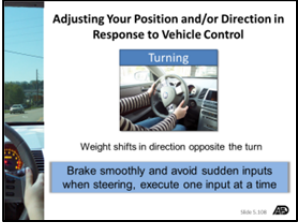
In order to change your position within your lane, you will steer to the right or left. A greater change of direction might require a lane change. When you decide to steer away from a possible conflict, execute just the right amount of steering input. Over steering can cause you to lose control of your vehicle, especially at higher speeds. Higher speeds also require more space for the maneuver, but very minimal steering. Under steering can also present a problem. Try to steer just enough to avoid a conflict without making jerky or sudden movements. Drivers who keep a proper space cushions around their vehicle usually have an escape path to steer into, thus reducing the risks.

- **Adjusting your position and/or direction in response to risk or danger**

In most cases, you can steer the vehicle quicker than you can stop it. You should consider steering as the first response to avoid a collision. Make sure you have a firm grip with both hands on the steering wheel. Once you have turned or changed lanes, you must maintain vehicle control. Some drivers steer away from one collision only to end up in another. Always steer in the direction you want the vehicle to go.

- **Adjusting your position and/or direction in response to traffic conditions**

- **If your vehicle is being followed too closely** by another driver and there is an empty lane, move to the empty lane and allow the following vehicle to pass.
- **Avoid driving next to other vehicles on multi-lane roads.** Being very alert to the position of a vehicle in an adjacent lane can reduce the possible side swipe crash. Someone may try to change lanes and pull into your lane space.
- **Keep as much space as possible between your vehicle and oncoming vehicles.** On a two-way, single lane roadway, do not crowd the center line marking. In general, it is safest to drive in the center of your lane, so your vehicle can move left or right to avoid a potential problem. On a multi-lane roadway it is best to drive in the right traffic lane leaving a full traffic lane between you and oncoming traffic.
- **Make space for vehicles entering a multi-lane, limited access roadway.** Traffic could enter from the right or the left. If there is not heavy traffic in the lane next to you, move over a lane, away from the entrance ramp to allow for more space for the entering vehicles.
- **Keep extra space between your vehicle and parked cars by moving to the left portion of your lane space without crossing the centerline.** Other roadway users could open a car door, step out from a parked vehicle, appear from between vehicles or pull away from the curb.
- **Provide extra space at driveways and intersections.** If a left lane is available and free of traffic, move over one car width or if a lane is not available, move over at least half a car width, or as close to the center of the roadway as possible.

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<u>Executing</u>		
<p>➤ Slide 5.107</p> <p>Discuss how to adjust your position and/or direction in response to roadway conditions.</p>	<p>➤ Slide 5.107: Adjusting Your Position and/or Direction in Response to Roadway Conditions</p> 	
<p>➤ Slide 5.108</p> <p>Discuss how to adjust your position and/or direction in response to vehicle control.</p>	<p>➤ Slide 5.108: Adjusting Your Position and/or Direction in Response to Vehicle Control</p> 	

Executing

- **Adjusting your position and/or direction in response to roadway conditions**
 - **Curves** - Always try to position your vehicle so you have the best view when entering the curve, this position change allows others to see you more readily.
 - **Slippery roads** - By following the tire tracks left by the driver ahead, you can get a little better traction.
 - **Water on the roadway** - If you must drive through deep water that is just over the rims of your tires, try to drive on the higher portion of the lane, or more to the center of the road.
 - **Gravel roads** - Loose gravel on roads can act like marbles under your tires and cause skids. Well-packed wheel paths usually form on heavily traveled gravel roads. Drive in these paths for better traction and control. If you need to move out of the wheel paths, slow and hold your steering wheel firmly.

- **Adjusting your position and/or direction in response to vehicle control**

A transfer of weight from one point of the vehicle to another occurs whenever the driver accelerates, brakes, turns or carries out a combination of these actions.

- **Turning** – when turning, a vehicle’s weight will shift in the direction opposite the turn. For example, when turning right, the vehicle’s weight will shift to the left, causing the vehicle to lean to the left side. The degree of weight shift depends on speed, traction, and the amount and speed of steering input.
- **To maximize traction and minimize the chance of traction loss**, brake smoothly and avoid sudden inputs when steering.
- **Focus on executing one input at a time** – brake, then steer, then accelerate. Performing smooth inputs one at a time will help maintain maximum traction.

Unit 5 Vision and Space Management

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Hazard Recognition</u></p> <p>➤ Learning Activity 5.4.2</p> <p>Demonstrates that it may be possible to handle one hazard at a time, but when multiple hazards happen, it's not always easy or possible to handle them all.</p>	<p>➤ Learning Activity 5.4.2: Juggling Multiple Hazards</p>	

Learning Activity 5.4.2

Juggling Multiple Hazards



Topic

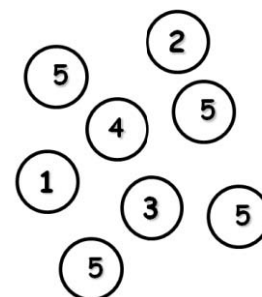
Hazard Recognition

Information

New drivers often think they can handle everything while driving the car. This activity demonstrates that it may be possible to handle one hazard at a time but when multiple hazards happen, it's not always easy or possible to handle them all.

Materials Needed

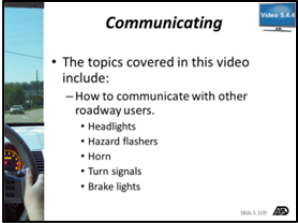
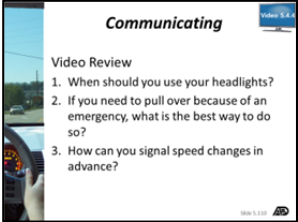
1. 8 table tennis (nerf or ping pong) balls
2. Mark one ball each with the number 1, 2, 3, 4, 5, 5, 5, and 5.
3. A rolling office type chair.
4. Space needed to move the chair about the room with a student driver seated in the chair.



Learning Activity

1. Give the balls to various students in the class.
2. Place one student in a rolling chair.
 - a. Have a designated path for the chair and its driver.
 - b. The teacher or another student may push the chair.
3. Make up driving scenarios with hazards. During the scenarios, a number is called and the student/s with that numbered ball/s lobs it toward the student in the chair.
 - a. Example: We are driving in a residential area and we see children playing (Call out “Hazard number 1”). The student with that ball lobs it to the student driver.
 - b. Example: We are driving in the rush hour traffic in a major metropolitan city. The light is changing in the intersection up ahead, a pedestrian appears between 2 parked cars and may cross the street in front of you, and suddenly the door on a parked car swings open just as you are arriving at the back bumper of that car (Call out Number 5).
4. The student driver is to catch the balls if possible without leaving the driver’s seat.
5. When you get to hazard 5, four balls will be tossed at the same time, illustrating that we can usually handle one hazard at a time but drivers have difficulty with multiple hazards.
 - a. When the driver recognizes that there are too many multiple hazards to handle safely, what should the driver do?

Unit 5 Vision and Space Management

Space Management System (SEE)	Part 4 continued Lesson Content
Lesson Content	Materials and Resources
<p><u>Space Management System (SEE)</u></p> <p>➤ Video Review 5.4.4</p> <p>Duplicate and distribute Video Review 5.4.4. Students should complete the worksheet as they watch the video.</p> <p>➤ Slides 5.109 and 5.110 - Video 5.4.4</p> <p>Discuss the topics covered in Video 5.4.4.</p> <p>Play Video 5.4.4 <i>Communicating</i> (Time: 6 minutes 19 seconds)</p> <p>After viewing, review Video Review 5.4.4, using Answer Key to gauge student understanding of the video.</p>	<p>➤ Video Review 5.4.4 and Answer Key: <i>Communicating</i></p> <p>➤ Slides 5.109 and 5.110: Video 5.4.4: <i>Communicating</i></p> <div style="margin-top: 10px;">  </div> <div style="margin-top: 10px;">  </div>



Video 5.4.4 Overview: Communicating

Title

Communicating

Time

6 minutes 19 seconds

Topics Covered

1. How to communicate with other roadway users.
 - a. Turn signals
 - b. Brake lights
 - c. Horn
 - d. Headlights
 - e. Hazard flashers

Video Review

1. Have students complete a video review worksheet as they watch the video.
2. After viewing the video, review the worksheet to gauge students' understanding of the video.

Instructor Notes

Unit 5 Vision and Space Management

Space Management System (SEE)

Video Review 5.4.4

Video 5.4.4 Review: Communicating

Name

Date

1. When should you use your headlights? _____

2. If you need to pull over because of an emergency, what is the best way to do so?

3. When is it not a good idea to honk your horn? _____

4. When should you use your turn signals? _____

5. How can you signal speed changes in advance? _____



Unit 5 Vision and Space Management


Space Management System (SEE)

Video Review 5.4.4 ANSWER KEY

Video 5.4.4 Review: Communicating ANSWER KEY

1. When should you use your headlights?
Answer: All the time
2. If you need to pull over because of an emergency, what is the best way to do so?
Answer: Stop where drivers can see the car from a distance, turn on hazard flashers, get as far off the road as possible, placing emergency triangles or flares well back from vehicle or someone with a cloth or flag.
3. When is it not a good idea to honk your horn?
Answer: Passing on the right, when someone is in your way, when we have been wronged, to greet a friend.
4. When should you use your turn signals?
Answer: Anytime you plan to turn, turning at corners, merging and lane changes
5. How can you signal speed changes in advance?
Answer: Tap the brake pedal several times quickly

Unit 5 Vision and Space Management

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>Executing</u></p> <p>➤ Slide 5.111</p> <p>Discuss the need to make appropriate communication of intentions.</p>	<p>➤ Slide 5.111: Communicating Your Intentions</p>  <p>The slide titled "Communicating Your Intentions" features a 2x3 grid of images. The top row includes: "Headlights" (a car with headlights on), "Brake lights and taillights" (a car with brake lights on), and "Turn signals" (a car with a turn signal on). The bottom row includes: "Hazard flasher" (a red triangle hazard symbol), "Reverse lights" (a car with reverse lights on), and "Horn" (a hand pressing a horn button). The slide number "500-5.111" and the AD logo are in the bottom right corner.</p>	

Executing**3. Communicating Your Intentions**

Crashes often happen because one driver does not see another driver, or when one driver does something the other driver does not expect. It is important that you let other roadway users know where you are and what you plan to do. When you do communicate, you must do it early enough so other users understand your intentions. Drivers use signaling devices to send most messages. However the communication is performed, it should involve eye-to-eye contact for best results. Communicate by using the following:

- **Headlights** - Always use your headlights, even during the day, to help other roadway users see your vehicle more clearly. You can also flash your headlights on and off to warn other users you are there. Especially use your headlights during times of reduced visibility and at night. At night you can switch between low beams and high beams and back when vehicles are approaching. Some states require headlight use anytime wipers are needed.
- **Brake lights and taillights** - These are mounted on the rear of your vehicle. Your brake lights come on when you apply the brakes and inform other drivers that you are slowing or stopping. Taillights come on when you use your headlights and make your vehicle more visible to other users. When stopping or reducing speed at a place where another driver may not expect it, tap the brake pedal three or four times lightly to warn other users.
- **Turn signals** - Communicate to other users when and which way you are turning. You should signal prior to changing direction or position (turning left or right, passing, making lane changes and merging). Signal as early as possible for the maneuver. Signal 3 to 5 seconds before making any change in direction. After any maneuver requiring a signal, make sure the turn signal goes off.
- **Hazard flashers (4-way)** - Warns other users of a problem or to increase awareness of the presence of a vehicle. If your vehicle is disabled or if you must drive slowly because of roadway, weather or traffic conditions turn on your hazard flashers (state laws may differ).
- **Reverse lights** - White back-up lights let others know you are backing up. They come on automatically when you put the vehicle in reverse. Look for back-up lights on vehicles in parking lots and along a parking lane where vehicles may be preparing to parallel park.
- **Horn** - Your vehicle's horn can get other users attention if they do not see you. A light tap is usually enough for a warning. In an emergency, a loud blast may be necessary.

Unit 5 Vision and Space Management

Space Management System (SEE)		Part 4 continued Lesson Content
Lesson Content	Materials and Resources	
<p><u>SEE Steps</u></p> <p>➤ Learning Activity 5.4.3</p> <p>To help students with sequencing, this learning activity takes the steps involved in approaching a railroad crossing and combines it with the SEE steps.</p>	<p>➤ Learning Activity 5.4.3: SEE Steps</p>	

Learning Activity 5.4.3

SEE Steps



Topic

Space Management System (SEE)

Information

Driving is a new skill acquisition for the learner. Many driving tasks such as approaching an intersection require a sequencing of steps. To help the students with sequencing, this learning activity takes the steps involved in approaching a railroad crossing which is an intersection and combines it with the SEE steps to enable the learner to begin putting the information into their knowledge base.

Materials Needed

1. Using the steps below, duplicate the information and provide all students with their own sequence of steps for SEE.

Step 1 (Search)

- Identify Intersection
- Identify RR Controls
- Check Rear Areas
- Identify Stop Line

Step 2 (Evaluate)

- Scan Open Side Area for Train or Vehicle Movements
- Then Scan Closed Side Area for Train or Vehicle Movements
- Then Scan for Closed or Changing Frontal Area

Step 3 (Execute)

- Stop Behind Line or
- Proceed Through Open Space Area
- Adjust speed

2. Have students cut each step into a strip (13 strips total). Place the strips in baggies.
3. Make a class set or allow all students to have their own.
4. For a longer lasting product, use card stock versus paper. Laminated card stock is quite durable.

Learning Activity

1. Determine time allocation for the process. If this material is new to the learner, allow more time than you would if it is a review of previously learned material.
2. Have students (individually or with a partner) sequence the steps.
3. Call time
4. Review the steps using a visual chart (PowerPoint chart, newsprint chart, etc.)

Lane Positions and Making Safe Lane Position Choices **Part 5**
Lesson Content



Lesson Objective:

Student will demonstrate knowledge of procedures for selecting and positioning a motor vehicle in the proper lane for safe, smooth driving.

Lesson Content	Materials and Resources
<p><u>Lane Positions</u></p> <ul style="list-style-type: none"> ➤ Fact Sheet 5.5 <p>Duplicate and distribute Fact Sheet 5.5 for students to use as a resource and study guide.</p> <ul style="list-style-type: none"> ➤ Slide 5.112 <p>Discuss how to control space to the front and the five choices for lane positions within a lane.</p>	<ul style="list-style-type: none"> ➤ Fact Sheet 5.5: Lane Positions and Making Safe Lane Position Choices ➤ Slide 5.112: Lane Positions <div style="text-align: center;"> </div>

Lane Positions

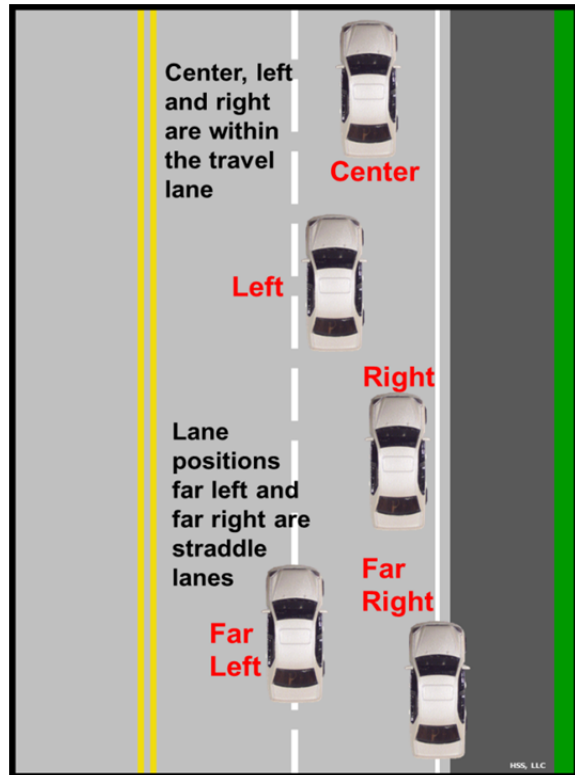
Controlling space to the front - There are three ways to control space to the front. The driver can time his arrival at a given point by 1.) Adjusting speed, 2.) Placement of the vehicle when stopping, and 3.) Applying proper following distance.

Lane selection and positioning - The lane selection and position options described below are dependent upon open, changing and/or closed sightlines and paths of travel front/left and front/right and/or rear/left or rear/right as they apply in any given situation.

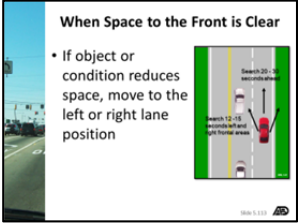
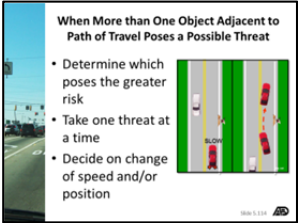
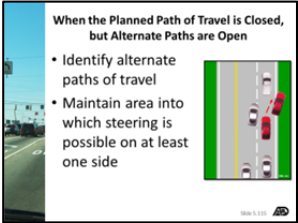
Lane positions:

There are five choices for lane position within a lane. Most cars are less than 6 feet wide, while highway lanes are 10 to 12 feet wide. This leaves 4 to 6 feet of space to the sides without having to change lanes.

- **Lane positions center, left and right** are positions within a given travel lane.
 - Lane position center is the center of the lane, lane position left is the left portion of the lane, and lane position right is the right portion of the lane.
- **Lane positions far left and far right** involve moving the vehicle so that the left or right wheels are straddling the lane line markers.

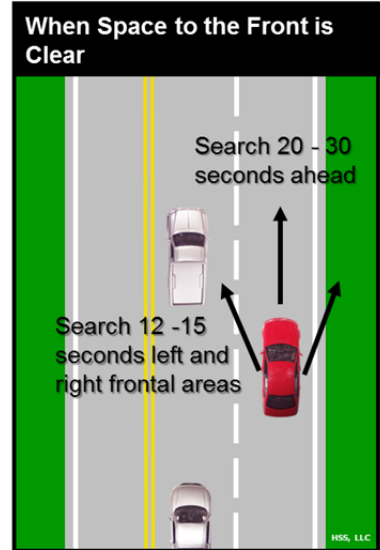


Unit 5 Vision and Space Management

Lesson Content	Materials and Resources
<div style="display: flex; justify-content: space-between;"> Lane Positions and Making Safe Lane Position Choices Part 5 continued </div> <div style="text-align: right; margin-top: 5px;">Lesson Content</div>	
<p><u>Making Safe Lane Position Choices</u></p>	
<p>➤ Slide 5.113</p> <p>Discuss what to do when space to the front is clear.</p>	<p>➤ Slide 5.113: When Space to the Front is Clear</p> 
<p>➤ Slide 5.114</p> <p>Discuss what to do when more than one object or condition adjacent to the path of travel poses a possible threat.</p>	<p>➤ Slide 5.114: When More Than One Object Adjacent to the Path of Travel Poses a Possible Threat</p> 
<p>➤ Slide 5.115</p> <p>Discuss what to do when the planned path of travel is closed, but alternate paths are open.</p>	<p>➤ Slide 5.115: When the Planned Path of Travel is Closed, but Alternate Paths are Open</p> 

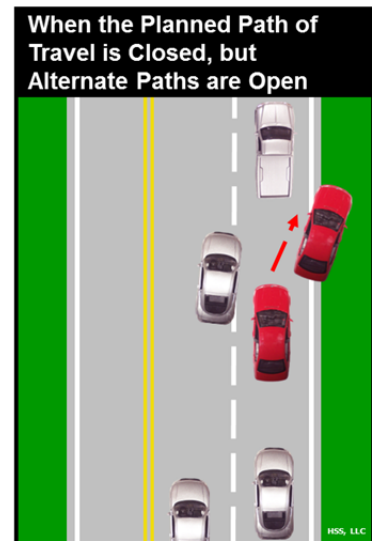
Making Safe Lane Position Choices

When space to the front is clear - When traveling in the center lane position, search 20 to 30 seconds ahead along the planned path of travel and 12 to 15 seconds to the left and right frontal areas to identify planned and alternate paths of travel. Continually reassess the immediate path 4 to 8 seconds ahead. If an object or condition adjacent to the projected path of travel reduces space to either side, check to the rear and side and move to the left or right lane position as appropriate.

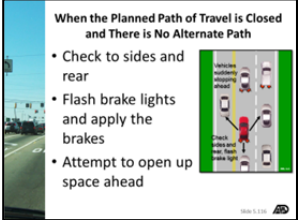
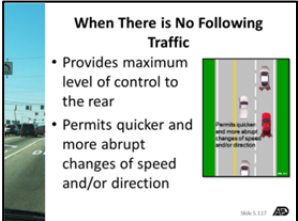


When more than one object or condition adjacent to path of travel poses a possible threat - Having identified that the planned path of travel is open, determine which object or condition poses the greater risk and decide on change of speed and/or position appropriate to the situation. Take one threat at a time. Depending on which object represents the more serious consequences, a reduction in speed and movement to the left or right lane position is typically sufficient.

When the planned path of travel is closed, but alternate paths are open - Identifying alternate paths of travel 12 to 15 seconds ahead, and maintaining an area into which steering is possible on at least one side, provides more time to reassess traffic to the side(s) and rear and to communicate intentions prior to adjusting position and speed.



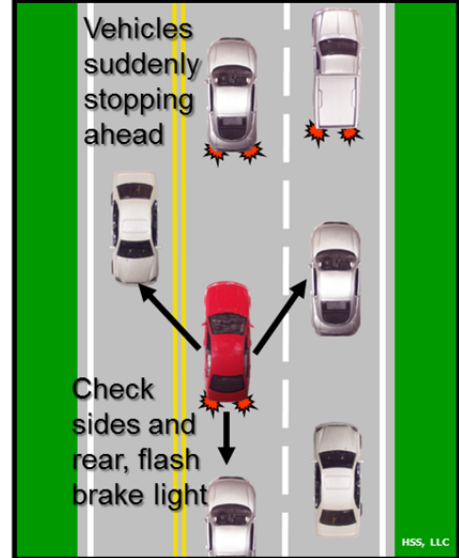
Unit 5 Vision and Space Management

Lane Positions and Making Safe Lane Position Choices	Part 5 continued Lesson Content
Lesson Content	Materials and Resources
<p><u>Making Safe Lane Position Choices</u></p>	
<p>➤ Slide 5.116</p> <p>Discuss what to do when the planned path of travel is closed and there is no alternate path.</p>	<p>➤ Slide 5.116: When Planned Path of Travel is Closed and No Alternate Path</p> 
<p>➤ Slide 5.117</p> <p>Discuss what to do when there is no following traffic.</p>	<p>➤ Slide 5.117: When There is No Following Traffic</p> 

Making Safe Lane Position Choices

When the planned path of travel is closed and there is no alternate path - Having determined when searching 20 to 30 seconds ahead that there is no alternate path available 12 to 15 seconds ahead, the driver should immediately check to the side(s) and rear to detect the presence, location, size and speed of any following vehicles. If a vehicle is following, flash brake lights to alert the following driver and begin to apply the brakes. Attempt to maintain forward motion at a slower speed to open up the space ahead. If the distance ahead cannot be increased, brake to a stop while maintaining a gap to the rear.

When the Planned Path of Travel is Closed and There is No Alternate Path



When There is No Following Traffic



When there is no following traffic - The absence of traffic to the rear provides the maximum level of control to the rear and permits quicker and more abrupt changes of speed and/or direction in response to changes in ongoing and oncoming traffic or by other roadway users.

Divided Attention / Multi-tasking **Part 6**
Lesson Content



Lesson Objective:

Student will identify how to divide attention between path of travel and demands inside the vehicle.

Lesson Content	Materials and Resources
<p><u>Divided Attention / Multi-tasking</u></p> <ul style="list-style-type: none"> ➤ Fact Sheet 5.6 <p>Duplicate and distribute Fact Sheet 5.6 for students to use as a resource and study guide.</p> <ul style="list-style-type: none"> ➤ Slide 5.118 <p>Discuss how to divide your attention between path of travel and demands inside the vehicle.</p>	<ul style="list-style-type: none"> ➤ Fact Sheet 5.6: Divided Attention / Multi-tasking ➤ Slide 5.118: Divided Attention / Multi-tasking <div style="text-align: center;"> </div>

Divided Attention / Multi-tasking

Divided attention or multi-tasking means being able to operate a motor vehicle while using operator controls and devices and scanning the roadway, mirrors and the dashboard all at the same time.

- **Operating controls and devices while driving**
 - You should become familiar with the location and operation of devices.
 - You should practice using the instruments and controls while the vehicle is parked so you can locate, reach and use them without having to search and take your eyes off the road ahead for more than a few seconds at a time.
 - It is important that you know the location, purpose and operation of the various controls, safety, comfort and convenience devices when driving a motor vehicle.
 - However, it is essential that you understand the increased risk associated with directing your attention to a task other than driving, which lowers one's level of alertness directed to driving and typically has an adverse effect on steering.

- **Scanning the roadway, mirrors and dashboard while driving**
 - Keeping your eyes active helps you resist distractions, reduces inattention and prevents a fixed stare.
 - There are specific times when it is very important to check your mirrors, such as any type of lateral maneuver, such as a lane change, approaching an intersection, exiting an intersection, and when anticipating a speed or position adjustment.

Unit Review and Test **Part 7**
Lesson Content



Lesson Objective:

Student will evaluate their knowledge of the content presented in Unit 5 through review questions, key word matchup worksheet and unit test.

Lesson Content	Materials and Resources
<p><u>Review Questions</u></p> <p>➤ Review Questions</p> <p>Ask review questions to summarize discussion on Unit 5.</p>	<p>➤ Unit 5 Review Questions</p>

Unit 5 Review Questions



1. What are the three types of vision?
Answer: Central, fringe and peripheral
2. What is a visual lead?
Answer: An area 20 to 30 seconds from the front of the vehicle.
3. What is following distance?
Answer: The distance between your vehicle and the vehicle ahead.
4. How can you allow for more space to your sides?
Answer: Keep as much space as possible between your vehicle and oncoming vehicles, as well as parked vehicles and avoid driving next to vehicles on multi-lane roads.
5. What are the three steps of SEE?
Answer: Search, Evaluate, and Execute
6. How can you develop a visual lead and determine how far 20 to 30 seconds is?
Answer: Pick out a fixed roadside object well ahead and begin counting, "one-thousand-one, one-thousand-two, etc., until you reach the object. The number of seconds you have counted is the number of seconds ahead that you were looking.
7. What should you search for when driving?
Answer: Signs, signals and markings, roadway characteristics, other roadway users (motorized and non-motorized).
8. What are the three things you can do to create more space and minimize any harm from hazards?
Answer: Adjust your speed by accelerating, slowing or stopping; adjust your position and/or direction, communicate your presence and intentions.
9. What should you do when more than one object or condition adjacent to your path of travel poses a possible threat?
Answer: Determine which object or condition poses the greater risk and take one threat at a time. Usually a reduction in speed and movement to the left or right lane position is sufficient.
10. What are the five choices for positions within a lane?
Answer: left, right, center, far left, and far right

Unit Review and Test		Part 7 continued Lesson Content
Lesson Content	Materials and Resources	
<u>Words to Know Review</u>		
<p>➤ Fact Sheet 5.7</p> <p>Duplicate and distribute Fact Sheet 3.6. Use the definitions page as a resource for teaching and for the students as a resource and study guide.</p> <p>➤ Worksheet 5.7</p> <p>Duplicate and distribute. Have students complete the worksheet.</p> <p>Review the answers.</p>	<p>➤ Fact Sheet 5.7: Unit 5 Words to Know Definitions Page</p> <p>➤ Worksheet 5.7 and Answer Key: Unit 5 Words to Know Matchup</p>	

Unit 5 Words to Know Definitions Page



Braking distance – how far your vehicle will travel, in ideal conditions; while you are braking (pushing down on brake until the vehicle comes to a stop).

Central vision – the five-degree cone that makes up only three percent of a driver’s total visual field. It provides detail of objects and conditions and is the primary visual function employed in targeting. Direct your central vision to your target area and front zones.

Changing areas of space - a space or area condition in which the level of risk is increasing. It is often an open space or area that is changing to a closed line of sight or path of travel or a closed space or area with additional conflicts or changes.

Closed areas of space – the space or area that is not available for the car’s path of travel or there is a restriction to the driver's line of sight. An alternative path of travel must be identified.

Communication – letting other roadway users know where you are and what you plan to do by using vehicle lighting, signaling devices , or horn on the vehicle.

Divided attention / multi-tasking – being able to operate a motor vehicle while using operator controls and devices and scanning the roadway, mirrors and the dashboard all at the same time.

Evaluate – checking to sides and rear for speed and lane position options and making predictions to what other drivers may do.

Execute – changing speed, change position and/or communicating.

Field of view - the entire area of the highway and surroundings that you can see at any given moment.

Following distance - the distance between your vehicle and the vehicle ahead, which gives you more space between vehicles, in case of an emergency.

Fringe vision - used to judge depth and position. It provides information about objects close to the travel path and lane position. Use your fringe vision to check reference points and detect changes in your rearview and side view mirrors.

Lane positions – there are five choices for lane position with in a lane: center, left, right and far left and far right.

Line of sight - the imaginary line that extends from your eyes to the point of focus. The line of sight can be blocked by a curve, hill, tree branches, buildings, large vehicle, etc.

Unit 5 Words to Know Definitions Page

Open areas of space - the space or area to operate within that is without restrictions to the line of sight or path of travel.

Path of travel - the space into which you can safely direct your vehicle with the lowest possible risk.

Perception distance – how far your vehicle travels, in ideal conditions; from the time your eyes see a hazard until your brain recognizes it (seeing the situation).

Peripheral vision - conical in shape around the other vision fields. It detects changes in color and object movement, providing you with information about moving or stationary objects that could be threats along the intended path of travel. Peripheral vision is strongly affected by fatigue, drugs, and speed of travel. It often gives the driver an initial warning of a changing or closed space area.

Reaction distance –how far your vehicle continues to travel, in ideal conditions; before you physically apply the brakes, in response to a hazard seen ahead (moving foot to brake pedal).

Searching - looking for other roadway users or conditions in or adjacent to the projected path of travel that could increase the level of risk.

Space management system (SEE) – a three-step process (search, evaluate, execute) that can help you understand what is going on in traffic and to be constantly planning and implementing a course of action.

Space margin – the amount of space around a vehicle that separates it from possible sources of danger in traffic.

Total stopping distance - the total minimum distance your vehicle has traveled, in ideal conditions; with everything considered, including perception distance, reaction distance and braking distance, until you can bring your vehicle to a full stop.

Vehicle operating space – space surrounding a vehicle that is visible to the driver. There are six areas of space around a vehicle: front left, front, front right, rear left, rear, and rear right.

Visual lead – an area 20 to 30 seconds of travel time to the front of the vehicle.

Unit 5 Vision and Space Management

Instructor Notes

Unit 5 Vision and Space Management

Unit 5 Words to Know Matchup

Worksheet 5.7

Name _____

Date _____

Directions: Match the clues on the left with the words in the list on the right. Place the matching letter in the blank to the left of the number.

- | | | |
|-------|---|----------------------------|
| _____ | 1. The imaginary line that extends from your eyes to the point of focus. | A. Braking distance |
| _____ | 2. Detects changes in color and object movement, providing you with information about moving or stationary objects that could be threats along the intended path of travel. | B. Central vision |
| _____ | 3. An area 20 to 30 seconds from the front of the vehicle and is critical in gaining as much information as possible from the driving scene. | C. Evaluate |
| _____ | 4. Looking for other roadway users or conditions in or adjacent to the projected path of travel that could increase the level of risk. | D. Execute |
| _____ | 5. How far you will continue to travel, in ideal conditions; before you physically apply the brakes, in response to a hazard seen ahead. | E. Field of view |
| _____ | 6. Provides detail of objects and conditions and is the primary visual function employed in targeting. | F. Following distance |
| _____ | 7. The total minimum distance your vehicle has traveled, in ideal conditions; with everything considered, until you can bring your vehicle to a full stop. | G. Fringe vision |
| _____ | 8. The entire area of the highway and surroundings that you can see at any given moment. | H. Line of sight |
| _____ | 9. Distance between your vehicle and other roadway users. | I. Path of travel |
| _____ | 10. Is used to judge depth and position and provides information about objects close to the travel path and lane position. | J. Perception distance |
| _____ | 11. How far your vehicle travels, in ideal conditions; from the time your eyes see a hazard until your brain recognizes it. | K. Peripheral vision |
| _____ | 12. How far your vehicle will travel, in ideal conditions; while you are braking. | L. Reaction distance |
| _____ | 13. Checking sides and rear for speed and lane position options. | M. Search |
| _____ | 14. The space into which you can safely direct your vehicle with the lowest possible risk. | N. Total stopping distance |
| _____ | 15. Changing your speed, position/and or communicating. | O. Visual lead |



Unit 5 Vision and Space Management

Unit 5 Words to Know Matchup

Worksheet 5.7

ANSWER KEY

Directions: Match the clues on the left with the words in the list on the right. Place the matching letter in the blank to the left of the number.

- | | | |
|-----------|---|----------------------------|
| ___ H ___ | 1. The imaginary line that extends from your eyes to the point of focus. | A. Braking distance |
| ___ K ___ | 2. Detects changes in color and object movement, providing you with information about moving or stationary objects that could be threats along the intended path of travel. | B. Central vision |
| ___ O ___ | 3. An area 20 to 30 seconds from the front of the vehicle and is critical in gaining as much information as possible from the driving scene. | C. Evaluate |
| ___ M ___ | 4. Looking for other roadway users or conditions in or adjacent to the projected path of travel that could increase the level of risk. | D. Execute |
| ___ L ___ | 5. How far you will continue to travel, in ideal conditions; before you physically apply the brakes, in response to a hazard seen ahead. | E. Field of view |
| ___ B ___ | 6. Provides detail of objects and conditions and is the primary visual function employed in targeting. | F. Following distance |
| ___ N ___ | 7. The total minimum distance your vehicle has traveled, in ideal conditions; with everything considered, until you can bring your vehicle to a full stop. | G. Fringe vision |
| ___ E ___ | 8. The entire area of the highway and surroundings that you can see at any given moment. | H. Line of sight |
| ___ F ___ | 9. Distance between your vehicle and other roadway users. | I. Path of travel |
| ___ G ___ | 10. Is used to judge depth and position and provides information about objects close to the travel path and lane position. | J. Perception distance |
| ___ J ___ | 11. How far your vehicle travels, in ideal conditions; from the time your eyes see a hazard until your brain recognizes it. | K. Peripheral vision |
| ___ A ___ | 12. How far your vehicle will travel, in ideal conditions; while you are braking. | L. Reaction distance |
| ___ C ___ | 13. Checking sides and rear for speed and lane position options. | M. Search |
| ___ I ___ | 14. The space into which you can safely direct your vehicle with the lowest possible risk. | N. Total stopping distance |
| ___ D ___ | 15. Changing your speed, position/and or communicating. | O. Visual lead |


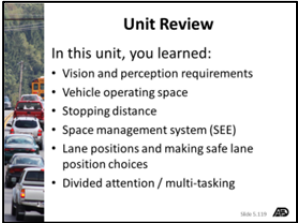



Unit Review and Test **Part 7 continued**
Lesson Content



Lesson Objective:

Students will have learned the following at the end of the unit.

Lesson Content	Materials and Resources
<p><u>Unit Review and Test</u></p> <p>➤ Slide 5.119</p> <p>Discuss what the students have learned by the end of this unit.</p> <p>➤ Reading Assignment</p> <p>Assign students the reading material for the next unit. Students might begin reading after they have completed the Unit 5 Test.</p> <p>➤ Unit 5 Test </p> <p>Duplicate and distribute Unit 5 Test.</p> <p>Collect and grade the test.</p> <p>After returning tests to the students, review the answers and clarify any confusion.</p>	<p>➤ Slide 5.119: Unit Review</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;">  </div> <p>➤ Textbooks</p> <div style="border: 1px solid black; background-color: #e6f2ff; padding: 5px; margin: 10px 0;"> <p>Preferred Textbook:  HOW to DRIVE Chapters 3, 9 and 11</p> </div> <ul style="list-style-type: none"> • Other Textbooks: <ul style="list-style-type: none"> – <u>Drive Right</u>: Chapters 4, 9 and 10 – <u>Responsible Driving</u>: Chapters 6, 10, 12 and 14 – Other Textbook: _____ <p>➤ Unit 5 Test, page 5-110</p>

Unit 5 Review

Unit 5 Review

In this unit, you learned the following:

- How effective visual skills help to manage risk when operating a motor vehicle.
- How to identify the vehicle operating space and how to maintain an adequate space cushion around your vehicle.
- The definition of a stopping distance and how it applies to the space around your vehicle.
- How to demonstrate knowledge of the space management system SEE.
- How to demonstrate knowledge of the search process and where, when, how and what a driver needs as part of the search process for a space management system.
- How to demonstrate knowledge of the evaluating risk process.
- How to demonstrate knowledge of the executing process for making an appropriate response.
- The procedures for selecting and positioning a motor vehicle in the proper lane for safe, smooth driving.
- How to divide attention between path of travel and demands inside the vehicle.
- Key words associated with the unit objectives.

Select the best answer and place the appropriate letter (A, B, C, or D) on the line provided.

- _____ 1. What does searching for threatening objects or conditions in traffic depend on most?
- A. Perfect eyes
 - B. Knowing the street or area
 - C. Keep your eyes moving
 - D. Seeing out of the corners of your eyes
- _____ 2. When you look far and near and side to side you are:
- A. Searching
 - B. Centering
 - C. Checking
 - D. Monitoring
- _____ 3. The best way to keep from getting involved in emergency driving situations is to:
- A. Keep your eyes glued on the target area of the travel path ahead
 - B. Keep your car in good mechanical condition
 - C. Use rearview and side mirrors
 - D. Continually search for threatening objects or conditions
- _____ 4. Which step of the decision process has a driver just taken when he determines what will probably happen in a driving situation?
- A. Search
 - B. Evaluate
 - C. Execute
 - D. Question
- _____ 5. Managing space when driving means managing the distance between a driver's vehicle and the vehicle:
- A. Ahead
 - B. Behind
 - C. To the sides
 - D. A, B, and C are correct

Unit 5 Vision and Space Management

Vision and Space Management

Unit 5 Test
Page 2

- _____ 6. The reason for making visual checks to the left or right before changing lanes is because:
- A. It's quicker than checking the mirrors
 - B. It's easier than checking the mirrors
 - C. It covers areas not visible in the mirrors
 - D. It provides a smaller picture
- _____ 7. Sudden braking or swerving in traffic indicates that a driver:
- A. Is skillful at maneuvering
 - B. Is alert and searching well ahead
 - C. Has good reflexes
 - D. Is not searching far enough ahead
- _____ 8. Detecting potentially threatening objects or conditions in traffic mostly depends on:
- A. 20/20 vision
 - B. Being familiar with the road on which one is driving
 - C. An organized, aggressive, visual search
 - D. Side vision
- _____ 9. Managing space to the front of your car requires a following distance of at least:
- A. 1 second
 - B. 2 seconds
 - C. 3-4 seconds
 - D. 2 car lengths
- _____ 10. Which is NOT a visual search category when driving?
- A. Passengers in the car
 - B. Traffic controls
 - C. Roadway conditions
 - D. Other roadway users



Unit 5 ANSWER KEY

1	C	6	C
2	A	7	D
3	D	8	C
4	B	9	C
5	D	10	A