**Traffic Safety Instructor Lesson Plan**

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| Lesson Title | Sharing the Road with Large Vehicles | | |
| Classroom Standard | 5.1.C | Standard 5: Sharing the Road | Page: 23 |
| Objective | Understand the special space management considerations that should be given when sharing the road with motorcycles, busses, and commercial vehicles | | |
| In Vehicle Standard | 5.1.C | Standard 5 Sharing the Road | Page: 24 |
| Objective | To safely and responsibly cooperate with other road-users, the student must understand the special space management considerations that should be given when sharing the road with motorcycles, busses, and commercial vehicles; | | |
| Driver Guide | Page 4.40 | | |

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| **Classroom Lesson Standard**<br>C 10.1.A | To describe the characteristics and limitations of other motorized vehicles and respond with appropriate space management principles:<br>A. Identify and describe situations involving heavy commercial vehicles and vehicle/trailer combinations |
| **Learning Goals**<br>Knowledge | • Vehicles dedicated to commercial use<br>• Trailer combinations- single, double, triple<br>• Visibility issues (blind zones)<br>• Stopping time and distance<br>• Traveling behind<br>• Passing procedures<br>• Wind awareness (turbulence)<br>• Space needs when turning<br>• Passenger vehicle interactions<br>• Hazardous materials vehicle interactions |
| **Success Criteria**<br>Skills | Students will be able to<br>• Describe the characteristics and limitations of other large (motorized) vehicles and respond with appropriate space management principles<br>• Connect behaviors behind-the-wheel to the impact they have on others on the road<br>• Demonstrate/Articulate how to avoid self or other road users from having to abruptly swerve, slow, or stop by using situational awareness and effective hazard management |

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| **Related Behind the Wheel Standards**<br><br>BTW 4.0.A-F | To safely and responsibly cooperate with other road-users:<br>A. Demonstrate cooperative and defensive driving<br>1. Sharing the road in a safe and considerate manner<br>2. Respecting other road-users space and needs<br>3. Passing safely<br>4. Practicing effective space management<br>5. Using cooperative freeway driving behaviors<br>B. Demonstrate how to use a systematic approach for safely passing and being passed<br>C. Follow the *Keep Right Except To Pass* law<br>D. Demonstrate the special space management considerations that should be given when sharing the road with<br>1. Large vehicles<br>2. Buses<br>3. Commercial vehicles<br>4. Animal-drawn vehicles<br>5. Micro-mobility vehicles<br>6. Vulnerable road users (motorcycles, bicyclists, and pedestrians)<br>E. Demonstrate ability to anticipate behaviors of other road-users<br>F. Demonstrate how to avoid self or other road users from having to abruptly swerve, slow, or stop by using situational awareness and effective hazard management |
| **PLAN** | |
| **Suggested Pace** | Approx 20 classroom minutes for entire module |
| **Potential Methods** | Lecture, Slideshow, Videos, Student-Reflection, Discussions, physical activities, *BTW practice |
| **Key Terms** | Commercial Motor Vehicles (CMV), blind zones, wind blast, stopping distance, turbulence |
| **Driver Guide** | tbd |
| **Materials & Resources** | instructor slides & script, WA driver guide, FMCSA pictures & videos, DOL videos, local news stories/videos, Virginia Tech Transportation Institute, paper, pencils, dry erase marker(s), toy cars, car magnets or cutouts |
| **Related Skills** | Use of mirrors, head checks, passing, merging, signaling, highway driving, speed limit awareness, blind zones |
| **RCWs** | 46.61.140; 46.61.500 |
| **Things to Consider** | Road and weather conditions, local signage for large vehicles |
| **TEACH** | |

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| **Recommended Instructional Sequence** | 1. As students enter or transition, project the hook slide (#2) with the prompt: *List as many large vehicles as you can.* Give students a few minutes to brainstorm. Ideas: survey which student listed the most, give candy for any lists over 5, ask them to share/compare their lists aloud.<br>2. Define what large vehicles are by giving examples of those commonly found on local roadways. Explain that this lesson will mostly use large commercial motor vehicles as an example of a large vehicle, but that the guidelines also include sharing the road with buses, motorhomes, fire trucks, and construction vehicles, etc.<br>3. Explain to students that the majority of large vehicle collisions are caused by passenger vehicles. Reinforce that their driving behavior has severe consequences when large vehicles are involved.<br>4. Ensure students understand *why* they need to learn driving concepts that can help reduce risk around large vehicles.<br>5. Direct students to follow along/make notes in the driver guide.<br>6. Identify signs students might see that are specifically for large vehicles. Explain that, as the driver of a car, students should be aware of these signs and potential situations that might arise around large vehicles.<br>7. Introduce visibility issues by showing students the CMV driver's point-of-view with images and video. Give students a sense of what a large vehicle driver can and can<u>not</u> see.<br>8. Using the empty road slide, ask students to identify safe spaces to travel alongside large vehicles. This can be done by placing post-it notes on the projection screen or monitor. Click the space bar to reveal the **blind zone** image. Discuss the placement of the post-it notes. If they are or are not in safe zones, explain why.<br>9. Show videos that offer both the driver's perspective and ariel point-of-view. Highlight that everyone has to do their part in creating a safe road environment. Dispel the idea that it's "the truck's job" to keep itself safe.<br>10. Segue into talking about **stopping distance** by asking students to connect the football field images to sharing the road with large vehicles. Reval the connection by introducing brake lag.<br>11. Discuss the three factors that impact stopping distance: perception, reaction, and brake.<br>12. Show video (slide 13) and ask students to identify where they see the three factors (perception, reaction, and brake) as well as the role of potential and kinetic energy.<br>13. Ask students to apply their understanding of stopping distance to situations where a passenger vehicle might think they're going to turn "real quick" in front of a large vehicle.<br>14. Explain to students the precautions they must take when following behind a large vehicle. See slideshow notes.<br>15. Present *solve the problem* (slide 16). Invite students to share their solutions. As they do, point out any flaws, consequences, or recommendations that stem from their proposed solutions.<br>16. Reiterate that all road vehicles have a role to play. Creating safe roads is every driver's job. Large vehicle drivers rely on other drivers to follow the laws (speed limits, turn signal usage). It helps them predict what drivers are going to do and adjust themselves accordingly. |

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| | 17. Explain the proper procedures for **passing a large vehicle**. Use visual aids to stress the importance of not cutting trucks off or lingering in their blind zones.<br>18. Introduce the possibility of **wind turbulence** when they pass a large vehicle. This warning will provide awareness and offer procedures if they experience turbulence behind the wheel.<br>19. Transition into talking about large vehicle space needs while **turning,** show students the POV image (slide 22). Ask them to assume the role of the driver to the right of the bus. Ask what they should be aware of/thinking about in this position?<br>20. Show the video on slide 23 and review student responses. In what ways were students right? What ideas need to be corrected?<br>21. Explain the route difference between the truck cab and tractor trailer. Vehicles on both sides need to be alert and aware in turning situations.<br>22. Discuss situations that also require special considerations for large vehicles:<br>• transit buses<br>• freeway merging<br>• roundabouts<br>• hazardous materials<br>• wind & weather<br>23. Review lesson highlights: pass safely, don't cut off trucks, following distance, passing, and blind spots.<br>24. Use images on slide 34 to invite input from students. For each situation, ask students what the issue was or could be for each image or video<br>25. Self-reflection questions can be used to check student understanding and comprehension. If there are enough students in the classroom, pair them up and ask them to go over all three questions with a partner.<br>26. Call on three students to answer each of the multiple-choice questions. Correct wrong answers verbally. |
| **Optional Instructional Activities** | ☐ Contact a local large vehicle business. Ask if they'd be willing to allow students to sit in the driver seat to learn about blind zones. Have other students stand outside the truck/in the blind zones. Ask the student in the driver's seat to use the mirrors to count how many people they see (none) and then ask them to walk around the vehicle to see how many they missed. Example linked here.<br>☐ If available, walk students to a large space (e.g. parking lot). Measure distance relative to perception, reaction, brake, and brake lag factors. Identify some students as "vehicles" and some as "large trucks". Have them begin walking a few steps. Yell "brake!" Direct the "vehicle" students to continue for X steps and the "truck" students to continue for X more steps. Allow students the opportunity to see the stopping distance difference between them. |

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| | ☐ Mark relative distance on the classroom floor or desktops. Give students toy vehicles and direct them to drive, brake, and stop two vehicles to demonstrate the difference between cars and large trucks: Example linked here.<br>☐ Use this same set-up to have students mark proper passing procedures and space for turns |

**ASSESS**

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| **Self-Reflection Question(s)** | • List five behaviors you must have to help create a safe driving environment with large vehicles.<br>• What should you do to avoid traveling in a large vehicle's blind zone?<br>• What limitations does a large vehicle have that I need to take into account when making driving decisions?<br>• How does following traffic laws contribute to safe driving around large vehicles? | | |
| **Formative Assessments** | • Ask reflection questions before and after the lesson. Have students share their new learning with each other. Listen for any misunderstandings, correct them, and clarify for everyone.<br>• Provide students with manipulatives (toy cars, magnets) and have them demonstrate situations to a partner or for the class. Let them articulate their thinking. Question why they are making the decisions they do. | | |
| **Summative Assessments** | • written quiz, exit slip, or activity like Kahoot/Blooket | | |
| | Of the following, which is NOT a factor in stopping distance?<br>A. Perception<br>B. Reaction<br>C. Brake<br>D. Road Surface<br>E. Vehicle Size<br>F. Speed<br>**G. Time of Day** | When you're driving alongside large vehicles, what should you do to help them see you better?<br>A. Honk<br>B. Flash Your Lights<br>**C. Stay out of their blind zones**<br>D. Turn on Your Brights | Why do trucks require special awareness when turning a corner?<br>**A. They may need to use more space than their lane provides**<br>B. They can't see where they are going<br>C. You can easily be rear-ended when they turn |
| **Potential Behind the Wheel Formative Assessments** | • Look for opportunities to share the road with large vehicles on the freeway and at intersections.<br>• Ask students to articulate their thinking as they drive and make decisions around large vehicles.<br>• Ask them to explain their placement choices or point out behaviors they see from other passenger vehicles. | | |

**Adapt**

- Instead of written responses, students can use toy cars to explain or show how they would maneuver different situations involving large vehicles.
- Sentence frames: If I can't see _____ (the driver of the truck in their mirror), then they can't see ___ (me).
- Give students a paper copy with an image of a tractor trailer. Have them shade the blind zones around the large vehicle and/or mark where they can be seen by the driver.

**Rubric**
Ability

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| **Driver** | Student thoroughly articulates passenger vehicles' relationship with large vehicles on the road; can explain navigating roads from the large vehicle drivers' point-of-view citing specific limitations and challenges. | Student can communicate passenger vehicles' relationship with large vehicles on the road; can explain navigating roads from the large vehicle drivers' point-of-view citing specific limitations or challenges. | Student struggles to communicate passenger vehicles' relationship with large vehicles on the road; explanation of navigating roads from the large vehicle drivers' point-of-view is simplified and lacks specific limitations/challenges. | Student is unable to communicate passenger vehicles' relationship with large vehicles on the road or explain limitations/challenges from the point-of-view of large vehicle drivers. |
| **Road** | Student articulates the characteristics and limitations of large vehicles on the road & can clearly explain how road conditions (e.g. narrow lanes, wind) impact large vehicles. | Student discusses a few characteristics and limitations of large vehicles on the road & can generally explain how road conditions (e.g. narrow lanes, wind) impact large vehicles. | Student explains 1-2 common characteristics or limitations of large vehicles on the road and offers broad explanation of how road conditions impact large vehicles. | Student is unable to explain any characteristics or limitations of large vehicles on the road and cannot explain how road conditions impact large vehicles. |
| **Vehicle** | Student can safely make or articulate informed BTW decisions regarding situations involving large vehicles. Student adjusts driving position to allow for appropriate and safe space in three different locations (behind, beside, in front) around a large vehicle. | Student can make or describe BTW decisions regarding situations involving large vehicles. Student adjusts driving position to allow for space in three different locations (behind, beside, in front) around a large vehicle. | Student struggles to execute or uses vague descriptions to describe BTW maneuvers involving large vehicles. Student does not create enough safe space in any of the three different locations (behind, beside, in front) around a large vehicle. | Student cannot execute or describe BTW maneuvers involving large vehicles. Student does not allow sufficient space in any of the three different locations (behind, beside, in front) around a large vehicle. |