Driver Education Materials on Motorcyclist Awareness

Purpose

Motorcyclists have a greater risk of injury in any collision with another vehicle because of their small size and minimal protection. In this lesson, you will learn why you must be aware of motorcyclists on the roadway and your responsibility to minimize the possibility of a crash.

Objectives

At the completion of this module/unit/section/course, participants will be able to:

- Apply previous knowledge learned (e.g., blind spots, following distance, searching at intersections, passing) to motorcyclists.
- Identify why motorcyclists are more at risk.
- Recognize the humanness of a motorcyclist.
- Determine why it is difficult to see a motorcyclist.
- Describe how to search for motorcyclists.
- Recognize your responsibilities as a driver to protect motorcyclists.

A Driver's Responsibility

Driving is a shared responsibility that is challenging, requires continuous attention, patience, communication, cooperation, and good decision making. Protect yourself, your passengers and all the people you meet on or near the roadway by:

- Obeying traffic laws (e.g., follow speed limits, use your turn signals, yield "right-of-way"), signs, signals, and roadway markings.
- Being attentive to the driving task at all times, remaining undistracted, and being prepared to make changes to speed or direction to avoid crashes.

All roadway users you interact with are people with lives, loved ones, and futures.

When driving, you interact with a variety of roadway users, including large vehicle drivers, other car drivers, motorcyclists, bicyclists, micro-mobility users (small transportation device operators, e.g., electric bicyclists, electric scooter operators, etc.), and pedestrians. All roadway users you interact with are people with lives, loved ones, and futures. Among the roadway users you need to pay particular attention to are two and three-wheeled motorcyclists. On average, fifteen motorcyclists die in crashes every day in the U.S.[1]

[1] Adapted from NHTSA Data Visualization Tool for Motorcycles. Retrieved from: https://explore.dot.gov/views/DV_FARS_MC/Home?%3AisGuestRedirectFromVizportal=y&%3Aembed=y.

Motorcyclists are More at Risk

Motorcyclists are vulnerable road users. They have very little protection and a greater risk of injury in any collision with another vehicle.

As a driver, you need to understand the risks to motorcyclists. According to the National Highway Traffic Safety Administration (NHTSA), a majority of motorcyclist fatal crashes occur with another motor vehicle.[2] Motorcyclists are vulnerable road users, as they have a greater risk of injury in any collision with a vehicle because they have very little protection – no air bags or metal cage – just the gear they wear.[3] Motorcycles have different characteristics, which can put motorcyclists at more risk. Motorcycles:

- Are smaller in size; therefore, it is harder to judge their speed and are more difficult to see in traffic, inclement weather, and various lighting conditions such as at night, during low light, and when there is sun glare
- May be more unstable because motorcycles operate on two or three wheels
- Can be easily hidden in your blind spots
- Handle very differently than cars
- Have different acceleration and braking capabilities

Difficulty in Seeing Motorcyclists

Selective attention – where our brain, when processing multiple stimuli at once will choose to see what drivers expect or what is most dangerous, therefore you may not see a motorcyclist.

Drivers' expectations play a critical role in accurately perceiving your driving environment. Traffic environments can be complex, requiring us to make more decisions and actions. This requires you to divide your attention and focus. Your attention is always divided between searching the road, checking the mirrors, and your dashboard. In these complex situations, your brain gives higher priority to what you expect; which is called selective attention. You may not expect to see a motorcyclist; therefore, actively searching for motorcyclists before turning, changing lanes, passing, or backing up can prevent a crash.

Lane Positioning Around Motorcyclists

Allow a motorcyclist a full lane width. Do not share the lane. The motorcyclist needs space to respond to traffic and road conditions. Be aware that motorcyclists frequently adjust their lane position and can accelerate quickly.

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[2] NHTSA Data Visualization Tool for Motorcycles. Retrieved from: https://explore.dot.gov/views/DV_FARS_MC/Home?%3AisGuestRedirectFromVizportal=y&%3Aembed=y

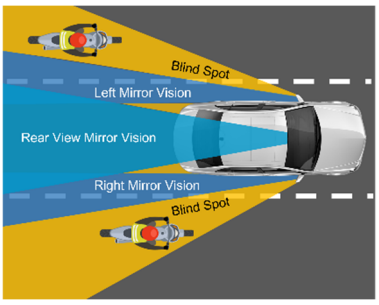
[3] Shinar, David. Second Edition Traffic Safety and Human Behavior. Bingley, UK, Emerald Publishing Limited, 2017.

Searching for Motorcyclists at Intersections and When Turning

Motorcyclists can be difficult to see and are easily hidden by other vehicles; therefore, always search thoroughly for and expect to see motorcyclists. Crashes are most likely to occur with a motorcyclist when the other vehicle is turning left.[4] Search for motorcyclists before proceeding through or turning left at an intersection, look left, look right, continue scanning, anticipate motorcyclists, and proceed slowly.

Never assume a motorcyclist is turning when you see its turn signal flashing. Motorcycle turn signals may not turn off automatically. Motorcyclists may also use hand signals to communicate with other drivers. Proceed with caution until the motorcyclist's intention is clear.

Checking Blind Spots When Changing Lanes Around Motorcyclists



Before changing lanes, check your blind spots for motorcyclists by looking in your mirrors and over your shoulders. This increases your ability to see a motorcyclist. Motorcyclists frequently adjust their lane position and can accelerate quickly.

Following Motorcyclists

When following a motorcyclist, increase your following distance (e.g., at least 5-6 seconds) to assure you have enough time or space to respond to a situation. Motorcyclists may stop faster than you expect, and following too closely endangers your life and that of the motorcyclist.

Expect to see and search thoroughly for motorcyclists. Before proceeding through an intersection, look left, look right, continue scanning, anticipate motorcyclists and proceed slowly.

Safely Passing and Being Passed by a Motorcyclist

When passing or changing lanes around motorcyclists, check your mirrors, blind spots, and move completely into the other lane. Avoid breaking up a group of motorcyclists when passing.

[4] NHTSA Traffic Safety Facts 2020 Data: Motorcycles. Retrieved from: https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813306

When you encounter a motorcyclist, or group of motorcyclists passing your vehicle, maintain your lane position and speed. Never speed up or interfere with their ability to pass you.

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Advanced Driver-Assistance Systems (ADAS) Safety Features and Motorcyclists

Advanced Driver-Assistance Systems (ADAS) safety features may not detect motorcyclists or motorcycles; therefore, be aware of your surroundings at all times and follow the tips above.

Glossary

Advanced Driver-Assistance Systems (ADAS) safety features – systems using a variety of sensors, software technology, and safety features working together to reduce crashes.[5]

Micro-mobility – any small, low-speed, human- or electric-powered transportation device, including bicycles, scooters, electric-assist bicycles, electric scooters (e-scooters), and other small, lightweight, wheeled conveyances.[6]

Selective attention – where our brain, when processing multiple stimuli at once will choose to see what drivers expect or what is most dangerous.[7]

Vulnerable road user – those unprotected by an outside shield, as they sustain a greater risk of injury in any collision with a vehicle and are therefore highly in need of protection against such collisions. This can include but is not limited to: a pedestrian; a roadway worker; a person operating a wheelchair or other personal mobility device, whether motorized or not; a person an electric scooter or similar; and a person operating a bicycle or other nonmotorized means of transportation. Motorcycle operators can also be considered as a virtual road user due to their lack of vehicle enclosure and higher risk of injury in a collision.[8]

[5] Association of National Stakeholders in Traffic Safety Education Advanced Driver Assistance Systems and the Role of the Driver Educator. Retrieved from: http://anstse.info/anstses-advanced-driver-assistance-systems-adas-and-the-role-of-the-driver-educator-teacher-instructor-training-materials/

[6] Federal Highway Administration. (2021). *Micromobility: A Travel Mode Innovation*. Retrieved from: https://highways.dot.gov/public-roads/spring-2021/02.

[7] National Library of Medicine, National Center for Biotechnology Information. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3375497/.

[8] National Safety Council's Position/Policy Statement: Vulnerable Road Users. Retrieved from: https://www.nsc.org/getattachment/d5babee6-582d-4e66-804f-8d06f9b021a4/t-vulnerable-road-users-147.