

## Seeing for Safety

Motorcycle riders use their vision in specific ways that directly impact their safety and their riding enjoyment. A brief review of some of the ways we use our eyes while riding might contribute to our using them more effectively and efficiently.

The Motorcycle Safety Foundation (MSF) recommends a defensive riding strategy based on the acronym “SEE” which stands for ***Search***, Evaluate, and Execute. Search is a visual process of scanning aggressively for potential hazards. Through active scanning, a rider should keep his/her eyes moving to maintain a 360 degree visual awareness. While also visually monitoring to the sides and rear, the scanning process should be primarily directed along the bike’s intended path of travel, where most potential hazards are expected to be encountered. MSF recommends that the rider continually scan from in front of the bike to at least twelve seconds ahead to be able to anticipate and deal with potential hazards in a timely fashion.

The use of mirrors is the primary way to monitor traffic to the rear of the bike. The rider should check his mirrors at least every five seconds and try to maintain a visual image of what is behind him. If a rider is surprised by vehicles that suddenly pass him from the rear, then he may want to look in his mirrors more often. If the rider is reducing speed or stopping, even closer scrutiny of the mirrors is required to avoid a rear end collision from following vehicles.

Unfortunately mirrors don’t give a complete picture; there are blind spots. Head checks are still required. If you intend to change lanes and see a vehicle in your mirror, you know not to move into that lane. However, if you don’t see a vehicle, that does not indicate that the lane is clear. A vehicle may be just outside of the mirror viewing area. Physically turning your head and looking at the lane is the only way to be sure. An informative exercise is to sit on your bike in a parking lot and have someone walk in a pattern behind your bike to help you identify the extent of your blind spots. If you don’t like what you see, it may be time to adjust your mirrors or get different ones.

Intersections, and other places where your bike might interact with other vehicles, require intense scrutiny. It is important to evaluate each vehicle that you see in your path as a potential hazard. Moreover, it is just as important to evaluate as potential hazards the vehicles that you don’t see, but that might emerge from your blocked vision and constitute a threat. Look actively for places that an approaching vehicle might be hidden from your sight and exercise appropriate vigilance. Don’t incautiously enter an intersection if you can’t see what may be approaching.

There are several factors that determine the best lane position in which to ride. Primary among them is the ability for the rider to see. Avoid riding behind vehicles that block your vision of the road ahead. Change lanes or maneuver in the lane to look around them. Riding close behind a vehicle blocks more of your vision than riding further back. Increased distance also gives you more time to react to potholes or other hazards that might suddenly appear from under the vehicle.

Curves rate special attention. The MSF recommended process for curves is Slow, **Look**, Press, and Roll. This emphasizes looking through the curve to assess its radius, surface, camber, obstructions, etc. The best view of the curve as you approach it is from the outside lane. Again, the eyes should be active, i.e., scanning along your intended path from your turn-in point to the apex to the exit. Looking ahead through the curve has benefits in addition to seeing what's there. The bike tends to go where you look and this helps you guide the bike along the appropriate path. Also, looking far ahead reduces the illusion of speed and enhances your feeling of control. This is useful in a curve.

Steering the bike in the direction that you are looking, as if your eyes are telling your mind where you want the bike to go, is referred to as “visual direction control.” This helps you maneuver your bike. As indicated, guiding your bike through a curve is enhanced by your eyes leading the way along your selected line. When executing slow speed maneuvers such as tight U-turns, rapidly turning your head and eyes in the direction of the turn is standard practice. Look where you want the bike to go.

This process is also referred to as “target fixation,” especially when the consequences are negative. Staring at an obstruction that you want to avoid might lead you to hit it. Visual fixation on the edge of the road while in a turn might lead you over it. Instead, look at a path around the obstruction and keep your vision along the appropriate path during your turns. Don't look at the object you want to avoid; look at the path to avoid it. In an emergency, focus on your escape path, not on the hazard.

The term “sight distance” refers to the amount of road space that you can see in front of you at any given time. Sometimes this distance is quite long, but frequently it is limited by vehicles and other visual obstructions in and alongside of the road. Sight distance also shrinks rapidly as you approach a limited-view curve or the crest of a hill. A defensive riding tenet is “Always be able to stop within your sight distance.” The nighttime counterpart is “Don't override your headlights.” For example, your speed in a curve should allow you to stand the bike up and make an emergency stop, within the amount of road that you can see at any point in the turn, if an obstruction suddenly appears in your path. Under most circumstances, a decrease in sight distance to a critical point warrants reducing speed, or at least covering the brakes, and proceeding with increased caution. Riders should maintain their ability to see, reasonable speeds, and sufficient space cushions to always be able to stop within their sight distance.

Realizing the value of being able to see, riders should exercise additional caution during circumstances of reduced vision, e.g., darkness, rain, fog, sun glare, etc. Face shields should be clean and free from scratches and dark tinted face shields should be used only during the day time. Our vision generally deteriorates as years pass. Maybe it's time for an eye exam and a new pair of glasses.

Riding a motorcycle has inherent risks. Appropriate use of our eyes can mitigate those risks. Our safety and our riding enjoyment make it worth the effort.

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