figure out where the sound is coming from. Locating a nearby motorcycle can be difficult, because low frequency sounds, such as the slow bangs emanating from a V-twin’s exhaust, tend to spread in all directions. High frequency sounds are much more unidirectional—that is, they travel mostly in one direction. Another characteristic of sound is that it travels in waves away from its source. This is why sirens of emergency vehicles point forward, to alert those in front of the approaching vehicle. Put it together, and you can appreciate why sirens on emergency vehicles are loud, high-pitched, and pointed forward. The loudness helps you to locate the source. Another characteristic of a sound is that it can be perceived as disturbing “noise,” whereas others may consider the same sound to be pleasant. The factors that can affect this perception are pitch, location and frequency of the sound, as well as the values of the listener. High-pitched sounds that last too long and have a perception of “tone” between tones are often offensive. Also, some people value silence more than others and will be disturbed by relatively quiet noise. Sound is deemed “good” or “bad” according to the judgement of the receiver. Some people perceive significant, offensive, cringing at every obscene word and wishing increased highway speeds, quieter auto soundproofing and increased vehicle interior noises have rendered loud pipes practically useless as a crash deterrent.

Motorcycles are harder to see because of their relatively narrow shape, not because they are quiet. The location of a sound’s source can be hard to determine for other reasons. Sound can bounce off reflective surfaces, such as buildings and pavement, and will be sharper and sustain its intensity longer in such an environment. Even though reflective surfaces will help maintain sound intensity, that same reactivity can also help to disguise the location of the sound’s source. In city traffic, a driver may be able to hear a bike with loud pipes, but have a particularly hard time recognizing where the noise is coming from. Rural areas aren’t any better, because there are few hard surfaces to sustain the sound and plenty of vegetation that absorbs and dissipates low frequency sounds.

Now that we have a basic understanding of how sounds relate to other drivers, let’s look at how sound can be used by the motorcyclist seeking to alert other road users of his presence.

Close Call
Bob’s bike, fitted with the new exhaust, thunders loudly as he accelerates through the town retail district toward a diner where he is meeting his riding buddies. Traffic is heavy with Saturday morning shoppers. Bob feels annoyed by the hurried four-wheelers. He rides close behind a mini-van in an attempt to keep a tailgater off his butt. He also rides in the center of his lane away from the cars on either side.

Bob approaches a busy intersection with several cars in the oncoming lane waiting for the opportunity to turn left into a shopping center on his right. Because of Bob’s lane position, the left turning drivers can’t see him. As the mini-van ahead of Bob rolls into the intersection, the first car in line begins to accelerate across the lane, its driver completely unaware of Bob’s presence. Bob suddenly sees the left-turning car, but at that point there isn’t much he can do. Luckily for Bob, the driver finally sees him and slams on his brakes, missing the bike’s rear fender by inches.

At the diner, Bob tells the story of how the car driver almost collided with him. Bob’s friends shake their heads in disgust. They quickly credit Bob’s loud pipes for preventing a collision by getting the driver’s attention. But Bob’s not so sure the loud pipes did anything to prevent the near miss. It seems to Bob that it was the driver’s quick response after seeing him that prevented a collision.

Sound vs. Sight
There are many riders who swear that their loud pipes saved them from being creamed in an accident. Arguably, the louder exhaust may have provided some added conspicuity. But evidence suggests that it is better to make yourself more visible, by tactics such as wearing bright clothing, and using lane positions that keep you in sight. Riders who rely on noisy pipes rather than keen riding strategies are probably putting themselves at increased risk.

Bob learned the important lesson that it is more important to focus on how to be seen rather than trying to be heard. It’s important to always remember that motorcycles are hard to see because of their relatively narrow shape, not because they are quiet.

Loud pipes may alert a driver that a motorcycle is in the vicinity, but the driver may be left wondering where the bike is until he actually sees it. Only then can a driver know the actual location, direction and speed the bike is traveling and determine what might sight right and up to help avoid a collision. It is generally accepted that sound is considerably less reliable or effective than seeing right and up to help avoid a collision. It is generally accepted that sound is considerably less reliable or effective than seeing right and up to help avoid a collision.

Music or Noise?
Quality and tolerance of sound is a relative thing, and individuals perceive sounds differently. Some people may perceive a certain sound as disturbing “noise,” whereas others may consider the same sound to be pleasant. The factors that can affect this perception are pitch, location and frequency of the sound, as well as the values of the listener. High-pitched sounds that last too long and have a perception of “tone” between tones are often offensive. Also, some people value silence more than others and will be disturbed by relatively quiet noise. Sound is deemed “good” or “bad” according to the judgement of the receiver. Some people perceive significant, offensive, cringing at every obscene word and wishing to escape the monotone rhythm. However, the same individual may sworn blissfully to Classical music, even though both musical numbers are played at exactly the same decibel level.

The equivalent attitudes can be compared to a motorcycle exhaust and, say, a gas-engined leaf blower. Both may have approximately the same dB level, but the loud motorcycle can be perceived as more of a problem by someone more inclined toward gardening. If it isn’t obvious, the majority of citizens don’t ride motorcycles, and therefore most people consider motorcycle sounds as obnoxious noise, not acceptable music.

Risking Rights
The loud pipes issue stirs passionate debate among fellow motorcyclists about the benefit of “saving lives,” or the importance of personal freedom versus the potential of government to restrict motorcycling.

Loud pipes disturbing the public makes motorcycling a hot topic among government officials and their constituents who are voicing their opposition and threatening action against this auditory invasion.

Some municipalities and private associations have gone so far as to ban all motorcycles from certain areas because of the noise generated by a few riders. In Europe, many of the best mountain passes have been closed to motorcyclists because of noise. And laws have been passed in Europe regulating camper-proof exhaust systems on all motorcycles.

Whether you are for or against loud pipes, it is important that we all recognize that riding a motorcycle is not a “right,” and that motorcycle noise has a very negative affect on the future of our favorite pastime.

The American Motorcyclist Association has been in a constant legal fight to reverse road closures in the USA, and has initiated a number of campaigns to educate motorcyclists to the damage caused by loud pipes.

In the early years, AMA new-sletter articles pressured riders not to “bypass” their motorcycle’s mufflers. The effort continued into the 1940s, when the AMA introduced “Muffler B-1,” and continues today with the “Loud Pipes Risky” campaign launched a few years ago.

Last year, the AMA sent Chairman of the Board, Rick Gray, to several motorcycle events to help educate riders about the negative impact of loud pipes. They also hosted a national summit, which was attended by manufacturers, aftermarket companies, event organizers, law enforcement, government, research institutions and regulatory agencies to address the motorcycle noise issue.

The AMA position is that continued excessive noise from both street and off-road motorcycles will lead to unfavorable legislation that will make it increasingly more difficult for motorcyclists. The AMA also knows that changing motorcycle attitudes will take a long time and will meet with stiff resistance. The AMA does not suggest that aftermarket exhausts should be outlawed. However, they do stress restraint. If you insist on installing an aftermarket exhaust, we encourage you to consider installing a quieter “street” exhaust instead of straight pipes or a “race” exhaust. The difference in reducing risks will be small. However, the positive effect on public opinion and tolerance of motorcyclists will be dramatic.

Proficient Motorcycling