Reflections on Being Seen

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Cycling is what I call a "snob" sport. Other than snow skiing, I know of no other pastime whose participants are so preoccupied with being stylish. We are keenly aware of what the other guy rides, his helmet, his shoes, his sunglasses, etc. We judge each other by the equipment we choose. If you have an XTR rear derailleur and hydraulic disc brakes, you must be a good rider. It makes no sense to me at all. People who don't ride think we look like freaks. And worse, safety often gets lost in our efforts to impress.

Of all the riders I have met through IPMBA, I've got to be the biggest nerd out there. I like my cheap steel frame. I have a mirror. I have every reflector the CPSC says should be on a bike and then some. And as if that is not enough, I usually run two taillights and about two extra square feet of reflective material all over the frame. What a geek. Why would anyone do this?

I understand that there are reasons for not wanting to be seen at night. If you are a police officer who works downtown busting drug dealers, you may be concerned about a reflection off a handlebar stem or your helmet. Who knows what little thing could give you away, costing you an arrest or even your life? That makes sense. For the rest of us, however, whose lives are less exciting, being seen is always an advantage.

If you paid attention in your PC or EMSC course, you understand that *being seen* is not the object of the game. *Being recognized as a cyclist* is. What difference does it make? Cyclists are bodies in motion, and it is vital that the motorist realizes this. As a moving object, the bike cannot be safely passed until the motorist estimates and accounts for its speed. The motorist must also be prepared to allow for the inevitable side-to-side movement of the bike. It's not like passing a mailbox. Maybe this is why half of the cycling deaths occur at night, even though there are so few cyclists on the road.

So, how do we make the motorist recognize that the object he is approaching is a cyclist? The best way is to arrange our conspicuity devices in such a way that they look like a person on a bike. Accentuate the pedals, crank, feet and legs. Put a head on the figure by accenting the helmet. Now we've not only drawn a picture of a person on a bike, we've defined the movements of pedaling.

A variety of things will help make a cyclist conspicuous. Each has advantages and disadvantages. The trick is to overcome the weaknesses of each with the strengths of others. Here are some examples:

Active lighting. This includes anything with a battery in it, usually L.E.D. technology.

Pro: May be visible from great distances; does not rely on another light source as reflectors do.

Con: Does almost nothing to contribute to the "signature" outline of a cyclist; requires proper angle for maximum effectiveness; batteries must be replaced periodically.

Reflective tape. Available as "prismatic" molded plastic strips (Reflexite) or "glass bead" technology (Scotchlite).

Pro: May be sized to fit in a variety of places, available in many colors, inexpensive, requires no batteries, highly effective for creating "signature".

Con: Requires light source to work; may become ineffective if illuminated at an angle; some types will wear out; certain colors less effective; legal restrictions on placement of some colors in certain states.

Reflective clothing. Usually consists of regular cycling apparel with reflective tape sewn on. Some products involve impregnating or coating fabric with reflective material so that entire garment is reflective.

Pro: Fantastic for creating rider's signature; visible from virtually any angle.

Con: May lose some effectiveness after several washings.

The key to effective conspicuity is to utilize several of the above methods to achieve it, while maximizing the effectiveness of each. In the case of retro-reflective tape, I have often heard that it disappears if the light source is just a few degrees from a 90-degree angle. Overcome this by applying it to curved surfaces. Also, remember that with reflective tape, lots of little pieces are better than one big one. You can spread a one-foot square over the entire bike, changing your effective signature from a few inches to several feet.

With active lighting, especially L.E.D. lighting, it is critical that the light is mounted at the optimum angle. Keep in mind that this angle can change slightly with your weight added to the bike. Have someone ride the bike while you observe, then adjust the mounting bracket until you find the best angle. Remember that you will need to do this from a considerable distance. Fifteen or twenty yards would provide less than a second of reaction time for even a slowly moving car. You must allow enough time for the driver to detect you, recognize you as a cyclist, then react. Move back at least as far as a hundred yards.

Headlights require some adjustment, too. Higher angles are more visible, but you can overdo it. Considering the strength of some headlight systems out there, they can work against you. High-beam bicycle lights can be just as annoying to drivers as high-beam headlights on a car, and a single beam provides little reference for depth/speed perception. They can also "wash out" other devices you are using. Remember that you use these lights to see where you're going, so the angles change with your speed.

All of the previously mentioned methods are generally used at night. There are considerations during the day, and bright colors are not always the best choice. There are some surprising studies floating around concerning daytime conspicuity. Most show that sharply contrasting colors are more conspicuous that bright ones. I guess that's another article.

So, if you are prepared to give up your cool image for the sake of surviving nighttime traffic, pay heed to these hints. If your friends won't ride with you on your dorky bike, I will. Look for me at IPMBA conferences. I'm the guy with the mirror…

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