Date: 2/24/10
Submitted in Transportation Committee
Council File No: 09-1035
Item No.: 4
Deputy: Comm for Public

Culture, Community and the Ride that takes you there.

CIVIL RIDES!

Our streets are the new 'public space" and our ability to share that space is one of our greatest opportunities for revitalizing and redefining our communities.

> *"Regardless of your mode of transportation, your freedom to move in the public arena is a civil rights issue, and whenever one user-group gains access at the expense of another user-group, it's a civil rights violation – plain and simple."*
> ~Stephen Box as quoted in the June '07 issue of Complete Streets

Unfortunately, our current transportation system requires an annual "membership fee" of $8K in order to move freely and to be treated with respect and dignity. Those who fail to "buy-in" by purchasing, registering, insuring, maintaining, fueling and operating an automobile are essentially 2nd class citizens.

At best, pedestrians, mass transit passengers and cyclists are treated as afterthoughts when it comes to transportation and at worst, they are treated as obstacles and road hazards.

Until we position the movement of people as more important than the movement of vehicles and goods, we will continue to perpetuate a Civil Rights crisis that will not be corrected until we establish Equality as the foundation for our transportation system.

Complete and effective transportation solutions start with Equality as the principle that drives all Engineering, Education, Enforcement, Encouragement and Evaluation options and choices.

"See you on the Streets!"

• Stephen Box • IlluminateLA • 323-962-6540 • Stephen@illuminateLA.com • www.illuminateLA.com

CYCLISTS' BILL OF RIGHTS

WHEREAS, cyclists have the right to ride the streets of our communities and this right is formally articulated in the California Vehicle Code; and

WHEREAS, cyclists are considered to be the "indicator species" of a healthy community; and

WHEREAS, cyclists are both environmental and traffic congestion solutions; and

WHEREAS, cyclists are, first and foremost, people - with all of the rights and privileges that come from being members of this great society; and

NOW, THEREFORE, WE THE CYCLING COMMUNITY, do hereby claim the following rights:

1) Cyclists have the right to travel safely and free of fear.

2) Cyclists have the right to equal access to our public streets and to sufficient and significant road space.

3) Cyclists have the right to the full support of educated law enforcement.

4) Cyclists have the right to the full support of our judicial system and the right to expect that those who endanger, injure or kill cyclists be dealt with to the full extent of the law.

5) Cyclists have the right to routine accommodations in all roadway projects and improvements.

6) Cyclists have the right to urban and roadway planning, development and design that enable and support safe cycling.

7) Cyclists have the right to traffic signals, signage and maintenance standards that enable and support safe cycling.

8) Cyclists have the right to be actively engaged as a constituent group in the organization and administration of our communities.

9) Cyclists have the right to full access for themselves and their bicycles on all mass transit with no limitations.

10) Cyclists have the right to end-of-trip amenities that include safe and secure opportunities to park their bicycles.

11) Cyclists have the right to be secure in their persons and property, and be free from unreasonable search and seizure, as guaranteed by the 4th Amendment.

12) Cyclists have the right to peaceably assemble in the public space, as guaranteed by the 1st Amendment.

And further, we claim and assert these rights by taking to the streets and riding our bicycles, all in an expression of our inalienable right to ride!

www.BikeWritersCollective.com

Date: 2/24/10

Submitted in Transportation Committee

Council File No: 09-1035

Item No.: 4

Deputy: Communication from Public

09-1035
#4

Bicycle Crash Investigation, Part I

by Kirby Beck, *PCI #002T*
Coon Rapids PD (MN) retired

If a bicycle crash results in a death or serious injury, assume that the incident will result in a lawsuit. Many people on both sides of the case will read your reports and examine the results of your investigation. They will have many opportunities to critique your work.

After reviewing a number of crash reports by officers and crash reconstruction experts, it is apparent that many important factors involved in bicycling are either unknown or unconsidered and quite often undocumented by crash investigation professionals.

The state of the art in specialized bicycle crash investigation and reconstruction is rudimentary at best. Focused training in bicycle crash investigation is rare, if it exists at all. In virtually every state, bicycles have most of the same rights and responsibilities as motor vehicle operators. Many officers don't seem to know, or care, that they do. Training in bicycle traffic law is virtually non-existent in police academies and crash investigation courses.

Unfortunately, many serious road cyclists know and understand traffic laws regulating bicycles far better than most street cops. Officers who have received quality bike patrol training, such as the IPMBA Police Cyclist™ Course, have been trained in the legal status of bicycles in traffic, proper and legal lane use, and other pertinent provisions.

When investigating a bicycle-vehicle crash, it may be a good idea to involve a trained bike patrol officer to help get a comprehensive perspective as to the bicycle-related factors and conditions involved. Criminal charges may be warranted. An officer knowledgeable in bike law could be a victim cyclist's best advocate, or a legal opponent, providing the details for fair prosecution.

Some states don't require, or even allow, a police crash report unless the crash involves a motor vehicle. Yet, it is quite possible to have a serious or fatal crash involving a lone cyclist, two or more bikers, or even a cyclist and a pedestrian. Since these don't involve a motor vehicle, none would be reported on an official state or FARS crash report form. These incidents would be classified as a public accident of some sort. The obligation for a thorough and detailed investigation is no less important.

Balance

The physics affecting bicycles and motorcycles are similar in most ways. When examining drag factors, braking efficiencies and percentages, as well as wheel tracking, those qualified to assess those dynamics can use the same general factors. Like a motorcycle, a bicycle is a single-track vehicle. Unlike a motorcycle, a bicycle is far more affected by weather and surface conditions. Both rely totally upon the balance of its rider to remain upright.

Despite the rider's best efforts, more things can happen to cause a bicycle to fall or crash to the ground. Balance is easier to maintain when the bicycle is traveling faster, and is harder to maintain while going slowly. There exists somewhat of a gyroscopic effect with rapidly spinning wheels, and to a lesser extent, rapidly pedaling legs. When its pedals are powering a slow moving bicycle, the bike's center of gravity drops from the top of the saddle to closer to the bike's crank set and bottom bracket. The center of gravity moves up higher when it is not being pedaled.

Balance is primarily maintained through minute movements of the front wheel. Sudden and unexpected movement of the handlebar or the front wheel can cause the bike to rapidly lose

balance and fall. If the front tire strikes an object laterally, such as a hole, the side of a curb, the gap or grade difference between asphalt and concrete curb, or the side of another bike tire, it diverts the balance, causing what is known as a diversion crash.

The diversion crash can also happen should the front tire get trapped in the gap between road surface and concrete gutter apron, or in the gaps of a diagonal railroad crossing. It results in a near instantaneous fall. It is only through great luck and skill that a cyclist can prevent such a result when their balance is diverted with lateral front tire contact. A diversion crash may explain a sudden and unexpected fall. There may not be evidence on the bike, but other evidence of a causation factor might be located nearby.

The process of balancing a bike also affects a bicyclist's rear profile. The widest part of a bicycle is its handlebars. Few handlebars are wider than 24 inches. The widest part of the profile may indeed be the rider, especially across their shoulders. The process of balancing the bike, and making the necessary movements of the front wheel, causes it to move subtly from side to side.

This side-to-side movement is more obvious at lower speeds. This normal side-to-side motion widens the cyclist's profile, or space used, to somewhat wider than his shoulders. In reality, the bike needs a "wobble lane" width that is approximately three-feet wide.

Weather

Weather is a factor that affects cyclists. Rain or snow can certainly influence tire traction. Wet rims will reduce the effectiveness of certain types of brakes. Rain can even hamper a cyclist's ability to see and be seen. The most under-recognized effect of weather on cyclists might be that of wind. Riding into a headwind can be very distracting. It requires extra effort to pedal into a headwind. The extra effort increases both mental and physical fatigue.

Riding into a headwind also makes it difficult to hear all but the noisiest vehicles approaching from the rear. Unless a cyclist looks behind him when moving out into traffic, he might not realize a vehicle is bearing down on him.

While crashes involving cyclists being struck by motorists (overtaking) from the rear are statistically quite rare, they are often the most deadly. While they are the most feared bike crash, they generally make up less than 10% of all bike versus motor vehicle crashes.

When analyzing these "overtaking" crashes, it is important to try to determine if the cyclist was riding a straight line in a roadway location he legally belonged, or if he was swerving (unexpectedly) laterally to avoid something like a hole or obstruction. Perhaps he swerved recklessly for no apparent reason at all.

Most fatal overtaking crashes occur at night. This makes it crucial for investigators to determine if the cyclist was in the proper and legal lane position. It's also essential to determine if the cyclist was using legally required lights and reflectors or any other devices or clothing to enhance his visibility.

In daytime, a headwind may prevent a cyclist from hearing vehicles approaching from the rear. At night, a cyclist would usually notice headlights overtaking him, even if a headwind prevents him from hearing it.

When investigating a serious bicycle crash, it is important to determine and document the wind speed and direction. That may prove or disprove a factor in the incident. A nearby fire station or school may have a local weather station that can provide that close-to-the-scene information.

A final weather factor that can be particularly dangerous is the glare from the sun. The blinding rays of the sun, especially when combined with a dirty or streaky windshield, can make seeing a

bicyclist nearly impossible.

This problem is worsened by the fact that most motorists aren't conditioned to expect or look for cyclists. Most drivers are conditioned to search for cars, trucks and buses that will endanger them or their car if they pull out in front of them. With a bicycle being a narrow single-track vehicle, operating in or near traffic, they are particularly vulnerable to the effects and hazards of glare. Documenting any glare as accurately as possible should be a goal if glare is suspected of being a factor.

Environmental Factors

When a bicycle and motorists are sharing the same space on a roadway, the width of the traffic lane, vehicles and shoulder becomes crucial to measure and document. Normally, bicyclists are expected to ride on the shoulder, in the same direction as adjacent traffic, if a shoulder exists and is in rideable condition.

Exceptions to shoulder riding exist both legally and in practice. Cyclists can leave the shoulder and even take the (traffic) lane, if the shoulder is blocked or unrideable, if the cyclist is making a left turn, if he is avoiding an obstruction or hazard, or when he passes a parked car or a slower moving vehicle.

In the event of a serious bike-related crash, the investigator needs to determine if the cyclist should have been on the shoulder and if the exceptions to shoulder riding were present. Inspect and document the width and condition of the shoulder, if one exists. Look back at least one block prior to the crash scene. Was there a reason why the cyclist may have had to leave the shoulder and use the traffic lane?

In incidents where the cyclist shared the traffic lane with motorists, determining the various widths becomes more important. How wide is the traffic lane? How wide is the motor vehicle involved? Remember that the cyclist needs a "wobble lane" at least three feet wide. Can the two operate in the traffic lane two abreast while allowing a safety cushion of roughly three feet?

Several states have even mandated that vehicle operators pass no closer than three feet from a cyclist. By law, if the lane is too narrow for both to operate safely side-by-side then the motorist has to slow and yield the lane to the cyclist. Check your own state's statutes, but most states restrict their "impeding traffic" statute to the operators of motorized vehicles. In most cases, a bicyclist, operating legally otherwise, is exempt from an impeding traffic law!

Bike lanes are found in many cities. Bike lanes are part of the roadway and all related laws would apply. Cyclists in a bike lane, wishing to make a left turn, find themselves in a bit of a quandary. If they make it from the bike lane itself they are essentially making a left turn from the far right lane of the roadway. This maneuver results in one of the most frequent types of car/bike crashes.

If a motorist made this maneuver, it would be considered an illegal and unsafe lane change, of course! Many cyclists choose to leave the bike lane and use the traffic as any other vehicle would. Other, less confident cyclists stop at the intersection and make a pedestrian-style street crossing. Occasionally bike lanes are shared with parked cars, and conflicts are dangerously increased between cyclists, motorists and activity related to parked cars.

Sidewalks & Bike Paths

Another factor in the riding environment is cyclists riding on sidewalks or bike paths. In some states, cyclists are prohibited from riding on sidewalks, or may only be forbidden from riding in business districts, where conflicts with pedestrians are dangerous. In other states, where they are

permitted on sidewalks, they are legally defined as pedestrians, and subject to the same rights and responsibilities as pedestrians.

Most police aren't any more knowledgeable of pedestrian laws than they are of bicycle laws. Investigators should review their Traffic Code and ordinances for pertinent regulations on cyclists and pedestrians using sidewalks and bike paths.

A growing number of communities are building bike paths adjacent to roadways for cyclists and pedestrians to use. They often parallel streets much like sidewalks. Both bike paths and sidewalks provide a perception of safety to their users. Statistics, however, show that they are usually no safer where they intersect roadways and, in many cases, they prove to be more dangerous.

One of the reasons they are more dangerous is that sidewalk and path cyclists are often legally defined as pedestrians, exempt from the usual vehicular traffic rules and laws. Paths and sidewalks are likely not within the scope of the traffic code. Cyclists can ride both directions, not necessarily the same as adjacent traffic.

In most cases traffic controls, like stop signs and semaphores, don't apply to path users. In many cases they intersect streets at a location set back from the main intersection. Having cleared the intersection, motorists aren't conditioned to scan bike paths or sidewalks. They don't expect anyone to approach from both directions and at speeds much faster than a person can walk.

This junction of two systems, one for motorists, one for pedestrians, results in many conflicts with associated collisions and casualties. In addition, many of the bicyclists who operate on sidewalks and paths are children who have little to no understanding of traffic rules and principles. Few can imagine that what they do on their bike can get them killed or seriously injured. Those factors combine to make the intersection of roadways with bike paths and sidewalks very dangerous and legally confusing places to be.

In the Summer 2007 issue of *IPMBA News*, we will continue to examine some of the specific concerns unique to investigating bicycle crashes.

Kirby Beck is retired after 28 years with the Coon Rapids, MN Police. He is a certified IPMBA Police Cyclist Instructor Trainer. He is an expert witness in bicycle crash cases. His e-mail is Kirby@kbeckconsulting.com.

This article appeared in the March 2006 issue of *Law and Order* magazine, www.lawandordermag.com. It was reprinted in the Spring 2007 issue of *IPMBA News*.