

# PORTLAND'S AGONY

*Two cyclists died as a result of poorly designed traffic-control devices*

*by John Schubert*

In the city of Limeport, Oregon, there is lively support for drivers of hybrid automobiles. Local businesses manufacture these vehicles and components. The city promotes their use and as a result, it has a very high rate of hybrid automobile use, approaching 10 percent in some portions of the city. All of this is very admirable. But one measure taken to promote hybrid automobile use runs counter to well established traffic engineering principles, and the consequences have been tragic. Well-meaning Limeport City personnel established special lanes for the exclusive use of hybrid automobiles, and put them on the right edge of the street. A hybrid automobile that is proceeding straight through an intersection is supposed to stay to the right side of other right-turning motor vehicles. Apparently, the city felt that hybrid automobile operators should be spared the effort of merging into a lane appropriate for their destination, and all other vehicle operators should modify their behavior to accommodate this.

The drivers operating all other right-turning vehicles are expected to look to their right-rear quarter while preparing for a turn, and yield to swiftly approaching hybrid vehicles in their special lane. (This is only true on the fraction of streets that have these special hybrid-only lanes. Where these special lanes don't exist, conventional traffic rules apply, meaning that the rules differ hugely from one intersection to the next.)

But you cannot write a law that gives people the ability to look in two directions at once nor can you write a law that increases the human brain's

ability to assimilate and process quickly-changing information. Nor can you magically eliminate all blind spots in a driver's field of view. As a result, two hybrid vehicle operators, Brett Robert Jarolimek and Tracey Sparling, were killed in October 2007 when they proceeded straight on green lights. In both



cases, truck drivers were turning to the right, and the resulting collision was fatal. In both cases, the police investigated and concluded that the hybrid vehicle operators were in the truck drivers' blind spots.

Does this seem strange? Okay. Now substitute Portland for Limeport and substitute bicycle for hybrid automobile.

Does it sound absurd that you would place a straight-through vehicle to the right of a right-turning vehicle? Can a paint stripe protect a bicyclist from the visual-field limitations that every human has and their ability to process information? When your safety is at stake, should you depend on others to look for

things they cannot easily see? Would you rather rely on your own ability to position yourself where you are easily seen and reacted to?

These are not new questions nor do they have a new answer. The various editions of the American Association of State Highway and Transportation Official's *Guide for the Development of Bicycle Facilities* (AASHTO guidelines), from 1981 to the most recent 1999 edition, have all said:

"Bike lanes sometimes complicate bicycle and motor-vehicle turning movements at intersections. Because they encourage bicyclists to keep to the right and motorists to keep to the left, both operators are somewhat discouraged from merging in advance of turns. Thus, some bicyclists may begin left turns from the right-side bike lane and some motorists may begin right turns from the left of the bike lane. Both maneuvers are contrary to established rules of the road and may result in conflicts; however, these can be lessened by signing and striping.

"At intersections, bicyclists proceeding straight through and motorists turning right must cross paths. Striping and signing configurations which encourage crossings in advance of the intersection, in a merging fashion, are preferable to those that force the crossing in the immediate vicinity of the intersection."

This passage appears on pages 25 to 27 of the 1999 edition. I could cite many other written sources, but I think the point is clear. Portland has some badly designed bike lanes.

Jarolimek's fatal collision occurred when he was going downhill at speed, approaching a green light as a truck

driver began his right turn. Sparling's fatal collision occurred when she was stopped at a red light, next to a truck. The light turned green, Sparling and the truck driver proceeded on their intended paths, and they collided. In both cases, the police concluded the cyclist was in the driver's blind spot. The differences between these two accidents show the power of the lane design defect: high speed or low speed, green light or red light, it can produce fatalities.

To me, this is an open and shut case: the city made a mistake. Tragedy ensued. It's time to un-do the mistake.

But it isn't that simple.

Most Portland cyclists, and the city bicycle coordinator Roger Geller, have reaffirmed their support for what they call maintaining separation.

But separation is an illusion. We are all on the same roads, and problems arise mostly at intersections. At conventional intersections without bike lanes, or at intersections where bike lanes meet the above-mentioned AASHTO guidelines, a cyclist of mediocre competence has a variety of tools to ensure his own safety and avoid intersection collisions. By singing the separation mantra and obeying a bike-lane stripe to the right of right-turning motorists, cyclists deprive themselves of these tools.

In the wake of these deaths, Portland is adding blue paint to bike lanes, bike lanes striped through intersections (strongly discouraged by the AASHTO guidelines) and bike boxes (advanced stop lines that put bicyclists ahead of

motorists at intersections) to increase the visibility of cyclists at 14 intersections to start with, according to an online column by Geller. Geller strongly hinted that these measures would address the causes of the two fatal accidents.

This is fuzzy on cause and effect. Both car/bike collisions I've mentioned occurred during the green light cycle. A bike box is inoperative during the green cycle, and therefore would not address the factors that led to these collisions.

Geller cites blue bike lanes in Denmark as a reason for having them here. But Denmark recently released a study showing a 22 percent increase in injuries, and a staggering 37 percent increase in moped-rider injuries, resulting from their cycle tracks! A similar study has long been available in Berlin, Germany.

Not all things European are better.

Geller notes that some Portland intersections have a bike lane which is dropped before it gets to the intersection. I vastly prefer this design, but note the inconsistency: the rules of the road are opposite for different intersections. And consistency is the cornerstone of safety in the traffic environment.

The question isn't whether you can maintain an illusion of separation, the question is what behavior most ensures safety at intersections. Geller dismisses the vehicular cycling alternative with these comments: Vehicular cycling is generally best used by those cyclists who are already the most fit and con-

fidant. While knowledge of vehicular cycling and the skills it encourages are beneficial to all cyclists, requiring such behavior at each intersection would not feel comfortable to the vast majority of Portlanders.

But it's misstatement that vehicular cycling is the province of the fit. I reserve the right to ride slowly, and I often do so. I know plenty of older, slower riders who are vehicular cyclists.

I also think the best way to attract people to bicycling is to teach them how to do it safely and proficiently. I don't apologize for the fact that there are things to learn. Instead, I go ahead and teach them.

A small minority of the cyclist comments on the internet show a glimmer of understanding of the problems inherent in straight-through bike lanes. But most comments are that greater levels of respect and more paint will protect them, and show very little understanding of how much a cyclist can do for his own safety.

I spoke with one Portland cyclist, Ryan Conrad, who notes that he routinely violates Oregon's mandatory bike-lane law to ensure his own safety. When a bike lane approaches an intersection on the right, he merges out of the bike lane. He reports very little harassment from motorists — but he also reports that other cyclists are almost overwhelmingly staying to the right, both on roads with bike lanes and roads without bike lanes. Conrad,

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who has a physics degree and plans to quit his bike-shop job and attend graduate school, said, “There’s an apparent failure to look at the cause of these accidents and the mitigating mechanisms that would actually fix anything.”

These bike lanes do not help the citizens understand how to ride safely. Instead, they encourage misunderstanding, and require cyclists to out-think the city personnel to ensure their own safety.

In the long run, bad bicycle facilities will make it far, far more difficult to pro-

mote bicycling. If we continue to institutionalize dangerous, convoluted intersection behaviors, we will continue to have bike/car collisions. Even if those collisions are routinely blamed on the motorists instead of the road designers, they will continue to occur and the perception will be further reinforced that bicycling is unsafe and there’s nothing to be done about it.

By merging into the lane appropriate for my destination, I can pretty much guarantee that I will never be in a right-hook car-bike collision. But in Portland,

I have to break state law to do so. The straight-through bike lane is a traffic control device that you or I may have to deliberately disobey to ensure our own safety.

This, I submit, is good reason for Portland to get truckfuls of paint remover. The city’s fine cycling reputation and culture deserve nothing less. **AC**

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## PORTLAND’S PLEASURE

*A response to John Schubert by Roger Geller*

In this issue’s “Cyclsense,” John Schubert describes a Portland I don’t recognize. He describes a scary city of poorly-trained cyclists in constant peril of serious crashes with oblivious motorists on dangerous facilities. He describes a city where cyclists must brazenly violate the law so they can simply survive — and then just barely. Such a city indeed sounds awful, and if Portland were that city, I would be greatly concerned.

Fortunately, the city Mr. Schubert describes is nothing like the Portland I know and experience firsthand — the Portland everybody rides. Not literally every city resident, of course — not yet — but everybody in the sense that you see every type of person — kids, moms, dads, and grandparents — all using their bicycles as a part of their daily lives. You see fit people and people working their way back into shape; establishment types and the hip on their bicycles; people in lycra, but more often you see people wearing their everyday clothes as Portlanders increasingly turn to their bicycles for daily transportation.

In the Portland I know, bicycle use is growing exponentially, posting double-digit increases in each of the last three years. The proportion of women cyclists is also climbing, having achieved a 32-percent split in 2007. This represents significant growth, from when women were just 20 percent of cyclists in 1992 and 25 percent in 1999, and is important because women are considered an indicator category for cycling. Only the most bicycle-friendly cities around the world are able to boast of an equal split between male and female cyclists. That Portland is trending in that direction is a testimony to how comfortable and safe it truly is to ride a bicycle here.

That bicycling is safe here is supported by our crash data. While bicycle use has quintupled in Portland since 1991 (and doubled since 2001), the number of reported crashes have held relatively steady. Increasing ridership juxtaposed with no increase in crashes means that the crash rate is declining — in our case, precipitously.

I understand that some people — mostly from afar — don’t like our designs and what we’re doing in Portland. These staunch vehicular cyclists philosophically want equality between motorists and cyclists and no special treatment for people riding bicycles. In their view, a vehicle is a vehicle is a vehicle. My response is that conditions in most U.S. cities are ripe for vehicular cycling and have been for many decades, and approximately one percent of people in such cities bicycle. In Portland, and in other U.S. cities where traffic engineers are beginning to or continuing to consider the bicycle as design vehicle, ridership is rising. Our city auditor reports that six percent of Portlanders identify the bicycle as their primary means of transportation to work and another 10 percent identify it as their secondary means. In a wide swath of inner Portland, as many as 28 percent of the population identify the bicycle as their commute vehicle. This is the Portland I know and see daily, where the bikeways are full of bicyclists and where some thriving commercial areas have such high demand for bicycle parking that we’ve acceded to business owner’s desires and removed on-street car parking in favor of on-street bicycle parking.

We’re on the right track. Our numbers speak for themselves, and we’re going to continue to learn from our European colleagues who have achieved overall bicycle mode splits of 30 to 40 percent — and climbing — in their large cities. But rather than sit afar and rely on anecdotal evidence, we invite you to come to Portland and participate in one of the area’s more than 2,100 annual rides for people of all abilities. Bicycling is one of the most enjoyable things to do in town so if you want to actually see what Portland is doing, the opportunity awaits. **AC**

*Roger Geller is the City of Portland Bicycle Coordinator and has worked exclusively on bicycle transportation in Portland since 1994. Mr. Geller cut his urban bicycling teeth in Boston, Massachusetts, between 1977-1992, spending much of that time commuting from Somerville to downtown Boston. He also executed a solo cross-country ride in 1983, inspired, as were many, by Bikecentennial. Mr. Geller has ridden a bicycle in many cities in North America, northern Europe, and the UK, and cannot think of a single U.S. city that is more comfortable and safe to ride in than Portland, Oregon.*