

Memo Concerning Bicycle Safety

A society's future never looks much like its present. For the past half century, the automobile has provided for all the transportation needs of individuals. However, as time has progressed, an increasing number of people chosen bicycling as an alternative method of transportation. In our own community, there exists significant statistical data to show that bicycling has increased. The Parking and Transportation Services of the University of Kentucky report that bicycling has increased by 37% over the last 10 years¹. This increase in bicycling ought to be commended. Bicycling for thirty minutes a day meets the American Heart Association's recommendation for a healthy heart, and does not wear down cartilage (the cause of arthritis) like running. Additionally, according to a Federal Transportation Cabinet study, bicycling displaces between 420 and 1590 million gallons of petroleum annually in the United States (or between 0.4 and 1.5% of total petroleum consumed).

With any societal change, problems arise. This increase in bicycling is no different. In Louisville, KY, 433 bicycle-motor vehicle accidents occurred between 2006 and 2008, including at least 5 fatalities (Alcock). Lexington, KY has not updated its laws concerning bicycling since 1992 (Lexington), and the Kentucky Transportation Cabinet has not developed a specific bicycle policy. In order to create an environment where bicycling can continue to increase while mitigating many of these tragedies, this report suggesting that Kentucky do two things—improve the policies surrounding bicycling and improve the infrastructure for bicycling.

Changing the statutes and regulations about bicycling serves several purposes. First, it legitimizes bicycling as a form of transportation. How cyclists and motor vehicle operators view each other has an effect on how drivers and riders operate their vehicles. If bicycles are given

¹According to an unpublished Parking and Transportation Study. The study was conducted by Taylor Shelton, a graduate student in the geography department, who can be reached at 502.262.4474

protection by the law, it could follow that cyclists are emboldened and ride with more confidence, while assisting motorists to the realization that cyclists have as much a claim to the road as motor vehicles. Furthermore, for vehicle operators who continue to ignore the laws about cyclists, updating the law would allow bicyclists further recourse. Second, changing the statutes showcases a commitment to bicycling by the government. Political Scientists such as John Dewey state that goal of any government should be service to its people. Many of the constituents of this government are choosing to cycle, and they deserve the same commitment to service that drivers of motor vehicles receive. Finally, changing the statutes provides clarity to a system.

The laws on the books today provide bicyclists with a legal right to the road. However, in Kentucky's cities and state-wide, many of these statutes and policies lack clarity. Clearly bicycles do not operate at the same speed or with the same power that motor vehicles do. Additionally, bicycles are significantly smaller than motor vehicles and can often move past stopped vehicles without obstructing them. Many situations arise which fall outside the realm of the current statutes. For example, consider the situation of a long line of cars sits at a red light, and a bicycle arriving at the back of the line with the desire to turn right. Is it appropriate for the bicyclist to pass the stopped cars and then to turn right on red? Along the same lines, if a cyclist rides along a two-lane road with a double-yellow divider, when is it appropriate for an approaching motor vehicle to pass the bicycle? These are questions without answers under the current laws and with the current infrastructure.

Other states have reformed their state statutes in order to provide clarity in their laws concerning bicycling and to recognize bicycling as a legitimate form of transportation. In North Carolina, for instance, the department of transportation modified its policies to include bicycling

and pedestrians as part of their responsibilities. Within the NCDOT's website, there is a separate page which lists the rights and responsibilities of bicyclists in addition to providing access to all of North Carolina's statutes and regulations involving bicycles. Many of the answers to the hypothetical questions raised above can be answered in North Carolina law, and any curious citizen can find the answers on a computer.

Wisconsin has taken many of the same steps as North Carolina regarding updating Wisconsin's bicycle laws. For instance, Wisconsin has a separate department of bicycling (which is separate from their department of pedestrians), and provide a web page describing policies surrounding bicycling. Additionally, WisDOT has produced a 70-page report describing in detail a plan to increase bicycling by 50% while decreasing bicycle-motor vehicle accidents by 10%. This plan provides considerable statistical data about the current state of bicycling in Wisconsin (0.51% of Wisconsin workforce commutes by bicycle, for instance), and uses those data to develop recommendations (all high-volume rural highways should include wide right-shoulders, while small volume roads should not).

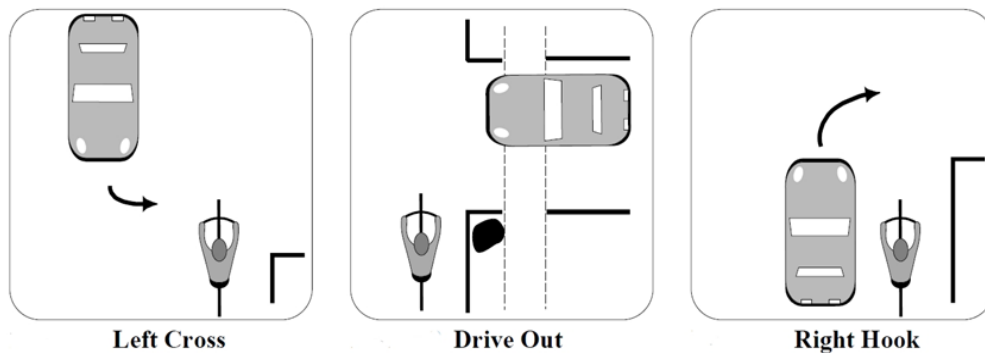
This memo recommends that Kentucky's Department of Transportation establish a separate office either specifically for bicyclists or for bicyclists and pedestrians. This office should then begin work collecting data on the bicycling population of Kentucky and studying the current laws about bicycling in Kentucky. Once a clear picture is produced about the current status of bicycling in Kentucky appropriate recommendations about bicycling laws can be made.

Updated infrastructure represents the second change which should occur in order to produce a more bicycle-friendly Kentucky. While unclear laws help to create a confusing atmosphere about where bicycles fit on the road, improving the road infrastructure would alleviate many of those problems. However, the problem which would primarily be addressed

by improved infrastructure is bicycling safety.

Studies of bicycle crashes often discuss three prevalent types of crashes: the drive-out, the left cross, and the right hook. The left cross occurs when a motor vehicle attempts to cross a lane (or more) of traffic, and either misjudges a bicycle's speed or fails to identify a bicycle, and creates a crash. The right hook occurs when a bicycle and a motor vehicle travel parallel, and the car attempts to turn right despite this fact, causing a crash. The drive out occurs when a motor vehicle attempts to turn from one street to another, and fails or misjudges a bicycle, causing a crash. See this diagram for more details:

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Overtaking crashes, which are caused by a motor vehicle contacting the rear of a slower bicycle, or occurring when a motor vehicle fails to pass a bicycle appropriately, makes up less than 10% of all motor vehicle-bicycle crashes.

Both Louisville and Lexington have built bicycle lanes as a way of improving bicycling infrastructure. However, research shows that this may not be the most appropriate way to improve the road. In Chapel Hill, NC, for example, a report from the Bicycle and Pedestrian Advisory Board criticized bicycle lanes, explaining that they cause bicyclists to pass motor vehicles on the right and encourage bicyclists to proceed to the front of queues, both of which

²Modified graphic, original found in cited WisDOT report

cause right-hook collisions. The cited Wisconsin document makes claims similar to the Chapel Hill findings. Even some bicycling advocates say that bicycle lanes do not represent the most effective way to improve the roads, pointing to the fact that debris and other obstacles typically accumulate in the bicycle lane (Bicycling Life).

The answer which critics of bicycle lanes in both of these reports point to as the best way to improve bicycling infrastructure is the “wide outside lane.” Both the Chapel Hill report and this Wisconsin report point to the fact that bicycling educational material uses the strategy “Use More Lane” or “Take The Lane” as advice to avoid crashes--strategies which involve bicycles taking up more space on the road. These reports explain that this strategy becomes impossible when bicyclists are restricted to the bicycle lane. However, wide outside lanes allow for a bicyclist to take up a considerable amount of road without forcing motor vehicles into a position where they cannot pass comfortably. In their words, “[w]hen all vehicles share all the lanes, bicycles and cars share equal responsibilities” (Verkerk 62).

While wide outside lanes provide a possible answer to a question which Kentucky has yet to ask, the possibility exists that the communities in Kentucky differ from the communities in North Carolina or Wisconsin. It is important, therefore, that the elected officials in Kentucky begin to ask questions about what types of infrastructure improvements could improve bicycle safety. Bicycle lanes remain beneficial, and therefore, any bicycle lanes which are planned to be built should be built. However, it might be a good idea to start mixing wide outside lane improvements with traditional bicycle lanes in order to study the differences. If the Department of Transportation creates a new department for bicycling as recommended above, this could be a high priority task for them to accomplish.

Bicycling has increased in the recent years, and is likely to increase. Legislatures of

today should address the new problems associated with an expected increase in bicycling. It is my organization's hope that this memo's advice will be heeded and that our community will begin to see improved conditions for Kentucky bicyclists.