

Higher Standards for Bicyclist Safety in an Evolving Cycling Culture

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CYCLING IS GROWING in popularity in America, not only as a sport and leisure activity, but as an ordinary means of transportation. This is excellent news for the environment—and for our wallets—but cycling has been a fringe activity for decades in this country and unfortunately, this growing popularity is not well supported by our car-centric infrastructure. As a result, cycling can be incredibly dangerous in some areas, made so either by poor infrastructure or hostile drivers (Walsh). Advocates have been pushing to improve safety and infrastructure for cyclists for years, and cities are finally starting to respond, primarily with painted bike lanes and educational PSAs (“Bicycle Safety”). After years of inaction these are encouraging first steps, inasmuch as they promote awareness, but they are not enough and cyclist deaths are still rising. Although minor improvements to cyclist safety can be made by adding painted bicycle lanes and encouraging cyclists to be alert and wear helmets, widescale infrastructure changes are necessary to reduce cyclist fatalities in any meaningful way.

For years, the only safety measure taken to protect cyclists was “wear bright clothes and a helmet!” In many areas this is still the case; even in bike-friendly areas some people will argue that there would not be so many cyclist fatalities if more cyclists wore helmets. This kind of discourse is not

productive or effective in preventing cyclist injury for two reasons. First, this kind of dialogue pins the blame on the injured cyclist who was not wearing a helmet for being irresponsible while diverting attention from the distracted driver who was on his phone and hit them with a 3000lb vehicle. Canadian Journalist Cailynn Klingbeil researched this exact topic and pointed out that, “Your head is just one body part that can be injured, and helmets only protect you after you have been in a crash; they do not protect you from having a crash in the first place” (Bobin and Klingbeil 15:35). She is making two points, the first being that helmets help prevent head trauma, but they do not prevent road rash, broken bones, internal bleeding, or paralysis due to spinal injuries. They do the job they are designed for, but that job is limited. Her second point is that helmets are useful for mitigating damage but do nothing to prevent crashes. Mitigation is a distraction when we need to start talking about prevention. My second concern is that helmets have been shown to increase risky behavior. Helmets give both cyclists and drivers a false sense of security, resulting in more frequent risk-taking behavior. Drivers in particular, will often give cyclists without protective gear a wider berth and pass closer to cyclists wearing helmets (Bobin and Klingbeil 24:38).

There are several things that cyclists

can do to protect themselves that are more effective for injury prevention than wearing a helmet. Adding lights, reflectors, and mirrors to a bike are safety measures that are often overshadowed. Planning routes along roads with slower speeds and less traffic is even more effective. Riding at slower speeds and sitting in an upright position can also improve a cyclist's awareness and ability to react in a crisis (Bobin and Klingbeil 16:30). Although most American bikes are not designed to be ridden this way, many European bikes are, and they are slowly becoming more accessible in North America due to increasing demand (Riediger). Unfortunately, the most effective method of injury prevention is not something that individual cyclists can do for themselves. What would make the biggest difference is building protective infrastructure.

Bicycle lanes are being built in cities across the country, and surveys indicate that people feel safer riding on streets with bike lanes, but they do have some major flaws that need to be addressed (McNeil et al.). Bicycle lanes can be excellent safety measures when built correctly, but painted bicycle lanes, the most common kind in North America, can be more dangerous than having no cycling infrastructure at all. I have cycled on and off over the years in different areas and environments. What I have found is that many of the safety issues that are obvious to me when I am on a bike become invisible when I am in a car. Painted bicycle lanes look exactly like the rest of the road and quickly become another part of the landscape for drivers. They are narrow and often interrupted by driveways and side streets in residential areas. Sometimes they are broken up by big intersections or come to a dead end without warning. In urban areas, bike lanes often double as turn lanes or get used as overflow parking. This is illegal but rarely enforced. Even when the lane itself is not being used as overflow,

parking is often positioned between a bicycle lane and the sidewalk, meaning that a car must drive through the bicycle lane to park and create further obstructions when opening driver side doors. In some cities a bike lane might be bisected down the middle: half storm drain, half pavement, and totally unusable. This kind of construction has been disdainfully dubbed "the painted bicycle gutter" ("Half Green").

Bicycle lanes are unsafe to use. They are constantly being obstructed and misused by careless drivers. They offer a false sense of security to drivers and cyclists alike, but a line of paint is not going to stop a car. For bicycle lanes to be truly effective, they need to include physical barriers separating cyclists from motor vehicles. Physical barriers can include a raised curb, concrete planter boxes, parking, or even simple flex poles ("What Does Good"). A driver can go over a curb or flex pole of course, but the purpose of the barrier is not to be totally impassible. The purpose is to clearly demonstrate that bike lanes are not a part of the road that is accessible to cars. Unfortunately, even without taking barriers into consideration, many areas are still severely underserved, and proposals to build cycling infrastructure can be a hard sell, even without the additional complication of physical barriers.

When I say that big infrastructure changes are a hard sell, I am not just talking about government opposition; ordinary people will argue against bike lanes as well. They usually insist that it is too expensive or that we should not waste taxpayer money on cyclists. These people do make a valid point: cycling infrastructure is expensive and often underused. People who do not ride a bike regularly do not want to pay taxes on something that they will not use, but these complaints seem to stem from the erroneous assumption that cycling infrastructure only benefits cyclists. There are in fact, several measurable ways that

cycling infrastructure will benefit everyone, not just cyclists. One benefit is that alternative forms of transportation are better for the environment. Motor vehicles are one of the primary sources of greenhouse gas emissions, and transportation in general produces around a quarter of the world's emissions (Xia et al.).

Emissions contribute not only to climate change, but to air pollution, which is harmful to human health. The impact is most noticeable in large cities and around motor ways, where emissions are most concentrated (Xia et al.). One study found that in 2009, "Approximately 1.3 million premature deaths worldwide [were] attributed to outdoor air pollution," and a Dutch study found that, "Traffic intensity on the nearest road would increase mortality of natural causes, cardiovascular, respiratory, and lung cancer by 5%, 4%, 22%, and 3%, respectively." Further studies indicated that people living near motorways were significantly more likely to suffer these types of illnesses than those who moved away from major roads (Xia et al.). These studies mean that greenhouse gas emissions are not only harmful to human health, but deadly. Emissions are not the only health issue caused by motor vehicles. Fast-moving cars on major roads also create a significant amount of noise pollution. While noise pollution may seem like a minor concern, the EPA states that, "There are direct links between noise and health. Problems related to noise include stress related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity" ("Clean Air Act"). Collectively, these studies mean that, not only is our primary method of transportation harming the planet, but that it is a tragically preventable cause of death and illness. Ting Xia and his co-authors included active transportation among their recommendations for reducing motor vehicle usage. Active transit refers to walking or

cycling and comes with the additional benefit of regular exercise. It has been proven in studies across four countries to reduce mortality and obesity rates, potentially saving hundreds of lives every year (Xia et al.). The health benefits specific to active transit would not apply to people who continue to drive, but fewer cars on the road will still reduce air pollution, and we all breathe the same air.

None of these benefits, however, can change that fact that building new infrastructure is expensive. Those who are concerned with economic impacts may be surprised to hear that good cycling infrastructure benefits the economy and more than pays for itself. This happens in a few ways. The main economic benefits are natural consequences of improvements to human health and the environment. First, reducing air and noise pollution also reduces preventable illness and death. Those who choose to cycle will also improve their own health and reduce obesity rates. Together, these improvements will reduce the strain on our medical system. A study of metropolitan areas in the mid-west estimates that, "The combined benefits of improved air quality and physical fitness would exceed \$8 billion/year." (Xia et al.). The health benefits alone are massive, but there is another possible benefit. Reductions in greenhouse gas emissions could reduce spending on air pollution control and climate change mitigation strategies (Xia et al.). This outcome is more likely to occur if cycling infrastructure improves to a point where large portions of the population are choosing to ride bikes rather than drive, but even if we never get to that point, the health benefits would more than make up for the initial costs involved in building the infrastructure ("Costs for Pedestrian"). The major economic benefits are all long term but there may be a few short-term benefits as well, such as increasing productivity in the workforce and

reducing traffic congestion (Kingham). Initial costs can also be reduced by building cycling infrastructure in tandem with new roads, road repairs, or other preexisting infrastructure projects.

The question of personal responsibility versus government responsibility when it comes to cyclist safety is part of an evolving conversation in America. We are experiencing something of a cultural shift, made evident by the fact that we are having these conversations at all. Ultimately, I think that this is a good thing and that a change in mindset is long overdue. For years cyclists in America have been considered a plague upon the roads, an inconvenience, or an enemy, to be discouraged and harassed (Walsh). Cyclists were once envisioned as male athletes riding expensive sport bikes at high speeds and weaving dangerously through traffic. That perception is starting to change, and the definition of a cyclist is broadening to include commuters, tourists, and students. I think this shift needs to continue. I am not a cyclist now but I have been before, and I will be again. This is not because of any desire to make life difficult for drivers or because I am particularly enthusiastic about cycling, but because it is my fastest and most reliable method of transportation. I am a student. I have classes and clubs to attend and places that I need to be. I cannot afford a car, and quite frankly I do not want one, but I do need to be able to get around. For me, this often means relying on friends and family for rides or taking unreliable and painfully inefficient public transportation. I will not be riding the bus for an hour to go five miles. If I want to have any real independence, my options are walking or biking. I have not talked about

accessibility much but it is an important element of this conversation. Easy, popular solutions like 'wear a helmet' and painted bicycle gutters do not make cycling accessible. Some people may be afraid to ride in those conditions. For others, the demands of navigating dangerous and inconsistent bike infrastructure may not be feasible at all. Most people never notice. They never have to think twice about driving, but I am far from the only person who is faced with these issues. There are many people who cannot or do not drive, for legal, medical, financial, or personal reasons, and all of them still need to get around. My hope is that this culture shift comes with the recognition that cycling is a legitimate and necessary means of transportation that should be available to all people.

There are many ways that bike infrastructure and cyclist safety can be improved in America. Unfortunately, cheap and popular solutions just are not enough to meet the growing demand for cycling as an alternative form of transportation. Cyclists desperately need protected bicycle lanes. We need physical barriers and consistent infrastructure. We need to promote awareness, accessibility, and safety conscious behavior from all those who use the road, and we need cycling culture to continue to evolve. I understand that many people may be uninterested in bicycle lanes, and either unwilling or unable to commute by bicycle, but advocating for improvements to cycling infrastructure is one way that we can contribute to the health and well-being of all people in American society. If people do not care about cycling that is fine, but I would argue that everyone should care about preserving human life.

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