

John Forester, M.S., P.E.
Cycling Transportation Engineer
Consulting Engineer, Expert Witness, and Educator in
Effective Cycling, Bicycles, Highways and Bikeways, Traffic Laws
7585 Church St., Lemon Grove, CA 91945-2306
619-644-5481 forester@johnforester.com

Sunday, June 7, 2015

Review of
**Bicycles in American Highway Planning:
The Critical Years of Policy Making, 1969-1991**
by **Bruce D. Epperson**
McFarland & Co 2014

1 Introduction

If this is a history of American planning for bicycle transportation, it is a very strange one. While Epperson chooses not to discuss the values of different bicycle planning schemes, he is clearly unhappy with the current American system. And he attributes this unhappy state to the activities of John Forester. That's me, the author of this review, call it a reply if you will, and herein I will refer to myself as I.

Epperson devotes more of his book to my activities than is justified by my activities in the field of bicycle planning. He dedicates his book to the memory of a person who has no connection with bicycle planning, giving the name on my father's birth certificate. Few people recognize that name, because my father abandoned that name, publicly and legally, upon reaching adulthood. Epperson roused about some of my father's papers in the University of Texas to find a letter denigrating my argumentative technique at the age of nineteen. Epperson interviewed my son, my former cycling associate and ladyfriend, but he never asked to interview me.

Epperson and I hold very different views about bicycle planning. I have always held that "Cyclists fare best when they act, and are treated, as drivers of vehicles." Therefore, bicycle planning should be directed at improving conditions for those cyclists who are obeying the rules of the road for drivers of vehicles. Epperson's view is that bicycle planning should be establishing a system for potential cyclists who are afraid to, or simply won't, obey the rules of the road. While this

difference is clear and easily described, Epperson fails to discuss it, leaving only a few veiled hints here and there.

Epperson denies my activities with respect to bicycle planning, even as he claims that my activities derailed American bicycle planning. According to Epperson, my planning sin was to criticize the entirely different bicycle design regulation of the U. S. Consumer Product Safety Commission. According to Epperson, my public criticism of the CPSC regulation so roused up enthusiastic American cyclists that they never again trusted governmental action, even in the different field of bicycle transportation planning. So Epperson undertakes the complicated task of explaining current American bicycle planning by excoriating my activities regarding bicycle design while denying what I actually did in the field of bicycle transportation. This is not the first time Epperson has tried this tactic. He published a version of the CPSC affair in the *Transportation Law Journal*, a version so filled with errors and personal bias that the editors felt compelled to publish my corrections at almost half the length of the original paper. Both of these may be found at:

<http://johnforester.com/Articles/Social/Epperson%20Review%20TLJ.htm>

2 CPSC Affair

Since Epperson argues that the start of his history goes back to the CPSC affair, it is as well to consider that at the start of this paper.

The Bicycle Manufacturers Association produced a standard for the products of its manufac-

turers, called BMA/6. These products were toy bicycles, bicycles bought by parents for the use of their children. The ostensible purpose of BMA/6 was to persuade parents that bicycles so produced were good, reliable, durable, and safe when used by their children.

However, the BMA later claimed that the major purpose of BMA/6 was to get conformity in state laws regarding bicycles. This is balderdash, because BMA/6 contains many requirements that states had no interest in regulating. So far as I know, states specified only two things: a rather simple braking performance and nighttime protective equipment. BMA/6 contained many other requirements.

The CPSC took on bicycle safety design as its first big project, and did so in a hurry. Had it waited, it would have had the choice of two laws to authorize the regulation. One law regulated "toys or other articles intended for use by children". The other law, which was not yet enacted, regulated products used by the general public. There was a big difference. The toy law authorized regulation requirements by the authority of the regulators themselves, while the general product law required that the safety requirements be scientifically justified. The CPSC chose the toy law.

The CPSC chose to base its regulation on BMA/6, as though BMA/6 were a safety standard. Well, the children did not object; the CPSC regulation allowed the bicycles that their parents were buying for them, and the law allowed only regulating bicycles intended for children. Then the CPSC pulled a nasty, by saying that since it could not distinguish bicycles for children from bicycles for adults on the basis of size, the regulation covered all bicycles sold in America. That prohibited the bicycles that we enthusiastic cyclists, both adult and child, had been using for years. An article I published in *Bike World* demonstrating this fact aroused a storm of protest, some of it the form of nastily obscene letters to CPSC bureaucrats.

Some manufacturers objected. Epperson believes that Tullio Campagnolo objected to the protrusions prohibition, whereas he was actually objecting to the prohibition of derailleur adjusting screws, prohibited because children might misadjust the derailleur. As Tullio knew, you cannot have an operable derailleur without travel limit screws. Epperson tries to describe this as a tempest in a teacup, because very quickly those in power rewrote the requirements so that real bicycles were acceptable. However, they did not provide persuasive accounts of this back-room

negotiation.

You see, there was another large problem with the CPSC regulation, even after being rewritten to accept real bicycles. BMA/6 had never been written as a means of reducing casualties to cyclists, although parts were, for example the all-reflector system of nighttime protective equipment. So it had requirements that had no connection to reducing casualties to cyclists, and it had requirements, such as the all-reflector system, that were dangerous for cyclists. I kept prodding the CPSC about these matters, and the CPSC decided that it would follow the law for products for adults, the law that required scientific justification of requirements.

So the CPSC bureaucrats then had to invent scientifically plausible safety explanations for requirements that were not written as safety items. The results were engineering horrors. For example there was a requirement for front fork stiffness that required that the front fork absorb at least 350 inch-pounds of energy while being bent back 2-1/2 inches. This was to demonstrate that these forks would withstand the shock of climbing up onto a curb. The CPSC argued that this was to prevent the cyclist from flying forward when his bicycle hit a wall, high or low. This is engineeringly impossible. As any undergraduate engineering student ought to recognize, the cyclist will fly forward regardless of what the front fork does.

It was known that feet slipping off pedals was a cause of mostly minor, but painful, casualties. There was a requirement that the anti-slip shapes on pedals outlast the pedals. The requirement was written, although it did not say so, for rubber-coated platform pedals, where the rubber had a tread anti-slip pattern. As I asked the judges in a hearing, the pedal has two functions: it carries the cyclist's weight, and it rotates under that weight. Which of these functions do you want to fail before the tread pattern wears out? That requirement disappeared.

There was a requirement, backed up by a test, to demonstrate that large quantities of spoke nipples would not pull through the material of the rim. The CPSC argued that its engineers had predicted crashes of this type caused by going over severe bumps that increased the tension of many spokes. We all knew of crashes caused by going over severe bumps, in which the rim was permanently dented inward for some distance and had thereby reduced the spoke tension. But nobody had ever heard of any crash producing the symptoms predicted by the CPSC engineers. I argued

that if no such crashes had occurred, then there were no casualties, so that the requirement could not be justified as a casualty-reducing safety requirement. The CPSC replied that it was not required to supply a body count (shades of the Vietnam war), and I was jeered. Five years later it was discovered that when a tension-spoked wheel carried its load, that load was carried by a reduction of tension in the few spokes pointing at the road. Hence, the CPSC engineers were inventing entirely false predictions.

Then there was the all-reflector system that endangered cyclists by replacing the headlamp with a front-facing reflector. The engineering of this system paid no attention to nighttime collision problems. Its only justification was that if a bicycle were rotated 360 degrees while in front of a motor vehicle's headlamp beams, some light would be reflected back toward the driver. That completely ignored the need for a headlamp to alert other road users of the cyclist's approach. A rather obvious point: no driver can yield to another driver whose approach he cannot see. A large portion of nighttime car-bike collisions are caused by actions in front of the bicycle, when the headlamp would enable detection but a reflector could not.

I was hoping that I could build up such a list of CPSC's engineering errors that the court would send the regulation back for complete revision. I failed. Epperson argues that I failed because I did not have the requisite competence in the field of bureaucratic law. In a way, that's correct, but not entirely. But I had no means of employing, or even of contacting, attorneys with that kind of legal power; I had to proceed with what resources I had. And nobody has criticized my engineering analysis of the CPSC regulation.

That's my side of the CPSC story. But Epperson's account casts light on the dark side of the story. His account shows that both the CPSC and the bicycle industry desperately wanted the regulation. The CPSC simply because it was in trouble because its first big task had created public furor and much delay. The bicycle industry desperately wanted the regulation because it promised nationwide uniformity, so that bicycles made in America, or even imported, would be legal for sale in all states. It's not that the states, or areas within states, were being particularly picky. So far as I know, the only bicycle design features that states regulated were the simple brake requirement of being able to skid the rear wheel (which caused no problems anywhere) and the reflectors to provide nighttime collision prevention. Here different

states had different requirements, each requirement for a different array of reflectors. I did not recognize the industry's devotion to this subject until reading Epperson's account.

Epperson's account goes on, although Epperson will not admit it, probably does not recognize it, that although the regulation supposedly concerned the safety of cyclists, none of the parties concerned in Washington gave a damn about the safety of cyclists. All that they wanted was to get the regulation issued in some form that would no longer arouse opposition.

So, having read my side of the story, here are quotations from Epperson's book about the same subject.

3 Epperson re CPSC

3.1 CPSC technical requirements

Epperson makes no comment about any of the technical requirements of the CPSC regulation. So far as he is concerned, what the CPSC regulation actually did is immaterial.

Epperson's failure to understand the significance of the regulation's technical requirements shows in his following statement.

As early as October 1973, Forester had already decided to sue the CPSC; his participation in the many workshops and public meetings was intended solely to elicit statements and admissions that he hoped could later be used in court. As a result, the public input process came to resemble a form of kabuki theater, with Forester trying to trap the CPSC staff with trick questions and the staff giving increasingly bland, evasive answers. 59

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2576-2579). McFarland. Kindle Edition.

That's Epperson's understanding the situation. The CPSC held a series of public meetings to explain the regulation to interested parties. One of the hot issues at the time, since custom-made bicycles did not have to meet the regulation's requirements, was a definition of a custom-made bicycle. I asked that question. The answer that I got was that if the bicycle's frame was made from bicycle tubing it could not be a custom-made bicycle. If that were enforced, it would put the custom frame builders out of business.

Such important questions had to be asked and answered to the public. But Epperson characterizes the conversation as only me trying to build up accusations to use in a trial. And the CPSC officials did not help matters. They gave “increasingly bland, evasive answers” for either of two reasons. They might have not known what they were talking about, or they might have known but dared not admit that knowledge.

Regardless of Epperson’s lack of interest in the technical content of the regulation, he does comment about my interest in the provisions regarding nighttime protective equipment.

3.2 All-Reflector System

The engineering requirements for cyclists’ nighttime protective equipment are fairly simple. A headlamp is required for two purposes: to light the path ahead and to alert those road users who have the duty of yielding to the cyclist. Those road users are in the half-circle ahead of the cyclist. Traffic approaching the cyclist from behind is largely motorized and equipped with headlamps. A rear retroreflector in those headlamp beams will shine in the motorist’s eyes and alert him to the cyclist’s presence. Such has long been the law in all states for bicycles in use at night.

At this time the only practical lamps for bicycles were electrical. Whether the electricity was generated aboard the bicycle, or was brought to the bicycle in the form of batteries, only small amounts were available. Hence bicycle lighting was dim and had to be distributed efficiently where it did the most good. All British utility bicycles, and many sporting bicycles, carried a lamp bracket of a standard shape that fitted any of the bicycle lamps available.

The first change to this system that became known to American cyclists was the all-reflector system imposed by the CPSC. I later learned that it had been invented by the Bicycle Manufacturers Association for use in its standard BMA/6. Still later I learned of the theatrical show by which its supposed efficacy was demonstrated to officials ignorant of traffic operations. This system used ten reflectors, one of which took the place of the headlamp. The system was designed to look good to people ignorant of traffic operation. Its designers, and its advocates in later controversy, produced its design either through complete ignorance of its dangers or they knew of its dangers and advocated it regardless. I know of no evidence either way. But considering that the field of

bicycle transportation is filled with superstitious falsities, I think superstitious falsity is the more likely source of the all-reflector system.

The all-reflector system has several defects. The most important is that its front reflector cannot alert those road users who must be alerted of the cyclist’s approach. Those headlamps present are not pointing in the direction of the bicycle, to illuminate its reflectors, when the yielding movement must be made, and some users don’t have powerful car headlamps. Few American cyclists used headlamps, and a large proportion of nighttime car-bike collisions came from the area from which a headlamp would be observed.

The rear-facing reflector was designed on the wrong principles: too small in size, too dark in color, and designed for visibility at long distances but not at the distance where collision avoidance would be made. The other reflectors were placed facing so they were largely useless for collision prevention.

One argument for the all-reflector system was that any child could operate it because nothing had to be done to it; it was always there. The CPSC regulation was built around operation by children, for instance prohibiting derailleur adjusting screws because someone might misadjust the derailleur. I estimated that a bicycle lighting system that would be reliable when subject to day-to-day operations by children (few of whom would ride at night) would be likely to double the cost of the cheap bicycles built for children. Therefore, I concluded that the BMA’s purpose was to avoid the prospect of having to install a child-proof headlamp on every bicycle they sold.

This conclusion was supported when the BMA called a meeting of the National Committee for Uniform Traffic Laws and Ordinances (in charge of the UVC). BMA was attempting to get the NCUTLO to repeal the UVC requirement for a headlamp when cycling at night. I was there, and I was the only one who spoke against. But I told the members that if the headlamp requirement were repealed, their members would be held liable for failing to yield to cyclists whom they could not see. BMA’s proposal failed to persuade even one voter.

Only much later did I learn that BMA’s real concern was getting nationwide pre-emptive uniformity so that it could ship any bicycle to any state. BMA could have achieved that by adopting the British system; the lamp bracket would have cost almost nothing, because it was only a tab extending from an existing headset washer. But it didn’t.

BMA also had to head off 3M's reflectorized tires, which 3M was trying to get required by state laws, but which, like any side reflectors, had little effect in reducing nighttime car-bike collisions. In my opinion, the all-reflector system won out because it offered the most flash for a buck in the eyes of the traffic-incompetent viewers in charge of bicycle transportation.

In the public's mind the front-facing reflector performs the function of the headlamp, just as its advocates demonstrated in its one propaganda showing. In that, a bicycle, held upright in the beams of headlamps, then rotated 360 degrees, always showed at least one reflector shining back to the driver's eyes. That test fails because it does not duplicate the situation in which a motorist or pedestrian or other cyclist is required to yield to the reflectorized cyclist when his own headlamp beams (if he has headlamps) are not pointing at the reflectorized cyclist, which is a common traffic situation. The fact that the all-reflector system is required by law, supposedly for cyclist safety, naturally persuades the common person that it works.

Epperson makes statements implying that he does not understand the importance of a headlamp when cycling at night. It is possible that he does understand that importance but is lying about it to suit his politics. However, I suggest that even if he is deliberately lying he has to lie as if he does not understand, for direct lying is not a persuasive strategy in this case. The bald statement that headlamps are not important when cycling at night, once read by informed persons, would damage his professional reputation.

My opinion is that Epperson's combination of anti-motoring view with legal training has led him to take action in a field which requires the engineering understanding that he does not have. That fits his failure to discuss the engineering problems that are inherent in his work. The next two Epperson statements demonstrate this.

Because Epperson is no better informed about cyclist safety than is the general public, he cannot intellectually understand that the all-reflector system is the one part of the CPSC regulation that actively endangers cyclists. Therefore, he cannot understand that I was working for the welfare, for the safety, of cyclists. Consequently, he is forced into wild surmises when he discusses my motivation.

"For obscure reasons, the 10-reflector rule became his bête noire. His position on nighttime

conspicuity changed repeatedly over the course of the litigation. Back in 1973, he had demanded no federal conspicuity standards at all, claiming that "we'd be better off neglected." However, in his opening brief he admitted that the Commission did have the authority to regulate children's bicycles, but argued that the standard should have mandated a front headlight requirement instead of reflectors."

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2605-2608). McFarland. Kindle Edition.

Because Epperson is so ignorant of the proper requirements for nighttime cycling, he could not understand that I consistently maintained the accepted standard, stated above. Instead Epperson argues that I changed my mind about such equipment. That's false; I changed my mind only about the proper words for the regulation, depending on what others were saying.

"The BIA was especially concerned about rules for nighttime conspicuity. After the original 1972 FDA report calling for better nighttime visibility was issued, the 3M Company developed a reflective tire sidewall for bicycles. It wanted the BMA to include these as mandatory equipment in BMA/ 6, but the industry refused, because they were expensive. Instead, the BMA came up with a "10-reflector system" with front, rear, wheel and pedal reflectors that cost about a dollar per bicycle, and this was very near to what the FDA subsequently put in its banning order. The tire companies and 3M tried to do an end-around the federal rules by going to the states. At one point in the spring of 1974, 38 separate bills in 23 states were pending dealing with some aspect of bicycle lighting or reflectorization requirements. 35"

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2437-2443). McFarland. Kindle Edition.

Epperson repeats his view of the unimportance of the CPSC all-reflector requirement by describing me as:

standing on the sidelines, or just too busy with trivial side-spats over 50-cent reflectors or handlebar hang-tags to be bothered.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Location 2785). McFarland. Kindle Edition.

The importance of the reflector issue is discussed above. Morgan Groves was the executive director of LAW, with salary subsidized by BMA. The handlebar hang-tags were Groves' attempt to recruit new LAW members from buyers of BMA bicycles. This failed because the buyers of BMA bicycles were not cyclists who might join a bicycling organization, something rather obvious to cycling observers.

3.3 CPSC, DeLong, & Forester

Because Epperson has no understanding of the public effects of the technical requirements of the CPSC's regulation, he fails to understand an engineer's responsibility for his work. Fred DeLong, an engineer with much cycling experience and close to the bicycle manufacturers, chose to assist in getting the regulation modified so that it would no longer prohibit real bicycles.

Because he chose to work within this cooperative process, Forester accused DeLong of being bought off by government and the industry. "The CPSC obtained the services of Fred DeLong to advise it about changes that would get the cyclists off its back," he later wrote. "DeLong [was] a well-known cyclist with a long history of friendship with the bicycle manufacturers." According to Forester, only DeLong's unique technical knowledge made it possible for the CPSC to secretly modify the original FDA banning order to the point where it could feasibly cover adult bicycles. "Fred should have told the CPSC ... that he would have nothing to do with it," he wrote, "instead, Fred jumped right in."

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2564-2569). McFarland. Kindle Edition.

DeLong chose to assist the manufacturers concerning the proposed regulation. In choosing to assist, DeLong limited his assistance to one issue: what changes in the regulation would allow it to accept real bicycles. By so limiting his assistance he abandoned the engineering issues of whether or not a requirement would reduce cyclist casualties or would even endanger cyclists.

"There's no question about it," replied DeLong. "My son races, and I've got Gitanes and Raleigh Professionals and Paramounts, all of which will be affected by this and I'm not going to back down and accept something that would ruin good equipment." In the end, Townley recalls, "DeLong and Forester came to dislike each other intensely." 58

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2574-2576). McFarland. Kindle Edition.

I was publicly arguing that the regulation should not be issued because of its engineering errors and because it endangered cyclists (the all-reflector system), while DeLong was privately arguing that it should be accepted, regardless of its errors, because that was what the manufacturers and the CPSC wanted. According to Epperson and Townley, DeLong came to dislike me intensely. For myself, I merely classed DeLong as an incompetent engineer.

3.4 Epperson re Forester's Motives

Because Epperson cannot understand that I, Forester, was working for the welfare of cyclists, and for honesty in government, he invents other motives to explain my actions. Epperson claims that I wanted to destroy the American bicycle industry and its relationship with American club cyclists. Epperson fails to understand the relationship between club cyclists and BMA. That portion of the American industry represented by the Bicycle Manufacturers Association issued BMA/6, which specified toy bicycles and rejected real bicycles. Contrary to Epperson's argument, there was no relationship to destroy, because club cyclists bought real bicycles rather than the toy bicycles produced by BMA members. (Schwinn was not a BMA member.) That is also the reason for the failure of Groves' plan to attract new LAW members by issuing recruiting pamphlets as hang tags on BMA produced bicycles. As for me wanting to destroy the industry, I hadn't the means to do it. Epperson's suggestion makes as much sense as claiming that I have plans to destroy the publishers of romance novels, based on my evaluation that romance novels are an inferior form of fiction.

Up to December 1973, John Forester probably had no stronger supporter or enabler than Morgan Groves at the L.A.W., but where Groves wanted to restructure the relationship between American club cyclists and the American bicycle industry, Forester wanted to destroy it, and the industry as well. 50

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2537-2539). McFarland. Kindle Edition.

Having first speculated about my motive for destroying the American bicycle industry, Epperson involves himself in even more esoteric claims. One such is Epperson's guess that I had in mind a strategy that would result in children's bicycles being required to have headlamps while adults' bicycles would not.

He apparently believed it was more likely the court would restrict the Commission's jurisdiction to children's products than [than?] void the rules completely. Following his hunch, he hoped he could convince the court to change the conspicuity requirement from reflectors to lights. If he was successful, then children's bicycles would need to be equipped with a headlight, while adult bicycles would go unregulated.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2608-2614). McFarland. Kindle Edition.

Epperson claims that the following quotation from my works justifies his claim.

He may have come closest to revealing his strategy in a 2002 memoir of the case, when he wrote that "the manufacturers were terrified that they might be required to provide lighting systems," and that "for the kind of bicycles that the BMA sold, provision of a lighting system that would continue to function under childish use would probably double the cost of the bicycle." 64

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations

2608-2614). McFarland. Kindle Edition.

It was the manufacturers of toy bicycles who were adamantly insisting on a system that denied headlamps. I was merely pointing out the reasonable motivation that the provision of a child-proof reliable lighting system would more adversely affect their costs than it would the costs of producers of real bicycles. That's no argument for avoiding a requirement for headlamps on real bicycles.

Epperson tried another speculation based on some imaginary American internal tax applied to toy bicycles. Epperson argues that I intended this imaginary tax to make toy bicycles too expensive for those who rode them, who, Epperson claims, I loathed so much. The idea that I, or any organization, could get the American government to tax toy bicycles simply because they weren't very useful bicycles is ludicrous. To suggest that that was my motivation is outrageous.

Furthermore, Epperson claims that I greatly loathed the general cycling public. On the contrary, I considered them equally, but unknowingly, victims of the governmental, business, and social forces that were forcing them to act like incompetent children. Those I loathed were the people and organizations who were forcing cyclists to act like incompetent children.

Forester seemed to be aiming for some type of domestic bicycle tariff, one that would serve the dual purpose of driving American cyclemakers out of business while making bicycles too expensive for the casual, occasional or indifferent cyclists he loathed so much.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2616-2619). McFarland. Kindle Edition.

Epperson considers it valid criticism that I disapproved of the then recent governmental acts regarding bicycles and bicycle transportation. Considering that American Motordom and the state governments were trying to kick cyclists off the roads and requiring them to ride like incompetent children, and that the Federal Government was trying to force all cyclists to ride bicycles designed for children, my position was most reasonable.

Forester hoped to use the CPSC ruling to

turn the clock back to an idyllic, pre– bike boom era. “Before 1970, cyclists were able to operate on the road,” his former partner, Dorris Taylor, explains. “Government started making rules and regulations.... John saw [it as] catering to the least common denominator.” However, in his last reply brief, Forester appeared to return to his original position that the bicycle rules should contain no nighttime conspicuity standards at all. 65

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2616-2619). McFarland. Kindle Edition.

Epperson argues that my attempt to get the CPSC regulation sent back for a complete rework failed because I did not have the requisite knowledge in regulatory law. But that argument, while perhaps correct, avoids considering the other side of that dilemma. That is, those who had the requisite knowledge of regulatory law failed, as proved by Epperson’s book, to understand the engineering and scientific reasons that made necessary such a rework. In whatever way the CPSC’s regulation was issued, it failed to reduce casualties to cyclists and endangered cyclists riding at night, which meant that it had none of the characteristics required of a safety regulation. I did the best I could with the knowledge available to me, without any money to pay for high-powered attorneys in the subject of regulatory law.

The CPSC asserted that because the FDA had issued the initial draft of the bicycle rules four days before the changeover to the CPSC, the 1262(e) exception applied. They were wrong. Transfer language in the CPSA overrode the 1262(e) exemption. The informal public meeting in September 1974 did not meet the standards of a public hearing, and the objections filed by the bicycle manufacturers had not been considered rule challenges requiring administrative adjudication, as they should have. Also, the technical challenges Forester raised in his lawsuit did not have to show that the CPSC had acted in an arbitrary and capricious manner. He only had to prove that, based on a preponderance of evidence in the record, each rule was improperly or inadequately promulgated. However, Forester didn’t raise this argument, and framed his technical arguments assuming an “arbitrary and capricious” standard, so strictly speaking, the court had to consider them as they were presented. 69

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2633-2640). McFarland. Kindle Edition.

3.5 Reflections on the CPSC Bicycle Design Regulation

The CPSC bicycle design regulation arose amid a sea of complaints about dangerously designed products, with bicycle-related crashes the largest proportion. (Except tobacco, firearms, drugs, and motor vehicles, all outside the CPSC’s authority.) Of course, the largest proportion of bicycle crashes have to do with the bicycle’s two wheels, and nobody was about to require that all human-powered vehicles had to have at least four wheels.

The normal operation of a safety quality control program has two parts: design and manufacturing. The first tests the designs to determine their safety; the second continually tests the products to ensure that they meet the design. For reasons of economy, it was decided that only bicycle design would be regulated.

The proper first step is to determine the frequency and severity of casualties caused by each type of design failure. The CPSC ran a hospital survey of injuries associated with bicycles. From this survey, it selected those most likely to be caused by design defect. Then it subjected those suspected events to further analysis, and discovered that only 16% of them appeared to be caused by design defects. One frequent cause was foot slipping off pedal, often with rubber pedals in wet weather.

But instead of working on design defects known to cause a significant number of casualties, the CPSC started with BMA/6, never created as a safety standard. From this engineering error followed all the foolishness that continues, to some extent, to the present day.

The foot slipping from the pedal problem produced the following foolishness. The typical utility pedal consisted of a frame which held two square hollow rubber bars supported by steel bars running up their centers. The flat faces of each rubber bar were molded into anti-skid surfaces, and each rubber bar tended to rotate on its supporting steel bar. When wet, with wet rubber-soled shoes, foot sliding was common, resulting in falls and such causing injuries. Some work could have been done to make a safer design. Instead, the bureau-

crats produced the requirement that the pedal's bearing jam or the pedal's spindle break before the anti-skid molding of the rubber wore smooth. That was so absurdly dangerous that the whole requirement was thrown out.

4 Epperson, Forester & Cycling Affairs

4.1 Effective Cycling

The next part of Epperson's thesis is that I claimed to have invented, and published in the *Effective Cycling* book, a way of cycling that enabled bike planners to do very little with the excuse that this is best for cyclists. Here's the story regarding *Effective Cycling*.

I grew up in England as, according to family tradition, a fourth generation cyclist, and certainly a third generation cyclist. I was brought up understanding the British policy that all drivers, motorists and cyclists, had equal rights and duties. I then came to Berkeley, California, where I cycled from my hilltop home down to school near sea level, and made trips up to Mendocino, some 150 miles north. When I entered UC Berkeley in 1947, I started riding in rides with Berkeley Wheelmen and other clubs. I cycled in California, New England, and the Washington area.

In each area, the club cyclists generally obeyed the rules of the road for drivers of vehicles. In 1971 I became involved in the Palo Alto sidepaths case, discussed later. In my defense for that case, I first formally stated that cyclists do best when they obey the rules of the road for drivers of vehicles, instead of the discriminatory rules that apply to cyclists alone.

Later on, I started teaching a cycling course for a community college, that ran over 10 Saturday mornings. The course was directed at developing the skills necessary for enjoying bicycle transportation, and a bit of the sport also. The material that I used was that which I knew from my experience. I discovered that the information that I thought it necessary to present was not available. Therefore I started what became the book *Effective Cycling*, published in 1976.

Epperson has decided that it is his duty to denigrate my achievement by arguing that I invented nothing, because it had all been invented before. That's absurd, because I never claimed to have invented that style of cycling. I had simply formalized what we club cyclists all knew from experience, but I formalized the skills and con-

nected them to standard traffic-engineering principles and the research, by others, about the types and frequencies of car-bike collisions. So, here are some of Epperson's arguments.

It was against this background that the early voices of protest against the shunting of cyclists off to infrequent, inconvenient, and often substandard specialized facilities began to be heard: Fred DeLong in 1970; Jim Konski and Clifford Franz in 1972; and John Forester, Morgan Groves, Harold C. Munn, Bill Wilkinson and others in 1973.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 205-207). McFarland. Kindle Edition.

Forester started protesting against the Palo Alto sidepath bikeways in 1972, by disobeying the ordinance and being tried for two violations.

The difference boiled down to a question of whose behavior was intended to be changed through the educational program. DeLong's program was internally focused: it concentrated on improving the cyclist's ability to use his or her bicycle. Forester's program, on the other hand, was external: it stressed the cyclist's ability to gain mastery over the other road users around him in any particular situation. "How do you handle motorists when you change lanes?" Forester asked. "Are you confident, or are you betrayed by uncertainty ... yes, you'll never do it right until you feel deep down inside that you are as important as motorists." 23

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 1559-1564). McFarland. Kindle Edition.

Epperson has his own mental blind spots. My instruction was to persuade the cyclist that he was equal to motorists, which is cooperating with them in obeying the rules of the road, rather than "gaining mastery" over them. But Epperson's statement clearly shows that my presentation was very different from DeLong's, which disproves Epperson's own argument that I did not contribute.

Almost all of the fundamental concepts behind vehicular cycling were already in circula-

tion. *The polemics of attribution aside, the core ideas of vehicular cycling were, in 1973–74, already out there, ripe for the picking.*

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2775-2776). McFarland. Kindle Edition.

As I have always written, we club cyclists generally operated according to the rules of the road for drivers of vehicles.

The degree to which Forester has been able to convince others he “invented” vehicular cycling is evident from the recollections of John Williams, who would later serve as the long-time editor of Bicycle Forum, about the origins of his path-breaking bike plan for the city of San Luis Obispo. Widely distributed by USDOT in the mid–1970s, it helped revolutionize thinking about what bicycle planning was, and how should be done.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2810-2813). McFarland. Kindle Edition.

Epperson presents no evidence, either in this quotation or in the subsequent pages, to support his claim that I had convinced Williams, or anyone else, that I had invented my cycling style. All Williams said was that he was one who recognized that bikeways weren't necessary for one who cycled properly, without giving any source for his recognition.

3. *Credit for the name “vehicular cycling,” as well as the first relatively complete articulation of its basic principles, must go to Harold C. Munn. Munn, a Los Angeles engineer for the California Department of Transportation, read his paper, “Bicycles and Traffic,” before a conference of the American Society of Civil Engineers, and submitted it to their Transportation Engineering Journal in November 1974. “The task,” he wrote, “is to convince [cyclists] to operate their bicycles as they do their automobiles.” It was published in the journal Transportation Engineering in November 1975. In December 1973, at the Orlando MAUDEP conference, John Forester was advocating specialized facilities—bicycle boulevards—because he considered it more important that a*

way be found to allow cyclists to avoid stop signs than it was that they be treated as the full legal equivalents to automobiles. (By late 1974 or early 1975 he had changed his mind about this, mostly by coming to the conclusion that the Uniform Vehicle Code only required cyclists to treat stop signs as yield signs.)

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 3941-3949). McFarland. Kindle Edition.

Epperson's statement contains several errors. First, Munn did give any name to the style of cycling he thought inevitable. Munn and I had been cycling buddies in Los Angeles Wheelmen, and Munn is simply describing the club cycling style that we both used. Second, Epperson tries to use my advocacy of bicycle boulevards in 1973 to argue that I had not yet adopted vehicular cycling. That's incorrect for two reasons. As early as 1971, in the Palo Alto sidepath case, I was arguing for vehicular cycling. Bicycle boulevards are a way of improving cyclist mobility without resorting to bikeways. Bicycle boulevards simply rearranged the stop signs installed by the public to impede motor-ing so that they did not impede cyclists as much. Contrary to Epperson's claim, cyclists retained their rights as drivers of vehicles. Epperson's argument that I argued that the UVC “only required cyclists to treat stop signs as yield signs” is completely false. The UVC requires a stop followed by a yield. The instruction is faulty, and American motorists know it. I argued only that cyclists should have the same latitude as motorists in complying with the intent of the statute.

John Forester collected the information in DeLong's program and other bicycle education material for a subcommittee report he prepared for the SCR-47 California statewide bicycle committee report in 1974. He combined this material with four articles he wrote for Bike World magazine between December 1973 and April 1974 to create classroom instructional material for a course he taught at Foothills Community College starting in June 1975. The first version of the book Effective Cycling that was available for sale to the public was a self-published, mimeographed, comb-bound volume of about 200 pages issued in November 1975. It remained self-published until 1984 when the first trade edition was published.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 3983-3987). McFarland. Kindle Edition.

Of course I studied the works of others in the field, to see both their ideas and how they presented them. But Epperson makes a different claim: "He combined this material with four articles he wrote for Bike World magazine ..." That is, Epperson is trying to argue, without really saying so, that the material of others taught me vehicular cycling. That's nonsense.

But keep in mind the evidence to the contrary: the bicycle proficiency course developed by Fred DeLong in 1969, and his warnings in Bicycling in 1972 and 1973 that bikeways "suffer their own problems" qualify as nascent movements towards "vehicular cycling," and they predate any involvement by Forester in bicycle advocacy. The same is true for the "bicyclism" declaration of James Koniski at the San Francisco MAUDEP conference in 1972. Bill Wilkinson's warning that "more can be done for so many more bikers" by improving urban streets than by restricting cyclists to bikeways, preceded any of Forester's published works, save his first Bike World article. 88

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2761-2762). McFarland. Kindle Edition.

Two false criticisms have always been made of vehicular cycling. It must be done at high speed, requiring high horsepower. Only an elite group of people are capable of doing it. Epperson uses both of these false criticisms. First, when discussing speed and power, Epperson conflates remarks about cycling speed with remarks about traffic skills.

Actually, there was some relevant data starting to emerge that lent credence to the contention of Everett and the Lotts. Students in a half-semester long (eight week) course at the College of Staten Island, with mandatory "homework" riding assignments similar to those in Forester's Foot-hills Community College course, did increase their speed as a result of taking the class. However, the

average improvement was about 12 percent. Generally, already strong cyclists showed the least improvement and inexperienced cyclists the most. Less proficient cyclists improved their "horsepower" in the range of 12 to 14 percent, while their more experienced classmates improved between 4 and 6 percent. This was hardly approaching Forester's Charles Atlas– like claim that proficiency training programs could crank out the equivalent of "the most experienced cyclists around, men who have ridden hard for years." 20

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2975-2981). McFarland. Kindle Edition.

In my ten-Saturday-morning course, I ran two ten-mile time trials, over a course with varied topography, one early in the course and one near the end of the course. The Effective Cycling course had several aims. One was to develop traffic-cycling skills; another was to develop the enjoyment of cycling. The time trials helped to develop the enjoyment and had nothing to do with the traffic skills. I held two time trials, over the same course, well spaced in time, so that the students could learn, for themselves, how much their cycling had improved, both in physical power and in pacing oneself for a given ride. The students were intensely interested in their times and they loved that part of the course.

At this point I need to address the rest of this false criticism. That is, vehicular cycling does not require high speed, keeping up with motor traffic, or whatever the critics argue. Obeying the rules of the road for drivers of vehicles can be done at low speed, for cyclists as for motorists. The rules allow for low-speed operation; they have to allow for some slow drivers, or using the highway would be impractical.

The second criticism is that vehicular cycling can only be done by an elite group. Epperson tries to proclaim this false criticism through his description of my process for selecting Effective Cycling Instructors. Epperson writes, correctly, that I did not want EC to be watered down "to a generalized vehicular-style adult cycling class", using Epperson's own definition of vehicular. Epperson either fails to recognize the special nature of vehicular cycling as taught in the EC class, or he deliberately ignores it. That special feature is that both the traffic skills and the sociological parts of the

EC course are based on obeying the rules of the road for drivers of vehicles.

Therefore, in selecting prospective Effective Cycling Instructors I started out with persons who were comfortable with and competent in vehicular cycling. That's no more discriminatory than, when starting a program about the Spanish language and literature, one chooses prospective instructors from those comfortable and competent in Spanish.

In fact, Forester had intentionally designed it this way. "I knew that I had to be very selective in order get instructors who already knew vehicular cycling and felt in their bones that vehicular cycling was right." In other words, students that were amenable to total indoctrination into the Forester way of thinking, and who could be counted on to not water it down to a generalized vehicular-style adult cycling class by incorporating elements from, say, DeLong's Philadelphia AYH program or Ken Cross's hazard recognition studies. "So I set up a system for considering applicants," Forester later recalled: I developed a lengthy questionnaire that elicited, as much as I could, of the applicant's cycling history, type of cycling, and views about cycling. I insisted on evaluations from other responsible persons in the cycling world, mailed to me directly from the originator in response to a question sheet I sent out. Using this method, I was able to select applicants whom I thought had the necessary attitude. 45

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 3692-3700). McFarland. Kindle Edition.

5 Vehicular Cycling

The cycling that I taught was based on the rules of the road that applied to all drivers of vehicles, while ignoring the special rules that applied only to cyclists. The rules for drivers created an operating system that both worked well and was fair to all. I ignored the special rules that applied only to cyclists because they clearly discriminated against cyclists in favor of motorists. These discriminatory rules were the Far to the Right rule, the Mandatory Bike Lane rule, the Mandatory Sidepath Rule, and various prohibitions against cycling on otherwise normal roads.

Since this system obeyed the rules for driv-

ers of vehicles, I named it "vehicular cycling", and I defined it as cycling in accordance of the rules of the road for drivers of vehicles.

Epperson has transferred the name of vehicular cycling to all roadway cycling and to any governmental program that involves cycling on the roadway. Therefore, whenever reading Epperson one encounters "vehicular cycling", it does not refer to cycling in accordance with the rules of the road for drivers of vehicles but to the current situation of typically incompetent cycling and typically incompetent bicycle planning.

By conflating real vehicular cycling with the current popular incompetence in cycling and in planning, Epperson is able to present his argument that what he considers to be the current unhappy state of American bicycle planning has been caused by vehicular cycling.

Here's Epperson writing for himself at great length.

Instead of planning for a universal system of bicycle infrastructure, it turned to spot roadway improvements and a reliance on cyclist roadway skills, enhanced through educational programs targeted at both bicyclists and motor vehicle drivers, to promote mutual safety, convenience and compatibility. Over the years, this strategy has become known as vehicular cycling, a contraction of its somewhat unwieldy, but more precise, original label, vehicular integration of cycling.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 80-84). McFarland. Kindle Edition.

That is the essence of "bicycle planning, American-style." And American-style bicycle planning is synonymous with vehicular cycling.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 132-133). McFarland. Kindle Edition.

The definition of what constitutes "vehicular cycling" has been contested ground for forty years, and continues to be vigorously debated. For the sake of consistency, when I refer to vehicular cycling, what I mean is a broad, generalized approach to bicycle planning grounded in three general assumptions or principles: 1. Most

cycling will be carried out on the existing roadway system, if for no other reason than programs to build specialized bicycle facilities will never be given the adequate, consistent levels of funding needed to make them workable except in a few special communities. 2. Almost all utility cycling is, and will continue to be, done by willing, if not enthusiastic recreational cyclists as an extension of their pre-existing interest in cycling. This assumption is highly questionable. It is poorly supported by the available quantitative data, if not actually refuted by it. It is, nevertheless, a foundational presumption of vehicular cycling across the entire ideological spectrum and so it is included here. 3. Educational programs are the most cost-effective way to increase cyclist safety, even if they may not be attractive to the population as a whole. Whether this is a sound assumption depends primarily on the veracity of Point No. 2 above. After all, if most utility cyclists do not like to bicycle, and do it only out of extreme need or coercion, then it is, of course, unrealistic to expect that they can be persuaded to take the time or trouble to improve their skills through educational programs. Generally, I am talking about “vehicular cycling” as something that government does, not something that cyclists do. It is a government policy, or rather, an interrelated set of government policies. However, there is nothing that prevents individuals, nongovernmental organizations, and for profit corporations from participating in the formulation, implementation, or change in these policies. Vehicular cycling, in the way that I use it in this book, is not an educational program, a cycling philosophy, or a cycling method. Whether one believes that a cyclist should ride 18 inches or six feet out from the curb; or whether a cyclist should queue up with the cars at a red light or work his or her way up to the front of the line; or whether one should turn left from the traffic lane or within the crosswalk is largely irrelevant as to whether one is really talking about vehicular cycling, or has wandered off on some irrelevant (or heretical) topic. It is of no interest as far as this book is concerned.

Epperson, Bruce D. (2014-11-03). *Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991* (Kindle Locations 1730-1736). McFarland. Kindle Edition.

2. Vehicular cycling is a unique, indigenous American style of bicycle planning. At various times it has been known under other

generic labels, including bicyclism, vehicular inclusion of cycling, and bicycle driving. It has also gone (and now goes) by various proprietary names and trademarks, including *Effective Cycling*, *Street Smarts*, *Smart Cycling*, *CAN-Bike*, *Bikeability*, and *Cyclecraft*. While each has had its own particular shade of meaning, all have usually shared four common elements. They are: (1) a primary emphasis on cyclist proficiency; (2) a reliance on the existing roadway network to provide its basic infrastructure system; (3) a reliance on the standard (or at most, a barely modified) motor vehicle code; (4) a preference for programmatic government activities such as safety classes or “pot hole hotlines” over capital improvement projects such as bikeways or trails; or, alternatively, a desire that government have no involvement in cycling matters whatsoever, usually based on ideological grounds.

Epperson, Bruce D. (2014-11-03). *Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991* (Kindle Locations 3909-3916). McFarland. Kindle Edition.

4. Vehicular cycling is something government does, not something cyclists do. Vehicular cycling is not an educational program, a philosophy of cycling, or a riding method. There are now many educational programs that claim to teach “vehicular cycling.” All this means is that such a course teaches the student to ride in a roadway environment in which no special provision has been made for bicycle use. It is the government policy upon which this assumption is based that truly comprises vehicular cycling: i.e., it is unrealistic to expect that any significant public effort can and will be made to provide for bikeways or other roadway modifications any time in the foreseeable future, so cyclists are themselves responsible for their own safety and welfare.

Epperson, Bruce D. (2014-11-03). *Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991* (Kindle Locations 3952-3957). McFarland. Kindle Edition.

In the following two quotations, Epperson displays his inability to understand the most important point in the vehicular cycling system. That most important point is clearly stated in the definition: operating in accordance with the rules of the road for drivers of vehicles. Vehicular

cycling is based on the principle that most traffic obeys the rules of the road. Epperson displays his lack of understanding when reporting about the book *The Art of Urban Cycling*, by Robert Hurst. Hurst was, maybe is, a bike messenger. He tells us that urban traffic is chaotic, without rules, and that the cyclist's job is to get ahead by any means available, violating the rules of the road whenever convenient. In short, Hurst advocates cycling as a bike messenger.

It is quite clear that Hurst's style of lawless bike messenger cycling, being mostly, but not entirely, on the roadway, earns Epperson's stamp of approval as conforming to what Epperson considers to be vehicular cycling.

In its ordinary usage among cycle advocates, Effective Cycling is a subset of the broader class of riding techniques called "vehicular cycling," which, in turn, is one of a number of schools (or philosophies, or approaches) to bicycle planning. To be an adherent of Effective Cycling is to be an adherent of vehicular cycling, but as Robert Hurst demonstrates well with his The Art of Cycling, one can be an adherent of vehicular cycling while rejecting some or all of the beliefs of Effective Cycling. This is because Effective Cycling is a closed system.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2744-2748). McFarland. Kindle Edition.

Forester was apoplectic. This was a heretofore unheard of crisis— someone who wasn't trying to attack the holy canon, but instead rewrite it! "Hurst invents imaginary defects in vehicular cycling," he wrote in a review. It is important to note that Forester is not only accusing Hurst of misrepresenting his book Effective Cycling, but of misinterpreting the entirety of vehicular cycling, which is rather like accusing one of misrepresenting the entire discipline of philosophy or economics.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2736-2740). McFarland. Kindle Edition.

6 Psychology

Over the years I had noticed a great difference in views about cycling in traffic. The British view and that of my American cycling associates held that cyclists were equal to motorists in status and ability, while typical Americans held that cyclists were inferior to motorists in status and ability. I had watched Motordom proclaim that cyclists' inferior status was justified because the greatest danger to cyclists was same-direction motor traffic, and that cyclists were incapable of obeying the rules of the road. The evidence completely disproved Motordom's proclamations.

I learned that Motordom's proclamations were consistent back to the 1920s. I observed that all the furor about cyclist-safe bikeways was based only on protection from the minor hazard of same-direction motor traffic while conforming to Motordom's desire to get cyclists off the roadway.

The obvious explanation for this deeply emotional denial of the known facts about cycling in traffic was an American phobia concerning same-direction motor traffic.

Epperson argues that I stole this idea from some British politician's speech arguing that motorists were damned by original sin. Well, I'm not a Calvinist who believes in original sin, and I neither heard nor read that speech.

It was the loss of his appellate argument, combined with Alan Gayfer's excoriation in the pages of the British magazine Cycling of Ernest Marple's brainless "man is conditioned by original sin" comments at the Royal Society in 1967 that led Forester to his "cyclist inferiority complex," essentially a fanciful pop-sociology resurrection of the short-lived 1930s ideology known as Technocracy. How can you define "reasonableness" on what the average citizen thinks (or even the average American cyclist thinks) when 98 percent of them are blithering idiots? That's like having an election to decide what the yield strength of T-6061 aluminum frame tubing ought to be. The social order has become too complicated to be understood by politicians or their constituents. Control must be placed in the hands of honest, selfless engineers and scientists.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2352-2354). McFarland. Kindle Edition.

A decade later, Marples's "conditioned by sin" argument would be repeated by the American advocate John Forester under his most famous (and outrageous) ideological expostulation, the "cyclist inferiority complex." 53

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 1310-1312). McFarland. Kindle Edition.

The evidence shows that typical American views about cycling in traffic are based on two completely disproved beliefs: that same-direction motor traffic is cyclists' greatest danger and that cyclists are unable to obey the rules of the road for drivers of vehicles. Same-direction motor traffic causes only about 5% of car-bike collisions while turning and crossing movements cause about 95%.

A phobia is a greatly exaggerated fear of a minor danger that causes its victims to act contrary to their best interests, such as cyclists being frightened off the roadway or cycling in the dangerous curb-hugging manner.

Of course the idea that the kind of bike planning Epperson and other bicycle advocates desire is based on a phobic fear absolutely outrages them. Therefore, Epperson responds by describing the theory of the cyclist inferiority phobia as being an "outrageous ideological expostulation", without considering the facts justifying it.

Also Epperson satirizes the concept that engineering systems ought to be designed according to engineering principles rather than by politicians. That is a real issue. Should the American bicycle transportation system be designed according to Motordom's desires supported by the emotions of a population systematically frightened by Motordom for the past eighty years? Or should it be designed according to accepted traffic-engineering principles and the known accident facts?

How do you choose to answer that question?

Eventually, Forester went so far out as to try to assign a DSM-IV code number to the cyclist inferiority complex from the Diagnostic and Statistical Manual of Mental Disorders.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2357-

2359). McFarland. Kindle Edition.

Epperson should not make such claims without a documentary basis. Since the American Psychiatric Association does not recognize the cyclist inferiority phobia, that would mean applying to them for such recognition and inclusion in DSM-IV. Let him search for such documentation.

Epperson displays the difference between the cyclist-inferiority view and the cyclist-equality view in the following statement. When the believer in cyclist-inferiority views vehicular cycling he considers it to be an aggressive attempt to force motorists to change their ways. On the other hand, the believer in cyclist equality, in vehicular cycling, simply looks on his behavior as cooperating with all the other drivers in a routine that all understand.

The difference boiled down to a question of whose behavior was intended to be changed through the educational program. DeLong's program was internally focused: it concentrated on improving the cyclist's ability to use his or her bicycle. Forester's program, on the other hand, was external: it stressed the cyclist's ability to gain mastery over the other road users around him in any particular situation. "How do you handle motorists when you change lanes?" Forester asked. "Are you confident, or are you betrayed by uncertainty ... yes, you'll never do it right until you feel deep down inside that you are as important as motorists." 23

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 1559-1564). McFarland. Kindle Edition.

7 Driver Competence

Driver competence is a contentious subject in the field of bicycle transportation. Vehicular cycling is based on the principle that traffic moves reasonably predictably according to the rules of the road for drivers of vehicles, and that cyclists can, and should, join the process. A different view is that of Hurst, who in his book *The Art of Urban Cycling* argues that traffic is chaotic, justifying any act by cyclists that gets them ahead. Motordom has always argued that cyclists are unable (in

what way is never stated) to obey the rules of the road for drivers of vehicles, and has used this argument to support its bikeway policy. Bicycle planners and other bicycle advocates hold that bikeways should be designed for safe operation by cyclists unable to obey the rules of the road, cyclists without traffic cycling ability.

Epperson tries to support this argument by claiming that early modern highway design was based on improving the skill and motivation of drivers, and that when this failed the designers switched to designs that require fewer skills and forced good behavior. Epperson states this argument in the three next quotations.

Unlike the era's civil engineers, who assumed that many, if not most, drivers would act incompetently or even deliberately anti-socially, Eno and McClintock believed that drivers could be habitualized into uniform, acceptable traffic behaviors requiring a minimum of capital facilities that could be used to guide, not coerce, cooperative habits.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Location 168). McFarland. Kindle Edition.

The highway engineer, trained in civil engineering, not the social-science oriented public administrator, started to emerge as the dominant figure. Traffic planners sought to exercise social control to achieve a better, more skillful, more cooperative driver, but the new highway engineers simply assumed that drivers would act incompetently, inattentively or even antisocially, and incorporated these assumptions into their designs.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 850-853). McFarland. Kindle Edition.

The brief reign of the "traffic engineer" had yielded to the much longer era of the "highway engineer." The attempt to achieve "driver perfectibility" or even "good driver citizenship" was replaced by the preeminence of the road designer, with residual supporting roles for the "3-E" safety councils, mostly to work with insurance companies on promoting high school drivers' education programs and to lobby for legislation to identify

and remove habitual offenders from the road.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 872-875). McFarland. Kindle Edition.

Epperson provides no evidence to support his claim. If, indeed, highway design had advanced in such a way as to make traffic operations safe and effective without the need for the rules of the road, then we would see the abandonment of many of those rules. But we have not seen that. While many details have been added to the rules of the road (for example the rule for four-laned roads, added to the UVC in 1962), the traffic operating principles have remained the same. It is true that we see fewer reverse-cambered or changing-radius curves nowadays, and that we have reasonable distance for weaving movements, and are notified of intersections and such well in advance, but these are conveniences that do not change either the level of skill required or the relevant rules. Epperson's argument is clearly false.

But Epperson advances this clearly false argument to support his other desire. He argues that since motor-highway design has advanced to make incompetent motoring safe without rules of the road, the same should be done for bikeway design. Bikeways should be designed for cyclists who do not obey the rules of the road for drivers of vehicles.

But a half-century later this same controversy would flare again in the sphere of bicycle planning. Was the bicycle planner analogous to Eno and McClintock's "street traffic planner," a social reformer of cyclists, or a post-1930 "highway engineer," who assumed incompetence (or, to be more precise, a diverse and unpredictable range of competencies) within the target audience, and planned and built accordingly?

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 880-883). McFarland. Kindle Edition.

It is reasonable to consider whether the current level of driver skills and rules is necessary for operation of America's motor-dependent society, or whether, as Epperson appears to argue, safe

road design has eliminated the need for driver skill in obeying the rules of the road. While there are a plethora of opinions, I know of no scientifically sound study of this specific question. In short, nobody has been allowed to make the experiment of letting loose into traffic cars controlled by completely untrained people. The issue seems indubitable.

But I remember anecdotes about adult New Yorkers who moved to the suburbs in the decades after WW II. These people had not grown up with motoring and suffered traffic troubles simply because they failed to understand traffic operations. The same things are said about other people who grew up in environments without access to motoring. It appears as though the driving skills that are represented by the rules of the road are necessary for useful traffic operation. The cyclist who is riding in traffic has exactly the same need for traffic skills as do motorists.

Why does Epperson raise the argument about safe road design eliminating the need for driving skill? I suggest it is because he advocates bikeways that allow cyclists without any traffic skills to operate safely and conveniently. The issue about that is whether such bikeways can be produced and introduced into the existing American traffic system. Although this is the key problem facing bicycle advocacy, facing Epperson's profession of bicycle planner, Epperson shows no awareness of how it is to be solved.

8 Traffic Laws

In his history of bike planning Epperson has rather neglected the subject of traffic laws. He denigrates their consideration, as shown by the patronizing air of the following two quotations.

Differential traffic rules should, Eno argued, always be based on divergent movements or travel paths, not on vehicle identity, unless absolutely necessary. This emphasis on universality, to the point of legalistic rigidity, is a key point among some adherents of contemporary vehicular cycling, typified in the straightforward, if somewhat reductionist, neologism: "Same Road— Same Rights— Same Rules," popular among some club cyclists. 53

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 821-824). McFarland. Kindle Edition.

It was against this background that the early voices of protest against the shunting of cyclists off to infrequent, inconvenient, and often substandard specialized facilities began to be heard: Fred DeLong in 1970; Jim Konski and Clifford Franz in 1972; and John Forester, Morgan Groves, Harold C. Munn, Bill Wilkinson and others in 1973.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 205-207). McFarland. Kindle Edition.

To return back to 1973, what little response Forester's February Bike World article criticizing Ted Noguchi's bikeway system did receive was generally positive, but its muted response showed just how low a priority the "bikeways" issue had among club cyclists. Also, at this time, Bike World was still mostly a West Coast regional magazine, trying to crack into the national market by positioning itself as an edgier alternative to the establishment Bicycling. As a result, Forester hadn't gained many adherents, and those he had persuaded usually focused more on mandatory sidepath than laws on the installation of the facilities themselves. All that changed in October 1973.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2362-2367). McFarland. Kindle Edition.

Epperson argues that the incendiary CPSC affair, as fanned by me, created cyclists' suspicions that destroyed proper bike planning. That's the thesis of his book, as is shown above, but the connection is very weak. A much stronger argument is available, that centering on anti-cyclist traffic laws as creating cyclists' opposition to bike planning. That has been the basis for the active bicycle transportation controversy since 1970. But using the traffic laws argument would both disclose the depth of my involvement and the weakness of the bike planning movement.

Of course club cyclists were more concerned about the laws, like Palo Alto's, that made sidepaths and bike lanes mandatory, than they were about the laws that enabled building those facilities. (And Palo Alto's ordinance was quickly repealed once my trial was over.) So long as cyclists could avoid using those facilities where

they were dangerous or inconvenient, they were relatively harmless.

It was not until the government's California Statewide Bicycle Committee showed the extent to which it was proposing statewide mandatory bikeway laws, in 1974 and later, that such concerns lighted up cyclists' opposition to such laws.

California bicycle clubs had formed a statewide interest group in 1972 called the California Association of Bicycling Organizations (CABO). To keep it going, its expenses were underwritten by the L.A.W. and the Bicycle Institute of America. In April 1973, CABO convinced Senator James Mills to introduce Senate Concurrent Resolution 47 (SCR-47) to form a State Bikeways Committee and report back on needed legislative changes by early 1975. Members were selected in late 1973 and committee meetings began in early 1974. In the fall of 1974, a series of public meetings was held in various venues around the state. The final report was prepared between October 1974 and February 1975. John Forester was selected as CABO's representative.³⁷

*37. Thus, Forester's activities at the time were being financially supported by the League of American Wheelmen and the BIA through CABO. CABO history and findings: Alan Wachtel, "A History of CABO," *Bicycle USA* (December 1980): 12– 14. History of SCR-47: Richard Rogers, *SCR 47 Statewide Bicycle Committee: Final Report*, February 10, 1975 (Sacramento: CalTrans, 1975), 3; Darryl Scrabak, "Bike Law: Trend Setting Report on Bike Law Emerges in California," *Bicycling* 16, 6 (June 1975): 72– 75; Darryl Scrabak, "NCUTLO Spells Power," *Bicycling* 16, 12 (December 1975): 55– 59.*

*Epperson, Bruce D. (2014-11-03). *Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991* (Kindle Location 1755). McFarland. Kindle Edition.*

Epperson's statement that I was "being financially supported" by LAW and CABO is not only totally false but the reverse of the truth. I was supporting CABO and LAW, and California's government, by supplying my services at no cost to them. All of the expenses that I incurred in these activities I paid out of my own funds.

I do not know whether Sen. Mills was motivated by CABO. (When I conversed with Mills

many years later he had forgotten about all of this.) But I learned, later on, that CABO's latest meeting had been wasted in a debate about how to pronounce CABO, after which the organization went to sleep.

Having worked out the vehicular cycling principle as part of my defense against Palo Alto, when I read the newspaper article saying that the California Statewide Bicycle Committee (CSBS) would be holding its second meeting, I decided that I should go. I noted that the committee consisted of eight representatives of Motordom and no cyclists. I misled them by saying that I thought that cyclists should obey the traffic laws, and by that deception they selected me as the one cyclist allowed on the Statewide Bicycle Committee. The deception was unintentional; they thought that I was saying that cyclists ought to obey any traffic law for cyclists, while I meant the rules of the road for drivers of vehicles. It was only after I had started a newsletter publicizing the anti-cyclist activities of the committee that CABO became informed, and later elected me as their president. All this has been well published; Epperson should have known it.

But the real driving force behind SCR-47 was its chairman, Richard Rogers, who had just been appointed to direct CalTrans's office of bicycle facilities. He was himself a skilled cyclist, in addition to being an able administrator, and he realized that one of the primary problems was that the language in state statute requiring cyclists to "ride as near the right-hand curb on [sic: or] the edge of the roadway as practicable." This language, taken from the UVC, was ambiguous when it came to such things as left turns and overtaking slower vehicles because the UVC did not define a bicycle as a vehicle, but only gave them the rights and duties of a vehicle, a status that was itself rather obscure and open to self-interested interpretation.

*Epperson, Bruce D. (2014-11-03). *Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991* (Kindle Locations 1756-1761). McFarland. Kindle Edition.*

In August 1974, Rogers took the unusual step of seeking a formal interpretation from the California Attorney General's office as to the "ride to the right" language, and whether it over-rode the more general language in the traffic code that applied to such things as left turns, overtaking slower vehicles and obstructions, and so on in

California statutes.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 1769-1771). McFarland. Kindle Edition.

Not really true. I became a friend of Dick Rogers until his end. Dick was the best bicycle coordinator California ever has had. I last saw him at the site of a cycling controversy on the San Francisco Presidio. By that time, the way that Caltrans had treated him had led him into drunkenness, and he lived only a short time thereafter. At the start of the committee's operations, Dick barely knew how to ride a bicycle. But by participating in the committee's controversies and by joining club rides, he became a skilled cyclist.

Epperson's account is full of misunderstandings of basic traffic law. Cyclists are given the rights and duties of drivers of vehicles by UVC 11-1202 and by CVC 21200. Contrary to Epperson's misunderstanding, that is specific. Anything that the rules say drivers must do, or must not do, applies to both motorists and cyclists. Furthermore, in traffic law, contrary to Epperson's misunderstanding, vehicles don't have rights; only drivers and pedestrians have rights. Also, contrary to Epperson's misunderstanding, whether a bicycle was defined as a device or as a vehicle would make no difference to this issue, for the relevant traffic law applies to persons riding bicycles, not to what carries them. That same situation applies today, even when bicycles have been defined as vehicles.

Furthermore, Epperson has his history all wrong. When I joined the CSBC I was under the impression that it was supposed to consider problems regarding traffic law for cyclists, and I was never told otherwise. Therefore, because the far to the right law (CVC 21202) was a major cause of traffic problems for cyclists, I started out arguing for its repeal. Only later did I discover that the real purpose of the committee was to implement Motordom's desire for mandatory bike lane and mandatory sidepath laws. Therefore, from the very beginning I was raising the questions and problems that were anathema to Motordom. Rogers wrote to the Attorney General in response to my questions. (Humorously enough, the AG returned two answers. The first answer was the

wrong one, that cyclists had to stay at the edge of the roadway at all times because the specific language for cyclists overrode the general language about turning left. Only when the AG's office realized their mistake, they produced a correct answer, that cyclists could move to the center of the roadway when preparing for a left turn, because the far to the right requirement was a general one for cyclists, so that the specific requirement about turning left overrode it. Rather than admit their mistake, the second document carried the same number as the first, pretending that the first had never existed.)

Much of the remaining operations of the CSBC concerned my opposition to the proposed mandatory bike lane and mandatory sidepath laws. I argued that the mandatory side of the road law (CVC 21202) and the proposed mandatory bike lane law and the proposed mandatory sidepath law all endangered cyclists by contradicting standard traffic operations as shown by traffic engineering principles and practice, and the rules of the road for drivers of vehicles. Many votes were eight to one against me.

California state law did not mention "sidepaths," only "bikelanes." There was a sharp dissention in the committee between (reportedly two) members who wanted bikelane use to be made mandatory and (reportedly another two) members who equally strongly felt that all references to bikelanes in the statutes should be deleted. By a 5-4 vote, the committee's moderate center recommended a law that essentially applied the "ride to the right" exceptions to bike lanes, but without the "taking the lane" condition for narrow lanes. That is, cyclists were required to use the bike lane except to turn left, avoid obstacles, etc.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 1844-1849). McFarland. Kindle Edition.

More of Epperson's errors. The purposes of the CSBC were to get enacted mandatory bike lane and mandatory sidepath laws. The only reason California state law does not now mention sidepaths is because I stopped the CSBC from recommending a mandatory sidepath law. I demonstrated that sidepaths were so dangerous that those organizations installing them were likely to be sued for killing or injuring cyclists.

Throughout the committee's operations, I argued against laws that contradicted standard traffic operations and the rules of the road for drivers of vehicles. These were the far to the right law (CVC 21202) and the proposed mandatory bike lane law and the proposed mandatory sidepath law. I hoped to repeal 21202 and to prevent adoption of the other two by demonstrating situations in which each of these would endanger cyclists and because they discriminated against cyclists to make motoring more convenient.

Here's what happened. I scared Motordom that mandatory sidepaths would get its members sued for large sums by killing or injuring cyclists. The problems with bike lanes and the side of the road law did not appear to be so deadly, and Motordom was determined to keep cyclists inferior to motorists and shoved aside as much as possible. Therefore, they modified both laws to say that they did not apply for the most obviously dangerous situations. That is not what I had hoped for, but none of this would have occurred without my program of opposition to such laws while a member of the CSBC, or without the reports of my actions sparking the rebellion among cyclists against such laws and the kinds of facilities that they tried to force us to use.

The California side of the road law was then adopted into the UVC as 11-1205.

The prior language made bicycles subject to all of the rights and duties of a vehicle, except for those provisions "which by their nature can have no application." Some Effective Cycling adherents argue that the cyclist himself should have the sole legal power to determine if a given provision "by its nature can have no application," a so-called subjective legal interpretation.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 4026-4029). McFarland. Kindle Edition.

This is more of Epperson's erroneous ideas. So far as I know, no vehicular cyclists have used the argument that such and such a law can not, by its very nature, apply to cyclists. For example, there is a law that a vehicle's tires have to have at least 3/32 inch tread groove depth, while some bicycle tires don't have that even when new. But we have never had to argue such points.

We vehicular cyclists have argued on the necessity of applying cyclists' judgment not about

the applicability of a law but about its judgmental aspects. That is, is it practicable to ride on this portion of roadway? How far in advance of making a left turn may the cyclist leave the curb lane? These are matters of judgment inherent in the statute itself that have arisen in various cases that I know of. These are instances of whether a cyclist's judgment about the situation is more accurate than a police officer's judgment about the same situation. These are not what Epperson calls "subjective legal interpretation" of whether or not a statute applies.

There have been times in which cyclists, of one sort or another, have argued that laws don't apply to them, going so far as to argue that the vehicle code is written for motorists and does not apply to anyone else. These are radicals who have nothing to do with vehicular cycling.

9 Forester and Bikeways

9.1 Palo Alto Sidepaths

Epperson tries to persuade the reader that the Palo Alto sidepath affair that pushed me into cycling advocacy had little import and that I deliberately and falsely inflated its importance. I suggest that you read Epperson's account before reading my account.

But he also was being deliberately vague about such things as whether he had actually been personally impacted by the new system (notice that he said he didn't see them until he drove past them one day); or whether he had really been ticketed by the Palo Alto police or had to go to them and ask them to issue him a violation ("I persuaded them to give me a ticket"); or whether he had actually been required to ride on the sidewalk at all by the literal language of the sidewalk signage. In a November 1973 letter to L.A.W. executive director Morgan Groves, Forester indicated that he had never ridden on the Palo Alto bikeway system until he and his partner, Dorris Taylor, had taken a recent reconnaissance run over them. 10

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2274-2280). McFarland. Kindle Edition.

It appears that the signs actually said "Bicy-

cles *Must Ride This Way on Sidewalk*" on one side and *"Bicycles Prohibited this Direction"* on the back. A 2003 plan prepared for the city of Palo Alto illustrated one of these by-now ancient fixtures and explained, "Many years ago the city signed these sidewalks as bike paths. The signs attempted to ameliorate one of the negative impacts of sidewalk riding, i.e., wrong-way riding, by installing the message 'bicycles prohibited this direction.'" The plan recommended they be removed and they were taken out in 2004. Thus, it appears the intent of the city was to allow cyclists to use the sidewalk, not force them to use the sidewalk. 9 In February 1973, Forester wrote a magazine article for *Bike World* sharply critical of the new system. However, unlike Fred DeLong's comments the previous November in *Bicycling*, his article tended to be digressive and hard to follow in places. "He was an arcane technical kind of guy without much in the way of persuasive skills," explained Morgan Groves, then the League of American Wheelman executive director. All too often, in an effort to make himself understood, he would resort to theatrics that would descend into histrionics. "He can't argue without being rude," his father, the author C.S. Forester, complained to a friend in 1949, when Forester was just nineteen. But he also was being deliberately vague about such things as whether he had actually been personally impacted by the new system (notice that he said he didn't see them until he **drove** past them one day); or whether he had really been ticketed by the Palo Alto police or had to go to them and **ask** [both of these emphases are by Epperson] them to issue him a violation ("I persuaded them to give me a ticket"); or whether he had actually been required to ride on the sidewalk at all by the literal language of the sidewalk signage. In a November 1973 letter to L.A.W. executive director Morgan Groves, Forester indicated that he had never ridden on the Palo Alto bikeway system until he and his partner, Dorris Taylor, had taken a recent reconnaissance run over them. 10

Epperson, Bruce D. (2014-11-03). *Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991* (Kindle Locations 2265-2280). McFarland. Kindle Edition.

For a start, consider what the signs actually said. I have seven of Palo Alto's signs. After Palo Alto had rescinded its ordinance and removed all

of the signs that it could remember, it forgot to remove seven of them, which I later collected. Four state: BICYCLES / PROHIBITED/ FROM STREET/USE SIDEWALK on one side, with the other side blank. Two signs state: BICYCLES / MUST USE / SIDEWALK/ bike logo/ BIKE PATH on one side with the other side: BICYCLES / MUST USE / SIDEWALK / BICYCLES PROHIBITED THIS DIRECTION. One states: BICYCLES / PROHIBITED FROM STREET / BEYOND THIS POINT / USE SIDEWALK, with the other side blank. The prohibition parts of the signs were written in accordance with the Palo Alto ordinance.



The signs relevant to this part of the account were erected along Middlefield Road, which was part of both my and Dorris's bicycle commuting routes, and which we used for other purposes also, by both bike and car. At this time I received the news by the *Christian Science Monitor*; therefore, I had missed the flurry in the local paper about the proposed Palo Alto bikeways (PAB) plan.

The first I knew about PAB was observing the signs along Middlefield Rd prohibiting cyclists from the roadway. Epperson thinks he has made a big point by emphasizing the word *drove*. Since I used Middlefield more frequently by bicycle than by car, it is probable that I observed from my bicycle, but the means is irrelevant; *drove* applies to either.

I knew that sidewalk cycling incurs great danger of car-bike collision, and that British cyclists had fought this battle in 1937 and won. Therefore, I continued cycling on the Middlefield

roadway whenever my travel needs took me that way. I also had no idea of what law authorized the roadway prohibition.

Epperson thinks that he has made another big point by suggesting that I had to ask Palo Alto to prosecute me. One day a police officer in a car drove alongside me and suggested that I use the sidewalk. I continued cycling. He tried louder suggestions. I continued cycling. If he was operating within the law, then he had to say so. To test that supposed law, I had to discover what that law was and what it said. So I told him, while cycling, that if he wasn't going to issue a ticket he could just go away, or he could issue a ticket, for which purpose I would stop. So I got the ticket that enabled me to test that law.

Epperson also thinks that he has made another big point by saying that I "*had never ridden on the Palo Alto bikeway system until [I and Dorris Taylor] had taken a recent reconnaissance run over them.*" Neither Dorris nor I had need for a reconnaissance run: the bikeway in question was the sidewalk of the street which we used frequently in our daily travels; it was clearly open to our frequent observation. Middlefield Road was a two-lane arterial with its intersections protected by stop signs.

Rather than making a reconnaissance run, I had decided that the bikeway I had so frequently observed had to be tested. I told Dorris that I was going to ride the bikeway at the same speed and using the same right of way that I used when cycling on that same roadway. I wanted her to tag along behind to see what went on. I knew what the predicted traffic hazards were. With foreknowledge and my very good bicycle handling skills I figured that I would probably get through.

The ride along the bikeway portion of Middlefield was horrendous. I was using all my foreknowledge and bicycle handling skills to escape several car-bike collision situations per mile. When Dorris caught up with me, I could see that her observations had whitened her face. When I compared the number of times we had cycled that roadway without any traffic dangers at all with the number of serious dangers (which most cyclists probably would not have survived) I experienced on that one ride, I concluded that riding on that sidepath was at least one thousand times more dangerous than riding on the adjacent roadway.

9.2 Other Epperson Comments About Forester

Epperson tries to argue the shakiness of my opinions, in that I once advocated but have now abandoned what has proved to be a good idea, bicycle boulevards (BB). Epperson provides no evidence that I have abandoned bicycle boulevards, and I do not recollect having abandoned them.

Epperson may be thinking of my analysis of the Bryant Street bicycle boulevard in Palo Alto. That BB ran north and south. To its west and its east ran two N/S arterials, A1 and A2. BB had very bad connections at each end. I argued that it was useful only to those living along it, because a cyclist traveling north or south entered and left Palo Alto by either A1 or A2. If he desired to use BB, he had to divert west, or east, to BB and then return to his original arterial. I argued that BB was useful to outsiders only if their path started with one arterial and ended with the other, not a large population. That argument applies to the Bryant Street BB; presumably it applies to very few others. Only Epperson would consider this to be abandonment of the bicycle boulevard concept.

Although he personally had abandoned "bicycle boulevards" by 1976, the idea itself caught on and became the backbone of Palo Alto's bikeway system, replacing most, if not all, of the earlier 1972–73 facilities.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2300-2301). McFarland. Kindle Edition.

Epperson tries to argue that I have claimed that "stop signs naturally didn't apply to highly experienced club cyclists." Epperson's statement combines his dislike of me and his distaste for cyclists who obey the rules of the road.

In particular, Forester believed that stop signs "naturally" didn't apply to highly experienced club cyclists. Therefore, they could roll through them, treating them like yield signs. "His actual riding behavior was pretty bad," observed Morgan Groves. "I once followed him through the streets of Washington, D.C., after a meeting and he just sailed through the stop signs. He knew so much that he felt the rules really didn't apply to him. I wasn't much impressed."

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2317-2321). McFarland. Kindle Edition.

First, my discussion is directed at all drivers, be they motorists, or cyclists of any level of competence. My criticism has always been that the stop-sign law is poorly worded, that the popular view of it is equally deficient, and that America has far too many stop signs. The stop-sign law requires a driver to stop, and then requires that, at some subsequent place and time, the driver yield to traffic approaching from the left or right. Yielding can be done only to traffic that can be seen approaching. To get to where a driver can see the locations from which traffic can approach often requires that he move forwards from the stop location. It is not the stop that provides safety; it is the yielding. The popular view emphasizes the stop rather than the yielding. American motorists have this figured out. They slip through the stop location to get to where they can yield, and then they yield.

The fact that I have explained this in books supposedly read only by “highly experienced club cyclists” enables deliberate falsifiers like Epperson to try to argue that I believe these facts fit only such cyclists. That’s not so. All that I argue is that all cyclists should be allowed the same realistic latitude that is allowed to American motorists with respect to stop signs.

Epperson thinks that he can portray me as a cruel partisan in the following anecdote:

At a national bicycle planning conference later that year, Forester told the audience that when the chairman of his city’s bikeway committee had been struck by a car “we all laughed uproariously. We’d have laughed harder had he been injured seriously,” and described his own cycling technique as “outrunning all those police cars.”

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2460-2462). McFarland. Kindle Edition.

Epperson fails to see the irony in the chairman of the bikeway committee knowing so little

about safe cycling that he commits an obviously dangerous traffic error and rides himself into a collision with a lawfully operated car. Of course, our tendency to laugh at irony was increased by the bitterness of our recognition of the incompetence of the people put in charge of us.

9.3 A Strange Epperson Claim

Epperson makes the claim that consumer goods rationing in Britain (except for gasoline and tires) did not occur during WW II but occurred only after WW II, caused by Britain’s “vain attempt to keep its empire together.” This is false. I can remember the start of rationing of some items before I left in February 1940. For this matter Wikipedia is reasonably accurate. One wonders what persuaded Epperson to make such an absurd statement.

World War II left Britain economically devastated. The nation had thrown everything it had into the war effort: over a quarter of Britain’s Gross National Product between 1938 and 1945 had gone into war material. Worse, even after Germany and Japan surrendered, the government failed to demobilize in a vain attempt to keep its empire together and to maintain the façade of a great— power status it no longer possessed. In 1937, the nation had spent £ 6 million per year on defense. Between 1946 and 1950 it averaged £ 209 million a year. Except for gasoline and tires, no household consumer rationing was needed during the war itself, but eggs, butter, meat, clothing, sugar and coal were all regulated at one point or another between 1945 and 1950, with a few controls extending to 1954.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 1400-1405). McFarland. Kindle Edition.

10 Bicycle Planning

Epperson brings up one of the central considerations for bike planning; who to serve and how, as stated by advocates from Davis.

Bob Sommer acknowledged that the design cyclist the Davis group had in mind was the average junior-high-school bicycle user: Laws, practices and policies pertaining to cycling must take

into account that the largest number of riders are under the age of 16. This does not mean that all bike laws, like TV shows, should be written for ten-year olds ... [but] one cannot pretend that the bikeway struggle is between two groups of purists— touring cyclists and amateur ecologists— and ignore the millions of school age cyclists as non-persons. 12

Some experienced cyclists had complained that riding bikeways at roadway-like speeds was “a 1,000 times more dangerous than riding on the roadway.” His response was equally brusque: slow down or hang up the bike. “Arguments against laws and policies of the bike reformers ... are motivated explicitly by self interest,” he retorted. “It is true that a bikeway system intended to provide safe riding for children will crimp the style of more experienced riders ... [but] the old solutions based on a small number of experienced and competent individuals no longer are effective.” Donna Lott was just as blunt: “None of us had ridden in a double century or ever would. We liked to do our daily travel around town by bike, and wanted to preserve that feature of life in Davis.”

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 1966-1971). McFarland. Kindle Edition.

The statements by Sommer and Lott are ridiculous. Junior-high-school cyclists are perfectly capable of obeying the rules of the road for drivers of vehicles, and so far as continuing to cycle around Davis as they had been doing, there was nothing stopping that. Davis is a small city with mostly low-speed streets. These statements suggest that consideration should be placed on the other motive that has been given, the feared need to control the expected great number of student cyclists from the new university campus.

Society may choose, as it has in some locations, to provide travel facilities for cyclists who won't obey the rules of the road for drivers of vehicles and who accept the generally longer trip times so incurred. But provision of such facilities does not justify prohibiting from roadways those cyclists who prefer the safety and convenience of obeying the rules of the road for drivers of vehicles. For a reasonable bicycle transportation system both groups of cyclists ought to be served.

In the next statement, Epperson praises the

death of amateurism and the rise of professionalization in what I think he considers the field of bicycle transportation planning. But he is carelessly ignorant. He claims that “bicycle accidents” should be investigated by the same expert “one would call for a car, truck or train crash” and that there is “no longer any room for the home-brewed ‘bicycle transportation engineer’”. Train crashes are generally investigated by railroad specialists because their field is so different from highway operation. Crashes caused by some feature of the bicycle are best investigated by a bicycle engineering specialist, who has little need for knowledge in bicycle-vehicle collisions. Even in bicycle-vehicle collisions, there is often need for special knowledge about bicycles that is not known to the typical specialist in collisions between motor vehicles. Epperson's dig at a “bicycle transportation engineer” is clearly criticism of me, for I think that I am the only person who uses that title.

After all of this confusion about “bicycle engineering”, Epperson gets down to the field of bicycle transportation. He claims that the “Davis research group” produced a “heightened benchmark of professionalism in the field of bicycle transportation”. Epperson surely is not referring to Bob Sommer and the Lotts, who were pure amateurs. Presumably he is referring to the DeLeeuw Cather consulting firm, who presumably charged for their services. Their work was insignificant and frequently erroneous. As for the current professional incarnation of bicycle planners, the Association of Pedestrian and Bicycle Planners, that is clearly professional in that it demands being paid while simultaneously refusing to comply with the standards of a technical organization, such as the Society of Mechanical Engineers.

In the old days, the club cycling elders could turn their folk expertise into money. But after bicycle engineering became professionalized, the same expert one would call for a car, truck or train crash would be the person to consult for a bicycle accident. There was no longer any room for the home-brewed “bicycle transportation engineer.” The most important legacy left by the Davis research group wasn't their facility designs, it was the heightened benchmark of professionalism in the field of bicycle transportation. 23

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2037-2041). McFarland. Kindle Edition.

In the next statement Epperson carries on again about the value of professionally done research in bicycling matters.

Bob Sommer recalls that “basically, the research by the Davis folks ended about 1972, and after that the money came into the field, and the Eastern engineering firms that had the connections got the money. So after that we all went back to our respective areas of interest.” But a frequently overlooked part of the Davis research group’s work was that only a relatively small part of it actually dealt directly with the design and implementation of bicycle facilities. Articles appeared in journals or published conference proceedings all through the 1970s on such disparate topics as transportation engineering, citizen participation in urban planning, survey methodologies, exercise physiology (optimal pedaling speeds and techniques), and even the possible averse impacts of Los Angeles smog on the participants at the upcoming 1980 Olympics. Bob Sommer again: Because so little research on this work had been done on this topic, [cycling] investigators were able to pursue their specialized interests. Bill Adams used stationary bikes to test energy expenditure at different inclines. Mel Ramey modeled standards for one and two-way paths ... for Mel it was the chance to collaborate with psychologists and exercise psychologists about environment supports for cycling.... One student for his M.A. thesis put up cameras on the top of the 5-story dormitory building to study the left turns on Russell boulevard. Another student investigated the “shy distance” from bicycle riders left by motorists driving at different speeds.

Much of this data contradicted the anecdotal information and hoary legends that passed for the conventional wisdom so carefully passed from one generation of club cyclists to another, or from racing coaches to their riders. Thus, it threatened to subvert the social pecking order within the American club structure that had been inherited from England and Europe. It is small wonder that black-wool-clad cycling elders derided such “white coat” data, even when it had nothing to do with roadway construction.

Epperson, Bruce D. (2014-11-03). Bicycles in American Highway Planning: The Critical Years of Policy-Making, 1969-1991 (Kindle Locations 2026-2029). McFarland. Kindle Edition.

Consider the research that Epperson considers valuable and contrary to the knowledge that cyclists had built up over a century. The work on hill climbing concluded that cyclists could not be expected to climb much, when it was known that many cyclists climbed much more (greater altitude gain) on their daily commuting trips. The work on optimal pedaling speeds and techniques, while partially correct, was known to be useless the moment it was published, because it recommended a technique that tired the cyclist far too quickly. The work on shy distance was done under conditions far different from those on typical roads. The research work that Epperson praises produced theories that were contradicted by empirical facts long known to club and racing cyclists.

Epperson appears puzzled that this research was derided “even when it had nothing to do with roadway construction”. Epperson has no concerns with “roadway construction”. One has to presume that by those words that he is referring to some aspect of bicycle planning. But the technical aspects of bicycle planning are just as defective as this research into other aspects of cycling.

11 Bicycle Planning Generally

The remainder of Epperson’s book on bicycle planning appears to be largely a history of the legislation concerning bikeway authorization. This concerns money without concerning, so far as I saw, anything about the technical features of the bikeways thus authorized to be built. I presume that this is largely correct, but it is not a subject of interest to bicycle transportation engineers.