



vantage point

Cycling Plans

I recently took a bad bicycle spill on a rerouted stretch of a local trail that now features four changes of surface and three reverse curves in somewhat less than half the original horizontal distance for the same amount of elevation drop. The result for me was “ouch”. At the final transition, which included about an inch and a half drop from new slick asphalt down into mud at the last reverse curve, my bike skidded out from under me. I went over the handlebars and broke my tibia and scapula (my helmet saving me from anything more than a mild concussion). It turns out that I know someone else who had a bike accident in exactly the same spot, although she only broke her arm. What’s the problem? Bad design, not bad cyclists.

Bicycle lanes and commuter trails and recreational trails have been hot topics in planning and transportation circles for quite some time. These are important factors in the reduction of traffic congestion and the attractiveness of communities, but more than merely setting aside an unused space for bicycles we should be looking at the suitability of specific locations and their existing features. Many of us have been involved in these discussions in our professional capacities as design professionals as well as in our roles as interested and concerned citizens. But are we covering all the important bases?

In my quest to find out about standards for bicycle transportation, I discovered an array of technical documents as well as regulations covering everything from design to construction, maintenance, and operation. The Federal Highway Administration devotes a lot of web space to the topic of trails, starting with accessibility standards from both the Americans with Disabilities Act and the Architectural Barriers Act. In

my area, I do see a number of interesting adapted bicycles operated by people either unable to use or lacking one or both legs.

It isn’t all about trails. Sometimes in the process of designing streetscapes I hear something to the effect of bicyclists being in the way of traffic and needing to be kept off the roadways. But aren’t bicyclists simply nonmotorized traffic? We do need to figure out how to keep cyclists and motorists safe from each other, and that doesn’t mean eliminating either one of them. Looking through some state and federal codes opened my eyes to required provisions for adequate and appropriate accommodations for nonmotorized traffic and how much planning guidance is available.

Not all bicycle routes are separate facilities. In the Philadelphia area there are painted lanes in the roadways. Some of these take unusual twists and turns, obviously favoring cars and trucks, for instance sharply



ISTOCKPHOTO.COM © ONOONTOUR

rerouting the curbside bike lane to between the motorized right turn and straight-ahead lanes. One particular example of this is especially upsetting, as it is a lane used by wheelchair-bound individuals trying to get from the rehabilitation center to the stores two blocks away. Most of them use motorized chairs, a fair number operating these by mouth. Sudden maneuvers to avoid aggressive drivers (this is the East coast) are not within the chair operators’ abilities.

To summarize what I’ve been reading between my physical therapy sessions, here’s my own short (non-comprehensive) list to consider during your next transportation planning encounter.

Purpose: Will the transportation facility, whether road or trail, be for single or shared use? Various combinations of traffic modes mean we will need to modify our plans (remember Frank Lloyd Wright: “Form follows function”) for both safety and usefulness. Consider if users will include pedestrians, bicycles, cars, ATVs, snowmobiles, horses, skaters, skate boarders, etc., and plan to accommodate them safely.

Location (general): Related to purpose, is this proposed facility going to be useful and attractive to those it is intended to serve?

Location (in relation to other traffic): For facilities shared between motorized and nonmotorized vehicles in particular, safety concerns must prevail. Aside from the wheelchair example above, are cyclists likely to be “doored” on the driver’s side? I have seen cyclists knocked into the path of approaching traffic and it’s not pleasant. However, designs calling for bicycle paths between a parking lane and the curb do not prevent “dooring” from the car’s passenger’s side.

Width: Some municipalities require developers to set aside trails but the allowable minimum widths, sometimes as

small as five feet, are inadequate even for two people walking side by side much less a cyclist passing a walker with a dog.

Markings: Is the location well marked separating each kind of traffic? Does signage warn of upcoming intersections between roads and trails (on both facilities)? Traffic control and signage for both bikers and other mobile forces fall into this broad category. Are there distance markers so that people can make sound decisions about whether to push on or turn around?

Grade: While downgrades are important, also pay attention to crowns and sloping to the side, just as in any road design. Super-elevation may not be the best bet for some facilities. Watch for grade intersections with roads and railroad tracks, and the angle of those intersections.

Surface: One trail I've used was paved with recycled material that incorporated ground glass. It looked pretty but wreaked havoc on tires. Facility surfaces should be even and well maintained, constructed of material that will not cause slippage (I hate loose gravel and slick steep ungrooved pavement).

Drainage: Placing grates in a trail or bike lane is inadvisable. If unavoidable, the angle to the path of traffic is a critical safety issue, as is appropriate warning signage. Groove pavement that does not drain well to avoid slickness.

Sight distance: Because I was at the bottom of steep series of curves when I realized I could neither get up nor drag myself off the trail, I screamed long and loud to make sure no one would crest the hill and run into me. Enough said. But thank goodness for my "field voice".

Education: This is the most complicated part. All forms of "traffic" must respect one another. Cyclists should not be whipping between moving cars on city streets or mowing down pedestrians on shared trails. Motorists should actually look at what is surrounding them on the street so they don't hit someone "by accident." (When I commuted by bicycle long ago, one oblivious driver knocked me into a parked utility truck with the passenger side mirror.) We all need to be aware, courteous, and safety minded. ■

Wendy Lathrop is licensed as a Professional Land Surveyor in NJ, PA, DE, and MD, and has been involved since 1974 in surveying projects ranging from construction to boundary to environmental land use disputes. She is a Professional Planner in NJ, and a Certified Floodplain Manager through ASFPM.

SURVEY
MARKING PRODUCTS

- SURVEY MARKERS & MONUMENTS
- CONCRETE MARKERS & DRILL BITS
- SURVEY NAILS & WASHERS
- REFLECTIVE TARGETS & PRISMS
- FLAGGING & WITNESS POSTS

U. S. DEPARTMENT OF INTERIOR
UNLAWFUL TO DISTURB
ELEV. FT.
ABOVE SEA
MT. MCINLEY
EXPEDITION
1989
FOR INFORMATION WRITE WASHINGTON D. C.
GEOLOGICAL SURVEY

WITNESS POST
PLEASE DO NOT DISTURB
NEARBY

SM
SURVEY
EYR

SURVEY MARK

Berntsen

REQUEST A CATALOG
877.868.9176

FIND US ONLINE
www.berntsen.com

MARKING THE INFRASTRUCTURE OF THE WORLD™ | WWW.BERNTSEN.COM