

By Andrea Connell



## ARE CYCLE TRACKS SAFER?

by Carolyn Szczepanski • Illustrations by Chris Escobar



### CALCUTTA, INDIA BANS CYCLING

The Indian government has banned bicycles, hand carts and other non-motorized vehicles from 174 major roads in the city of Calcutta. Despite the fact that commuters make more than 2.5 million trips per day via bicycle (Calcutta is the only city in India where cycle journeys outnumber car trips), police say the roads are far too crowded for bicycles. The streets of Calcutta are very narrow and non-vehicular traffic is slowing cars down to an average speed of 18mph. Dilip Kumar Adak, deputy commissioner of the city's traffic police department, said, "Cycles slow down traffic and removing them will make the streets safer and traffic speedier."

### BIKE LANES HELP CARS GO FASTER IN MANHATTAN

Apparently, claims in a 2011 New York Post article that cars would be stuck in traffic longer due to bike lanes being installed "all over town" have not materialized. According to a DOT report called the Sustainable Streets Index, the average speed of vehicles driving in the Central Business District, south of 60th Street in Manhattan, rose by 0.3 percent. The speeds were collected by taxicab GPS systems. The report says the quicker pace is not the result of fewer cars in the city. The number of cars entering the CBD has remained the same. The report also mentions that on the first three months of Citi Bike's bikeshare program, customers logged 2,545,867 trips covering a total distance of 5,550,424 miles.

According to the Green Lane Project, there were more than 100 green lanes on the ground in 32 cities by the end of 2012, a number that is expected to double by the end of 2013.

**T**here's simply no denying that protected bike lanes—or cycle tracks—are increasing and broadening the number of people who ride.

In fact, I see it every single day.

When I first moved to Washington, D.C. the short ride up 15th Street from my office to my yoga studio was a lonely ride. Pedaling in the right-hand lane, I was almost always the sole cyclist swimming in an ocean of cars—and many drivers weren't shy about shouting their annoyance that I was delaying their bee-line home.

Now there are moments when, along that same stretch, we bicyclists outnumber the automobiles. And it's not just veteran commuters who swap their suits for spandex and carry their cargo in slick panniers. It's women in skirts, their purses carried in wicker baskets, and still wobbly (but beaming) new riders of Capital Bikeshare. It's the vision of bicycling becoming truly mainstream.

Long a hallmark of world-class cycling cities in the Netherlands and Denmark, on-street bicycle facilities, separated from automobile traffic with planters or bollards or parked cars, are spreading across the country.

So why are cycle tracks the new darlings of bike advocates and many city planners alike? Like we've seen on the streets of Copenhagen, where moms ride with their kids for day-to-day travel, these new facilities get more people riding.

**"ESPECIALLY FOR NEW OR LESS-EXPERIENCED RIDERS, IT'S MORE COMFORTABLE TO PEDAL AT A SELF-DETERMINED PACE WITHOUT CARS FLYING PAST A FOOT FROM YOUR HANDLEBARS."**

The primary reason seems intuitive—and is backed up by research. Especially for new or less-experienced riders, it's more comfortable to pedal at a self-determined pace without cars flying past a foot from your handlebars. For instance, a study published in 2012 surveyed bicyclists on the one-way Southwest Boulevard cycle track in Portland, Oregon, and found 71 percent of riders

In Washington, D.C., the number of bicyclists jumped more than 200 percent on 15th Street after the installation of the two-way cycle track. In Chicago, a protected lane on Kinzie Street boosted the number of morning rush hour bike commuters by 55 percent, and northbound bike traffic in the Windy City's new Dearborn cycle track has increased more than 110 percent. In New York City, the Prospect Park protected lane spiked the number of bicyclists by 190 percent and the Columbus Avenue cycle track saw increases of 56 percent.

reported feeling safer in the protected lane, including 94 percent of women.

But does perception reflect reality? Are these popular facilities ensuring or undermining our safety on the streets?

### THE VEHICULAR CYCLIST VIEW

According to vehicular cyclists, the very term "protected bike lanes" is an oxymoron. Vehicular cycling is a mode of thinking, and riding, that purports that drivers of any sort of vehicle, be it car or bike, should abide by the rules of the road to achieve the best balance of safety and convenience.

The most prominent spokesman for this school of thought is undoubtedly John Forester, the author of *Effective Cycling*. Forester cites his analysis of a 1977 study by the National Highway Traffic Safety Administration to emphasize the wrong-headed nature of separated facilities: the overwhelming majority of car-bike collisions, he notes, are caused by turning and crossing movements, and only a tiny sliver are the result of straight-going motorists overtaking straight-going cyclists. "American bikeways have always been designed in defiance of scientific knowledge to prevent the 5% of car-bike collisions while ignoring the 95%," he says.

Vehicular cyclists emphasize that, despite the potential protection on the straightaway,

**"BY TAKING THE BICYCLIST OUT OF THE TRAFFIC FLOW, VEHICULAR CYCLISTS ARGUE, YOU CREATE MORE POINTS OF CONFLICT AND MAKE CYCLING MORE DANGEROUS."**

many cycle tracks place bicyclists in a non-intuitive position on the road—especially at intersections.

By taking the bicyclist out of the traffic flow, they argue, you create more points of conflict and make cycling more dangerous.

By taking the bicyclist out of the traffic

**FEEDBACK SPORTS**

FEEDBACKSPORTS.COM



**RAKK**

**FAMILY BIKE STORAGE.**

LINK 'EM TOGETHER



US Made  
CX Brakes

**PAUL**  
paulcomp.com

**INTRODUCING THE ALL NEW LUMINA SERIES™**  
**SMALLER...LIGHTER...BRIGHTER**

SIMPLY OUR MOST VERSATILE  
no compromise bike light ever offered.

- Up to 700 Lumens
- 3 Models - 350, 550 & 700
- All New Handlebar Mount
- Lightweight Body
- High Performance **CREE** LED



WWW.NITERIDER.COM

**NR**  
NiteRider  
Technical Lighting Systems



flow, vehicular cyclists argue, you create more points of conflict and make cycling more dangerous.

When it comes to modern-day cycle tracks specifically, Forester cites a 2007 study that analyzed the safety of cycle tracks in Copenhagen. It concluded: "The cycle tracks constructed have resulted in increases in accidents and injuries 9-10 percent." Also in Copenhagen, a 2008 study that investigated the safety of one-way bike lanes, separated from the road by a curb and several inches of elevation, found that "injury accidents have increased by 14 percent, and that the number of accidents with serious injuries or fatalities has increased by 14 percent." (But they also noted: "None of these results are statistically significant.") And a 2012 analysis of new bicycle facilities in Washington D.C. reported that, on 15th Street, crashes increased by 10 percent after the installation of the two-way cycle track.

"Protected bike lanes are enormously popular because they best exploit the cyclist-inferiority phobia," Forester says. "They appear to eliminate the dangers of same-direction motor traffic, but they do not decrease the number of crossing and turning movements that cause 95% of car-bike collisions, and their design greatly increases the difficulty, for both cyclist and motorist, of performing those movements safely."

## THE CASE FOR CYCLE TRACKS

For John Pucher, a researcher at Rutgers University, arguments like Forester's have a major hole: "If cycle tracks are so very dangerous, as the vehicular cyclists claim, then why do countries with extensive protected bike path systems have such low injury rates?" Pucher asks.

"Countries like the Netherlands and Denmark, with very extensive systems of protected bike paths, have cyclist injury rates per kilometer cycled that are only a tenth as high as in the U.S.," Pucher says. In fact, the injury rate for bicyclists in the U.S. is a staggering 26 times greater than that of the Netherlands.

Forester emphasizes that the increased safety for cyclists in such northern European nations is the result of many factors beyond infrastructure—but a growing body of research is calling into question the notion that cycle tracks increase crashes. A growing body of research is calling into question the notion that cycle tracks increase crashes. For instance, a 2009 review of 23 different studies related to the impact of facilities on injuries concluded that "purpose-built bicycle-only facilities (e.g. bike lanes, bike paths and cycle tracks) reduce the risk of crashes and injuries compared to cycling on-road with traffic or off-road with pedestrians."

Two years later, a study published in 2011 compared the injury rates on streets with and without protected lanes in Montreal. Not only were there 2.5 times as many bicyclists in the separated bike facilities, but cycle tracks had a 28 percent lower injury rate, too.

Despite vehicular cyclists' concerns about car-bike conflicts, a recent study analyzing the injury location of 690 bicyclists in Toronto and Vancouver who had been hospitalized in 2008 and 2009 also found that far more cyclists—479 versus just 211—were injured at non-intersection sites. The authors reported that the presence of a bike facility—say, a cycle track—did not increase the likelihood of injury at an intersection, and decreased the likelihood of injuries at non-intersection sites. That same investigation showed that cycle tracks had the lowest risk of injury: just 1/9th that of major streets with no bike facilities.

One place increased safety is evident is in New York City. While the Prospect Park protected bike lane was controversial at the start, there's no debating the positive impact. Since its installation, the number of bicyclists has tripled and the number of crashes resulting in injuries—not just for bicyclists but pedestrians and motorists, as well—dropped by more than 60 percent. That benefit held true at other sites in the city: in the protected lanes on First and Second Avenues, bicycle ridership shot up by as much as 177 percent, while injury-causing crashes fell 37 percent.

In a study published in 2013, researchers examined the crash rates for 19 different cycle tracks in the U.S. and Canada and found that the car-bike crash rates were dramatically lower in the bike-only facilities. While car-bike crash rates in the U.S. overall exceed 3.75 crashes per million kilometers cycled, for the cycle tracks studied, that rate dropped to 2.3.

## CONTROLLING CYCLING IN GEORGIA

DC.Streetsblog.org reports that cycling has become so popular in northern Georgia, Rep. Carl Rogers (R-Gainesville) has introduced a bill to limit how and where cyclists can ride. House Bill 689 was introduced in response to complaints from drivers that it is inconvenient to encounter so many cyclists on the road. If passed, the legislation would require cyclists to buy a \$15 annual license and purchase a license plate for their bike or face a misdemeanor offense and a \$100 fine. The law would allow the state and localities to "restrict when and where cycling is allowed." Advocacy group Georgia Bikes! is watching the case closely.

## TEEN RIDES 1,851 MILES TO RAISE FUNDS FOR SIERRA CLUB

Zeke Gerwein of Berkeley, California rode his bike from San Diego to Seattle this past summer to raise money for the Sierra Club's Climate Change Campaign. Gerwein undertook the challenge as a service project for his bar mitzvah. He rode the 45-day, 1,851-mile trip accompanied by friends and family along the way, and donated 100 percent of the money raised to the Sierra Club. Gerwein says, "The Sierra Club is trying to stop global warming. They are trying to shut down coal plants in the U.S.A and are protesting the Keystone XL pipeline. It is really important to stop sea-level rise and climate change, or else it won't snow in Minnesota, and Kansas will become beachfront property. Well, maybe not that extreme. But, you know what I mean." Kids today!

**“OF COURSE, THE RESEARCH SUPPORTING EACH SIDE IS CRITICIZED BY BICYCLISTS AND RESEARCHERS OF THE OPPOSING VIEWPOINT.”**

bicyclists and researchers of the opposing viewpoint. Forester suggests that much of the recent research backing the safety of cycle tracks is flawed due to “basic errors stem[ming] from traffic-engineering ignorance.” On the other hand, many published researchers question studies cited by vehicular cyclists because they reference sidewalks or multi-use paths rather than true cycle tracks, analyze outdated facility designs that have been improved in recent years, or over-emphasize small increases in crashes that could be the temporary result of motorists and bicyclists getting used to the new street design.

Now a heavy-hitter is getting ready to weigh in: the U.S. Department of Transportation. In August, the Federal Highway Administration (FHWA) announced it would undertake a study to understand the safety impact of cycle tracks. “There is a growing body of research on cycle tracks in the U.S. and Canada indicating that, when they are designed well, they do not increase bike crash rates,” the agency wrote. “There is also growing evidence that cyclists prefer cycle tracks.”

That growing body of research was enough for the feds to give the green light to protected lanes, even before their findings are complete. A few days after the call for consultants to study protected lanes, the FHWA endorsed the Urban Bikeway Design Guide, created by the National Association of City Transportation Officials, that dedicates more than 20 pages to the design and implementation of cycle tracks.

While it’s instructive to look closely at the numbers, it’s also important to step back and look at the whole landscape.

**“WHILE IT’S INSTRUCTIVE TO LOOK CLOSELY AT THE NUMBERS, IT’S ALSO IMPORTANT TO STEP BACK AND LOOK AT THE WHOLE LANDSCAPE.”**

directly into my path—and both of them happened in the 15th Street cycle track.

But I still ride that route everyday because, compared to being the lone cyclist in the sea of rushing cars, it feels safer. It’s impossible to ignore the incredible growth and diversity of bicyclists who now pedal with me up that key arterial route. And it’s hard to think this protected lane isn’t a positive transformation that’s making our city a better place to bike.

In fact, even the 2007 study cited by vehicular cyclists that showed an uptick in cycle track crashes, agreed that the big picture favors protected lanes. “The radical effect on traffic volumes resulting from the construction of cycle tracks will undoubtedly result in gains in health from increased physical activity,” the authors write. “These gains are much, much greater than the losses in health resulting from a slight decline in road safety.”

**THE FEDS WEIGH IN**

Of course, the research supporting each side is criticized by bicyclists and researchers of the opposing viewpoint.

Of course, the research supporting each side is criticized by bicyclists and researchers of the opposing viewpoint.



*Built by a Father,  
For his daughter*

**Bike Friday Family Tandem**

Bike Friday Co-Founder Alan Scholz [stoker] designed the Family Tandem to be an affordable, heirloom bicycle-built-for-two. Two generations, that is. Now it’s more affordable than ever. **Starting at \$1,398**

*Call for our Special Offer  
for Bicycle Times readers*

PROMO CODE: 2083



**BIKE FRIDAY**  
Custom folding and travel bicycles  
hand-crafted in Oregon SINCE 1992  
800-777-0258 // BikeFriday.com

**Touring/Road/Mountain/Commuter/Tandem**

**BICYCLE TIMES**

DIGITAL OR ANALOG

**\$16.95** FOR 6 ISSUES

bicycletimesmag.com/subscriptions