

# POPULAR SCIENCE

## Protected bike lanes make the roads safer—even if you're in a car

Cyclist-friendly streets have fewer injuries and deaths overall.

By [Kat Eschner](#)  
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More than 40,000 people die each year on American roads and millions are injured, [according to](#) the National Safety Council. Cities across the country are trying to reduce the human cost of driving, and [new research](#) offers evidence that creating bike lanes might do the trick.

We've known for a while now that cycling is one of the most dangerous ways you can use the road, says study author Wesley Marshall, a civil engineering professor at the University of

Colorado Denver. But even though cycling is dangerous for cyclists, cities that have a larger proportion of cyclists tend to have safer roads overall—for pedestrians and drivers, too.

"Bike friendly cities shouldn't be safer," Marshall says. After all, cyclists are the most threatened road users, and more of them on the streets should mean more injuries and deaths. Somehow, though, they *are* safer, as another paper he wrote in 2011 showed. To figure out what was going on, Marshall and PhD candidate Nicholas Ferenchak, now a professor at the University of New Mexico, crunched thirteen years (2000-2012) of demographic and traffic data from 12 big American cities: Dallas, Houston, Austin, Memphis, Oklahoma City, Chicago, Denver, Kansas City, Seattle, San Francisco, Minneapolis, and Portland.

"It was just a huge data collection process," says Marshall. The paper looked at how people were using roads in cities and neighborhoods, who those people were, and how many injuries and deaths happened on their roads. A lot of the demographic data they collected—on topics like religious affiliation and voting records—turned out to have no effect on the safety question. But the most powerful variable did catch the team off guard.

"It wasn't the safety in numbers that some people expected, in terms of there just being more cyclists on the road," says Marshall. "It was actually the infrastructure we built for them."

Crucially, the kind of bike lanes that the researchers think are most useful are separated by a meaningful barrier from the car-use part of the road. Marshall cites downtown Vancouver's divided bike lanes, which put a planter between bikes and cars, as a good example. Painted lines on the road don't constitute real bike lanes: "Paint doesn't really protect anybody," he says.

Marshall and his team don't really understand why bike lanes help make roads safer for non-cyclists yet, but he suspects it has something to do with the fact that bike lanes often decrease the amount of road available to cars, causing drivers to move more slowly. But it matters more that it works, he says: "I'm really interested in just making cities safer."

Larger efforts to reduce traffic deaths can often get mired in a difficult-to-achieve to-do list, he says: this study points to one thing cities can do relatively easily.

"Things like protected bike lanes, if we really do them right... then all of a sudden, you get a whole different population out there able to bike in most cities." From kids to reluctant adults, it makes the city more accessible. That means fewer cars on the road, which means less traffic, cleaner air, and fewer carbon emissions. It also offers some relief to strained or overcrowded public transportation systems. In other words, it's not just cycling enthusiasts who stand to gain a lot from a bike-friendly city.

Mark Plotz, Program Director at the National Center for Bicycling and Walking, says evidence like Marshall's can help get non-cyclists behind the idea of bike lanes by making them understand how they'll benefit. Besides just making streets less accident-prone, bike lanes can make routine traffic more tolerable for pedestrians and homeowners, too. "Most people think that the cars traveling past their homes are going too fast. And actually, this perception that cars are going too fast holds true whether one is looking out the front door, or trying to cross the street, or biking along the street," he told *Popular Science* in an email. "Many bike facilities require reapportionment of the pavement. This can include removal or narrowing of driving lane—this is commonly referred to as traffic calming."

The information from this study doesn't generalize to smaller cities, which is something Marshall is hoping to study next. But there's reason to think that the relationship between cyclists and road safety persists: other large cities around the world—including New York, whose traffic data wasn't comparable to that from the 12 cities studied because of its size—are showing "similar big-picture trends," says Marshall. More cyclists, somehow, mean a safer city.