



The Future of Crossing the Street

Boston drivers are bad, but Boston pedestrians might be worse. Now some very smart people think they've got the answers to help everyone play nice on our roads.

By Billy Baker
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It's a Friday afternoon in Boston, and I'm being forced to stand 10 feet off the curb on Causeway Street across from North Station - just stand there in the street - because I've off ended Christopher Hart by using the wrong word to describe an idea. The word I used was "wild." In retrospect, it wasn't right. I think it slipped out because the idea reminds me of the Wild West. But I don't regret using the word, because it forced Hart to teach me a lesson.

A few minutes before, I'd been sitting with Hart inside the Institute for Human Centered Design, a nonprofit advocacy group on Portland Street, just down from Causeway, where Hart is the director of urban and transit projects. We were discussing Shared Space, a street design concept becoming popular in parts of Europe (the German town of Bohmte started turning its entire main street into a Shared Space last fall), and I ask Hart if he thinks such a "wild" idea could ever work in Boston.

"It's not a wild idea," he counters quickly. "It existed for thousands of years. It was only with the advent of sewers and fast-moving vehicles - horses and trolleys and cars - where you start seeing curbs and really defining where uses go."

The curb is a big enemy in the Shared Space philosophy, because the curb is a separator, dictating what belongs to the pedestrian and what belongs to the vehicle. There are other enemies as well: signs, lines on the road, even traffic lights. Pioneered by Dutch traffic

engineer Hans Monderman, who died earlier this year at age 62, Shared Space gets the street naked, removes all physical and psychological barriers, and forces cars and pedestrians to share. The concept makes the street safe by making it dangerous to proceed without paying attention. We have some elements of Shared Space here; in Downtown Crossing, Winter and Summer streets have no curb and, in the mornings, commercial vehicles mix with pedestrians. But the full Shared Space experience is hard to feel until all the clothes come off, which is why - as we start to cross Causeway - Hart stops a third of the way to the median.

"We're going to stand here," he says. "The cars will go around."

My first reaction is to look at Hart and admire his commitment, his passion for changing the world. This warm feeling lasts until the light turns green and I see two taxis - it had to be taxis - coming toward us.

IF HART'S GOAL IS TO MAKE THE SITUATION FEEL DANGEROUS, it's working. And not just on me, because the taxis actually go around us, slowly, staring at us, wondering what the hell we're doing on their street.

"So what have we done here?" Hart asks. "We've extended that curb 10 feet out. We're forcing drivers to pay attention, and we're forcing them to slow down even just a little bit because their field of vision has changed."

The light turns the other way, and now the drivers coming out of Portland Street who want to make a right have to contend with us. The situation repeats. They see us. They move slowly around us. A few even go behind us. But no one blares a horn. No one gives us the finger. No one does anything except share.

This is exactly what the father of Shared Space had in mind. Wendy Landman, the executive director of the nonprofit pedestrian advocacy group WalkBoston, says, "One of the pieces that Monderman talked about is that you have to give responsibility back to the drivers and pedestrians to behave rationally." (An oft-quoted Monderman mantra is "If you treat drivers like idiots, they act as idiots.")

I grew up in this city. "Don't play in the street" was a mantra of my parents. I know our drivers are notoriously bad (and, in my opinion, our pedestrians are worse). I don't need Christopher Hart to make the streets of Boston feel dangerous for me. Yet for the 10 minutes we stand in the middle of Causeway, it feels surprisingly safe. We established

our presence on the street, and drivers behaved differently. You could say the fact that I was holding a notebook and writing things down changed the way they behaved, because any journalist will tell you that it does. And you could say that no one wanted to hit the guy in the wheelchair (Hart has cerebral palsy). But I don't think it's either. In those 10 minutes on Causeway Street in the middle of a beautiful spring day, we had, as Hart put it, "changed perception."

For decades, our urban street system has focused almost exclusively on the efficient movement of cars. "When you walk down one of these European streets and see people walking, entire families riding bicycles together, people sitting outside having an evening drink, you think, 'This is the way a city should be,'" says Steven E. Miller, the executive director of the Healthy Weight Initiative in the nutrition department at the Harvard School of Public Health. He believes walkable streets will go a long way toward mending chronic health problems. "And you feel astounded that America hasn't caught on to that effect."

But there is hope. Boston, like other US cities, is making tweaks to create safer streets. (Cambridge is making even bigger tweaks.) Groups advocating for pedestrians and bicyclists, along with some forward-thinking engineers, architects, and urban planners, are working to change our perception of the street. They're pushing "human-centered design" or "complete streets" or "context-sensitive design." In a city where walking is the most dangerous form of transportation (over the last five years, the number of pedestrians killed by cars was double that of drivers and passengers killed in car accidents), it's a movement that is long overdue.

THE FINE FOR JAYWALKING IN THE state of Massachusetts is one dollar. This, many experts say, is not the problem. The threat of punishment does not stop people from jaywalking, just as it does not stop people from running red lights, cheating on their taxes, or killing each other. People jaywalk because they do not trust the system to serve them in a fair and reasonable time. So they serve themselves. If you look at an intersection as essentially a series of lines waiting to move, then from the pedestrian's perspective, it's a broken queue. Dick Larson, an engineering professor at MIT who is a leading authority on the science and psychology of waiting in line - he's been referred to as "Dr. Q" - thinks we can go a long way toward mending these broken queues if we start thinking about the mind-set of the pedestrian.

"In the psychology of queuing," Larson says to me one day in his office, "if you manage people's expectations for the duration of the queue, people will behave." How do we do

that? Larson thinks we need to look to the London subway system, elevators, and Disney World for inspiration. "When you ride the subway in London, there's a little display that tells you how long until the next train arrives. When you're waiting for an elevator, there's usually a light up above that tells you what floor it's on. When you enter a line for an attraction at Disney World, they put a sign up that says '45-minute wait from this point.'" These devices, Larson says, are "psychologically relaxing" for the person. You know you've got 10 minutes until the next train; that's time to take out a book or put on your headphones. The elevator's on the sixth floor and you're on the fifth; you deduce it's probably not worth it to take the stairs. Disney tells you it's 45 minutes from this point; you might decide to eat first, or use the bathroom, or abort. (Interestingly, Larson says that Disney always overestimates the time, so that when you actually get on the ride in 35 minutes, you feel as if you've made out.)

Drivers expect to have their needs served in due time. The pedestrian? Unsure. Do I have to push the button, or will it just give me the walk signal? And when? So what we do, Larson says, is serve ourselves. "Most of the time, it's safe if you're a rational person. That's when people jaywalk. But a car can come out of a driveway, and that's when trouble happens." Larson has a suggestion to counter this self-service risk-taking: "We have these clocks that show you how much time you have to cross the street until you're in grave danger." Why not do the opposite - tell pedestrians how long until they get to cross the street? This sort of information, Larson says, has been shown to keep people from taking risks.

A lot of the experts I spoke with like Larson's idea. But the problem, many say, is that pedestrians would not be happy if they found out how long they had to wait. Many of Boston's intersections with traffic lights have cycle lengths of 90 to 100 seconds. Off - peak, they may go down to 80 seconds or less. The catch, according to Ann Hershfang, one of the founders of WalkBoston, is that studies have shown that pedestrians will wait just 30 seconds before they get restless and cross.

Four years ago, the city of Boston established a plan to reduce pedestrian wait time with "automatic concurrent walk" signals. When cars get the green, the pedestrians traveling in the same direction get the walk signal, and turning vehicles have to yield to them. It's a system that's been in place in other cities for decades, according to Hershfang. Now, advocacy groups want Boston to standardize a "leading pedestrian interval," which gives pedestrians a three- to five-second headstart on cars with the green and gets them into the crosswalk and the sightlines of the turning drivers. This system is already in heavy use in Cambridge, which, as a city, gets applause from transportation advocates. (Cambridge

was recently named America's "Best Walking City" by Prevention magazine and the American Podiatric Medical Association. In another recent walkability survey, this time by Walk Score, Boston landed in third place.)

Boston is also re-timing intersections so that the "DONT WALK" signs actually mean what they're supposed to mean - which is, don't step off the curb. The city will do this by extending the "WALK" signal until the point where a relatively slow person would no longer be able to make it the other side safely. In the past, no matter the length of the light or the crossing, intersections would show "WALK" for seven seconds and then flash "DONT WALK" the rest of the time. The unpredictable length of the flashing "DONT WALK" has made it less of a command to stay on the curb and more of a psychological yellow light telling pedestrians that they can still make it if they step on it.

"LOOK AT THIS GUY RIGHT HERE IN THE SUIT. BOOM! Desire line." I'm on Causeway Street again, but this time I'm standing on the curb with Peter Gori, the Boston Redevelopment Authority's senior manager for public realm projects, and we're watching a man jaywalk diagonally across the street from the east exit of North Station. "He went on a straight beeline from the train to Canal Street. He's trying to get to the Financial District, and psychologically he thinks the fastest way to cross is diagonally at the middle of the block. That's his desire line. But you can't always put a crosswalk where that desire line is, because it might not be safe. You have to look at pedestrian mentality and then balance it against other modes of transportation."

The city is developing plans to redesign Causeway and 11 other main streets that extend out from the new Rose Kennedy Greenway to increase usability, reconnect downtown with the waterfront, and give the area an aesthetic cohesiveness. Causeway is a particular challenge because pedestrians emerging from North Station - the city's main north commuter hub - behave with the predictability of pigeons.

Causeway's evolution was dictated by the old Boston Garden and the old elevated trolley line. Gori says the street once had built-in impediments - trolley beams and heavy traffic and cabs parked everywhere - that blocked the sightlines to the other side of the street and worked to naturally "channelize" pedestrians to the crosswalks. But today Causeway is wide open and sunny, and less traffic travels the street because the I-93 on- and off ramps disappeared from its east end with the Central Artery. Now it's all desire-line opportunity. You have pedestrians leaving North Station heading south to the Financial District and Government Center, except that neither of the two station exits lines up with a street leading south, so many people take the diagonal. You have people heading west

to state offices and Massachusetts General Hospital, who have to cross an odd-shaped four-way intersection at Lowell Square. Then you have the rather large sports arena that sits on top of North Station, and fans leaving the Garden are heading to garages in all directions.

How do you accommodate all of these desires? The Causeway Street plan calls for painting the entire intersection so it stands out from the rest of the street and has a slight tactile feel for motorists passing over it (the city recently used this approach on parts of Huntington Avenue) and then, Gori says, trying to lead pedestrians there with little tricks like placing trash cans and newspaper boxes and benches near the corners. It's a lot of thought to accomplish a seemingly simple goal, which Gori characterizes as trying "to get pedestrians to take the extra four seconds to walk to the crosswalk."

So is it really as simple as getting pedestrians and drivers to behave within the system? Thomas Tinlin, the city's transportation commissioner, thinks that's a big part of it. "We live in an environment where everybody is in a rush," Tinlin tells me as we sit in a conference room inside the transportation department's offices in City Hall. "Our job is to look at it as, if everybody plays by the rules, how best to move everybody through the system. It would always baffle me to drive through the Financial District and see someone who just closed a billion-dollar deal walking through the cars without looking." The transportation department has a secure room inside City Hall known as the Traffic Management Center. It looks a bit like the war room in a Hollywood movie. Eight large screens and several smaller ones show real-time video of different intersections, and computer screens display the city's signal maps. A technician sits at a desk monitoring the ant farm, ready to make traffic-light adjustments. But fixing one intersection could create gridlock in the next. Everything they do, Tinlin says, is a trade-off. "Transportation commissioners of the past have always been about 'move the car, move the car.' The world is so different now. It's cars and bikes and wheelchairs."

The new reality, however, is still playing out inside an old reality. Greater Boston is artery-heavy; its main pedestrian streets are often choked with vehicles. Shared Space, Tinlin's engineers point out, is not designed for heavily trafficked streets. And tearing up and rebuilding the city is not realistic. Instead, there are many retrofits that are coming into vogue and appearing in a few nearby cities and towns to calm traffic and make the pedestrian safer.

A big one is to install things like bump-outs, bulb-outs, and curb extensions, which all function similar to what Chris Hart and I did on Causeway Street. They bring the

sidewalk out past the parked cars, closer to the edge of the travel lane, put the pedestrian into the sightlines of drivers, and shorten the distance the pedestrian has to cross to the other side of the street. These extended sidewalks can also improve bus stops. Because the curb comes out to the travel lane, it eliminates the need for a 90-foot bus stop (which can actually add a parking space or two), makes the on/off safer and easier, and keeps the bus from having to fight its way back onto the street - improving service and reliability and, advocates believe, encouraging more people to use mass transit, which they view as a huge component for making the entire system better. Of course, moving out bus stops means cars have less chance to pass a slower-moving bus, but advocates say you need to consider the fact that there could be more people on that bus than in the cars behind it, and the best way to balance the system is to consider how many people you move, not how many vehicles.

Another retrofit in wide use is the raised crosswalk, which brings the crosswalk level with the sidewalk and forces the car to have to come up onto the pedestrian's space, instead of the pedestrian having to step down onto the vehicle's territory (it also functions as a speed bump).

Reducing the number of vehicles helps the pedestrian situation across the board. Four-plus bucks a gallon and concerns about global warming have done their part to make driving a car sting both your wallet and your ethics; some want to make it even more painful (at least financially). In 2003, London launched "congestion pricing," which charges vehicles the equivalent of \$16 to enter the city center. (New York mayor Michael Bloomberg is pushing for a similar approach, though it's met much resistance.) Another movement calls for bringing on-street parking rates up to what you'd pay in a garage to discourage "cruising." Studies have found that in some neighborhoods, such as New York's Park Slope, up to 40 percent of the traffic is simply cruising around looking for a spot. Dick Larson, at MIT, has a grad student working on a thesis about cruising in some of Boston's more congested parking neighborhoods, such as the Back Bay, and Larson says his student is getting similarly high statistics.

JEFF ROSENBLUM SEES THE PEDESTRIAN WALK button as a symbol of inequity. Four years ago, he founded the advocacy organization LivableStreets Alliance because he thought the discussion about streets was missing the human element. "Push buttons are stupid, because cars don't have to push a button," he tells me one afternoon in 1369 Coffee House in Central Square, not far from his office as a transportation planner for the city of Cambridge. (An engineer by training, Rosenblum took the job because he says he believes Cambridge is on the right track for human-centered street issues; the city

recently converted two small streets in Harvard Square - Palmer and Winthrop - to Mondrianesque shared spaces. When I ask Rosenblum to point me to other cities and towns in the region with strong pedestrian initiatives, he says the lack of them is what concerns him.) "Why do we make pedestrians jump through hoops? The assumption is, 'You tell us when you'd like a little slice.' " Bicyclists and pedestrians are not fighting for space in the system, he says; they're fighting for scraps. "When the system is laid out such that it works for everybody, people will behave. If a pedestrian has to push a button, the system isn't working."

There is no silver bullet that will fix everything, Rosenblum says, but the first step is readjusting how we value things. "Part of the problem is that the study of traffic engineering is so numerical, it's easy to quantify. But how do you value something like a bike lane? When you start talking about value, that's when it becomes sticky," he says, his face telling the story of someone who's tired of losing this nuance argument. "It's more of an art than a science, which makes it difficult for people to handle, because they want numbers, they want proof."

After we say goodbye, I head to Central Square and cross the street. Central Square is a busy intersection, but it's a pretty good one for pedestrians. It has concurrent walk signals with a leading pedestrian interval, and a countdown clock that has a chirp for the visually impaired. The sidewalks are wide, and they ramp down at the corners to gently lower pedestrians to street level. There are bike lanes on both sides of Massachusetts Avenue. The Red Line has three entrances and exits on either side of the street. And there's a dedicated bus loading and unloading area that's blocked off from traffic by a median, and an elevated crosswalk that leads to it at Green Street. It's not a pretty intersection, by any means, but it's got some of the right elements. Still, I also happened to be in Central Square on St. Patrick's Day morning, shortly after a 29-year-old Harvard graduate student named Isaac Meyers was killed in a crosswalk by a Shaw's supermarket tractor-trailer that hit him and dragged him for nearly a block.

It seems crazy that something like that could happen, ludicrously unlikely. But it's not. Last year in Boston, 693 pedestrians were reported struck by vehicles. That's a little more than the number of runs the Red Sox allowed last year. Fourteen of those pedestrians died, more than twice the number who died in motor accidents. I don't know what happened in any of those cases, who did what wrong. In many instances, I'm sure the driver and the pedestrian shared the blame. Which makes me wonder how it might have been different if, instead, they'd shared the street. ■