

Charles Montgomery Happy City

Transforming Our Lives
Through Urban Design

"Happy City is its own opiate: an eye-opening, pleasurable, utterly necessary tour through the best and worst neighborhoods of our urbanized world. Charles Montgomery shows us the way to a beautiful city." —Andrew Blum, author of *Tubes*

9. Mobilcities II

Freedom

Automobiles are in no way responsible for our traffic problems. The entire responsibility lies in the faulty roads, which are behind the times.

—Norman Bel Geddes, 1940

Possession is becoming progressively burdensome and wasteful and therefore obsolete.

—Buckminster Fuller, 1969

In 1969 a consortium of European industrial interests charged a young American economist with figuring out how people would move through cities in the future. There was a lot of money to be made by whoever could divine the single technology most likely to capture the market in the coming decades. It was the era of James Bond gadgets and *Apollo 11*. Everyone was sure that some fabulous new machine would emerge to change everything. Eric Britton dove into the task. He gave his clients a thorough accounting of even the most fantastical possibilities. He keeps the faded report on a shelf in his apartment, a few blocks from the Luxembourg Gardens in Paris's Sixth Arrondissement.

In hundreds of tables, Britton soberly cataloged and assessed the capacity, the energy consumption, and the maximum range of freight monorails, mini-monorails, conveyer belts, hydrofoils, multiple-speed moving platforms, and telecanapes, trains that slowed for boarding without coming to a complete stop. He estimated the congestion that might be caused by passenger bunching on high-speed walkways and the energy required for magnetic suspension. He rated technologies

that seemed fantastical at the time, only to reemerge decades later, such as hybrid cars and hydrogen fuel cells.

Britton was swept up in the excitement of the possibilities, but as he shared his dossier of futurist ideas with the people who were actually trying to solve the problems of cities in both the rich and developing world, he was forced to wipe the stardust from his eyes.

"I realized that none of these technologies was going to solve the problems of cities, not in Europe, not in the U.S.A., nor anywhere else in the world," Britton told me as I perused the now-faded report in his Paris apartment. "The future was not going to be defined by some kind of *deus ex machina* solution to all of our problems, but rather by step-by-step innovations and improvements applied to the tools we already had to work with."

Britton's clients were surprised. In the age of the Jetsons, it was unfashionable to suggest that after a couple of generations, people would still be getting around pretty much the same way they had since the dawn of the internal combustion engine, using trains, buses, cars, bicycles, motorcycles, and, as always, their feet. But history has proved him right. After the decades-long experiment with automobiles, governments simply do not have the money to completely transform urban infrastructure to suit any one radically new technology. Moreover, Britton came to realize that the question of mobility was not merely a matter of technology or economics, but one of culture and psychology, and of the vast variation in our preferences.

To depend on just one technology for urban mobility would be to deny human nature itself. Each of us has a unique set of abilities, weaknesses, and desires. Each of us is compelled and thrilled by a unique set of sensations. Every trip demands a unique solution. Britton likes to begin his journeys around Paris with a stroll down the glorious formal parterre of the nearby Luxembourg Gardens, where he can feel the bone-colored gravel crunching under his brown Rockports and cast his gaze on the patch of grass where he secretly buried his late mother's ashes. His neighbor prefers just to hop in a car and go. Another prefers to dash straight to the Métro. Another carries an iron bicycle down to the street, but walks it for a block before mounting it. Each journey, each aspiration, distinct. This, says Britton, illustrates the essential condition of society and of cities. We are all much more unique in our preferences than planners acknowledge.

"You may think that French people are very different from Americans. But if you look at statistics of their choices and preferences, you see that French people are more different from each other than they are from Americans."

The word for this condition is heteroscedasticity. It suggests that the bigger the size of any group, the harder it is to predict the variation in its characteristics or to find one solution to a problem involving huge numbers of independent variables and actors. "What heteroscedasticity tells us is that everything in cities is going to be a little bit complicated, a bit chaotic," said Britton. "So the first thing you have to do is say, 'Okay, I gotta be able to deal with chaos. There is no single answer to any problem in the city. The solution comes from a multiplicity of answers.'"^{*}

Cities should strive to embrace complexity, not just in transportation systems but in human experience, says Britton. He advises cities and corporations to abandon *old mobility*, a system rigidly organized entirely around one way of moving, and embrace *new mobility*, a future in which we would all be free to move in the greatest variety of ways.

"We all know old mobility," Britton said. "It's you sitting in your car, stuck in traffic. It's you driving around for hours, searching for a parking spot. Old mobility is you devoting a fifth of your income to your car and a good chunk of your tax dollars to road improvements, even as the system performs worse every year. Old mobility is also the fifty-five-year-old maid with a bad leg, waiting in the rain for a bus that she can't be certain will come. It's your kids not being able to walk or bike to school. New mobility, on the other hand, is freedom distilled."

^{*}It helps to compare cities and their transportation systems to forests. Rich, diverse ecosystems are always healthier and more resilient than monocultures. Just as a mixed forest can better survive a beetle infestation than a tree farm consisting of one variety of pine, a city that enables endless combinations of mobility will be much more resilient than a city that organizes itself around just one way of moving. It will adjust more easily to shifts in economics, human taste, and energy supply. It will fill in the blanks that master planners cannot see within the tangle of the complex urban system. It will make the most of technologies that can solve the problems particular to cities: tight spaces, congested streets, and, most of all, people with wildly varying preferences.

Britton is one of those people whose ideas seem too theoretical, too pie-in-the-sky to matter, until suddenly they change the world. In 1994, for example, frustrated with planners' myopic view of mobility, he proposed a modest experiment in which cities would simply abandon cars for a single day each year. It would be a way to break old patterns of thinking about streets. "A collective learning experience," is how Britton framed the proposal. He's the one who convinced Enrique Peñalosa to pull off the first big-city car-free day in Bogotá in 2000. Now more than a thousand cities have followed suit. As with the Ciclovía, each city that tries the experiment learns that streets can serve many more purposes than once imagined. People adjust. They find other ways to move. They surprise themselves.

But merely banning cars, Britton admits, is just as simplistic as depending on them entirely. His theory of freedom is better embodied in a proposal he made to the French Ministry of Environment in the early 1970s. At the time, moving by transit in Paris was a bureaucratic nightmare: you had to purchase as many as five different tickets simply to get across town. So few people took buses that Paris was considering abandoning the service. Britton suggested giving everyone in Paris a magic card that would automatically allow them passage on the Métro, trains, and buses. Just as proponents of Motordom once worked to reduce the friction of city roads that slowed cars down in the 1920s, Britton reasoned that by reducing friction and hassle, public transit would become a little more like driving.

Within a couple of years, Paris introduced the Carte d'Orange, a combination subway pass and identity card that gave its holder unlimited access to all of the city's public transportation for a flat monthly rate. The system did not make rides much faster or cheaper, but it chipped away at the anxiety and effort associated with each transit trip. No more fumbling for change or waiting in line for surly ticket agents. Within a year, bus ridership jumped by 40 percent. Gradually the card underwent a series of dynamic upgrades, evolving by 2008 into the Navigo pass, a chip-embedded ID card. With a wave of your Navigo card over an electronic reader, you can ride any Métro, bus, airport shuttle, regional train, express train, or tram in the city.

"The system transforms the city by transforming our choices, and ultimately transforming each of us, the same way a disabled person's

life is transformed when they can wheel their chair onto a bus," said Britton. Indeed, the Navigo pass has become a passport to the city, and a powerful distillation of the idea that everybody should be free to move across it. The unemployed get free access to all of Navigo's shared modes. "If you are poor, you can travel right across the city; you can go way the hell out to the suburbs to look for a job. It's all based on a philosophy of how to live—Freedom! Mobility for all!—and it has become part of our daily life now. That card is shaping the culture."*

Feeling Free in Transit

A small club of economists and psychologists devote themselves entirely to the study of how transit makes us feel and behave. They have found that the difficulty we associate with commuting on public transit can have as much to do with mental effort as physical effort. The less you have to think about your trip and the more in control you feel, the easier the journey. This explains part of the magic of the Paris Navigo card, but also its limitations. Although the smart card helps erase mental effort when jumping between modes of travel, it can only go so far in improving the experience of moving by transit, which depends on a matrix of predictability, comfort, and the perception of passing time.

In central Paris, riders need not worry about traffic delays. The Métro and commuter rail systems are woven tightly under the surface of the city, while shared transit has been gradually recolonizing road space. New trams run along grass medians planted down the

*Mobility smart cards have proliferated around the world. The smartest of all is Hong Kong's Octopus, a contactless electronic payment card launched in 1997 to collect fares for the city's mass transit system. The Octopus gets you on virtually every public transport in the city. Load it up with cash, and it also works for parking meters, car parks, supermarkets, and service stations. You can even set it to open the lobby door of your apartment building. Most American cities still occupy the old universe. Seattle, for example, has no less than three transit providers, each requiring its own fare either at the beginning or the end of your trip. The city has to post flowcharts explaining when and how you pay to ride.

middle of arterial roads, and a network of road lanes have been handed over to beautiful city buses, which they share with taxis and bicycles.

But speed alone cannot ease all of transit's psychological burden. When you ride a bus or train, your travel time includes the minutes you spend doing nothing but waiting for your ride. Planners spend a lot of time debating the question of "headway elasticity"—or how frequently buses and trains need to come in order to draw the most passengers. The behavioral economics of headway elasticity are impossibly arcane, but the first principle to remember is that if you show up at a stop without checking transit schedules, you will have to wait, on average, half the interval time between buses before stepping on board. So if your bus comes only every twenty minutes, your half-hour journey to work will probably become a forty-minute journey.

But it will feel much longer than that.

Inaction has a warping effect on time: a minute spent waiting seems to pass much more slowly than a minute spent moving. So most transportation planners agree that a bus needs to show up at least every fifteen minutes on any route for people nearby to use it effortlessly—i.e., without feeling as though they need to plan ahead. Cities such as Paris solve the headway problem partly by virtue of density: on most routes, there are enough riders to support bus and train arrivals every few minutes. (This also helps explain the vicious cycle of crummy transit service out in suburbia. Dispersal makes frequent service just too costly to provide, but infrequent service sends potential riders back to their cars.)

Frequent service alone doesn't erase the anxiety of waiting. Just as time decelerates while we are forced to wait, it slows to a crawl when we don't know exactly how long we have to wait. Anyone who has ever stood at a bus stop in the rain or on a train platform, peering into the distance for headlights that refuse to appear, knows that the anxiety produced by delayed service has a very long tail. If your ride is delayed today, you cannot be sure if it will be on time tomorrow. You will carry a little more stress into every trip.

But simply getting more information about the journey can speed the clock back up again. Take the express bus station on Boulevard du Montparnasse, just a couple of blocks from Britton's apartment. There's a covered seating area, but also a prominent screen at the entrance, showing exactly when the next two express buses will arrive.

This subtle change in infrastructure is a powerful psychological intervention. Just having access to real-time arrival data causes riders to feel calmer and more in control. After arrival countdown clocks were mounted in the London Underground, people told surveyors that the wait time felt shorter by a quarter. The clocks also make people feel safer traveling at night, partly by giving them more confidence in the system.

When New York City's Metropolitan Transit Authority installed LED boards displaying train arrival times on some train platforms, the effect was fascinating. People at light board-equipped stations were less likely to lean precariously out over the track, peering down the tunnel. Everyone could make a logical decision whether to wait or head up to the street to walk or catch a cab—becoming, in effect, slightly more like the rational, informed actors that economists tell us we are.

Jarrett Walker, a public transit consultant and author of *Human Transit: How Clearer Thinking About Public Transit Can Enrich Our Communities and Our Lives*, points out that an experiential gulf often separates the people who plan transit services from the people who use them. Take a typical transit map like Seattle's, which until recently featured a latticework of basic lines showing every bus route in the city. Although that map was factually correct, Walker argued that it was functionally wrong at various times, since only a fraction of bus routes offered frequent service. A map-inspired traveler could end up waiting an hour or more for a bus—enough to convince anyone that public transit is a hell best avoided. Luckily, Seattle took Walker's advice and cleared the cognitive fog with new maps that highlight the *real* frequent routes.

But now that the air around us seethes with data, no traveler need be left in the dark. Portland, Oregon, has proved it. In 2005 the city's transit authority, TriMet, opened up access to the digital information produced by its buses, trams, and trains. Since then, independent developers have produced dozens of smartphone applications offering real-time transit data, arrival times, and maps. For those without a smartphone, a service called Transit Board allows any business with Internet access and a cheap monitor to stream bus or tram arrival times for the stop outside its window, so travelers can duck inside for a microbrew instead of waiting in the drizzle. It's cheap, it's

good for business, and it takes the anxious edge off the shared ride. Of course, these innovations tend to take place in cities where policy makers actually ride public transit. When transit is seen as a hand-out to the poor, politicians tend not to invest beyond the most basic levels of service. (People in jurisdictions like Clayton County, Georgia, where transit was cut *entirely* in the great recession, know this too well.)

Freedom from Owning Things

Forty years after Britton's futurist investigations, cities are indeed finding the technology to reshape the future of mobility. As it turns out, that technology has nothing to do with fantastical new devices for moving and everything to do with new ways of thinking, sharing information, and adjusting the way we use the machines we have been using for years. Through open data, smart cards, wireless communications, and geographic positioning systems, familiar machines are being reenergized and woven together into complex systems that are more powerful than the sum of their parts.

To demonstrate how radically urban systems can build freedom in motion, Britton led me down from his office out onto Rue Joseph Bara. From here we could walk two blocks east to a commuter express train station or a couple of more minutes west to the Vavin Métro station, or we could saunter down to the rapid bus station on Montparnasse. Instead we wandered north, up immaculate sidewalks and through the iron gates of the Luxembourg Gardens. We followed the wide promenade beneath the shade trees toward the cream facade of the Luxembourg Palace. Chrysanthemums exploded from great stone urns, catching the early-fall light. Model sailboats drifted across the great octagonal pond. If we happened to be short on time, we could maximize our time in the park to the second, Britton said, because we were never more than a three-minute walk from a personal metro device. It was hard to understand what he meant until we had skirted the palace, crossed the Rue de Vaugirard, and paused by a row of sturdy-looking bicycles. Then, with a theatrical flourish, Britton swept his wallet above a metallic post. I heard a click. He pulled one of a dozen bicycles free from its berth.

"*Et voilà! Freedom!*" Britton said again, grinning from ear to ear. A sensor in the post recognized Britton's Navigo card and unlocked a sturdy bicycle. Now it would track his time with that bicycle and note the location of the post where he would lock it again.

That bicycle is the most revolutionary item on the new mobility menu. It is a system whose name—Vélib', a fusion of *vélo* and *liberté*—encapsulates its remarkable philosophy and utility. "Yes, a personal metro system that we can take in any direction we want. This changes everything!" said Britton.

Hundreds of cities, including Lyon, Montreal, Melbourne, Boston, Washington, New York, and Chicago, have now launched modest shared-bike programs. But no system in the Western world matches the ambition of Paris.* The Vélib' is everywhere, all the time. More than 20,000 of these bicycles are situated at 1,250 stations around the central city. In most places, you are never more than a quarter of a mile from a station. Unclick a Vélib' from its hitching post and it's yours for half an hour, virtually free.†

With just three gears, and the industrial heft and curvy, solid gray aesthetics of Bauhaus sewing machines, the bikes are certainly not fit for the Tour de France. But since they were introduced, in 2007, they have utterly changed the face of mobility in central Paris.

Each bicycle in the Vélib' fleet gets used between three and nine times every day. That's as many as two hundred thousand trips a day. The flood of bicycles in the streets has risen even higher as newbies try the Vélib', realize the ease of city cycling, and buy their own bicycles.

The Vélib' is more than a tool for convenience; it embodies a political philosophy that many Americans will find radical. It was created to help Parisians simultaneously save the world and become more free *by owning less stuff*.

Denis Baupin, a Paris Green Party leader, spearheaded the Vélib' plan as the city's transportation chief. "If everyone on the planet lived

*The Hangzhou bicycle company plans to offer a mind-boggling 175,000 bikes for share across that Chinese city by 2020.

†Subscriptions to the system cost one euro per day, five euros per week, or twenty-nine euros per year. After the first (free) half hour, the system begins to charge an incrementally higher rate for each additional half hour, in order to keep bicycles in circulation.



Personal Metro Systems

With stations (left) never more than a five-minute walk away, the Vélib' bicycle share has become a personal metro system for Parisians. On streets with no bicycle lanes (right), this is still a freedom reserved for the brave.

(Charles Montgomery)

like Parisians did," he told me, "we would need three planets to supply all the required energy, materials, and garbage space." Following the chilling math of the environmental footprint theory, the Parisian footprint was a third the size of that left by Americans, but Baupin insisted that Parisians had a duty to shrink their ecological footprint by two-thirds. Baupin, who wore a white linen jacket and had the cheery face of a cherub, didn't see this as a depressing message at all.

"Do we say to Parisians, we must agree to be three times less happy than now in the future? Of course this is impossible! We have to explain that when we restrict our consumption, our waste, and so on, we can be even more happy than today."

For Baupin, the shared bicycle is the ultimate postconsumer machine. It offers a new kind of liberty for anyone willing to share space and equipment. "What is really special about the Vélib' is that you don't own it. Like a park, the bicycle is for everybody to share," he told me. "We don't take shopping carts home after using them at the supermarket. We don't cart around our own elevators or restaurants or airplanes. Why should we be forced by urban design to own cars and bicycles?" he asked.

For most people living in capitalist societies, the "right not to own things" sounds a bit like "deprivation" in disguise. The idea can be especially challenging for Americans, who have been advised by heroes, pundits, and presidents that they will risk democracy itself if they stop shopping.

I told Baupin that where I come from, not owning things generally means you are poor. And when you are poor, you are not free. You are stranded. No, no, he said. In the new Paris, the opposite was true. There was simply no room for everyone to drive. There wasn't enough room for everyone to park. For residents of central Paris, ownership was a tremendous burden. If you owned a car, not only did you have to pay for it, but you had to take care of it and repair it and spend hours on end searching for parking. Ownership could be equally arduous for bike owners, who had to lug their vehicles to their apartments in Paris's six-story walk-ups or risk having them stolen.

The Vélib' was a way to break free of those chains. You didn't have to worry about storing the bike at home or parking it at your destination. You didn't have to fix it. If you got a flat or if it rained, you just clicked it back into a station and hopped on the Métro. You kept moving.*

*Ironically, Baupin's postconsumer bike system was built and paid for and is now run by JCDecaux, the biggest advertising company in France. In a complex deal, the city gets all the rental fees while JCDecaux gets revenue from the ad space it sells on more than sixteen hundred on-street billboards throughout the city. So while riders experience the joys of nonownership, their public space is plastered with messages tweaking their status impulses, reminding them that they would be happier if they bought more stuff. This was a compromise between Baupin's Greens and the French Socialist Party, who made up the city's coalition government at the time.

Extreme Sharing

What is true of many purchases—that we don't want the thing so much as we want what it can do for us—is especially true for transportation. Whether it is a train or a bus or a bicycle or a car, any vehicle's utility begins when it starts to move. Most private cars spend the vast majority of their life span sitting, doing nothing but costing their owners money in insurance, lease payments, parking, and depreciation. Not only do automobile owners need to earn substantially more just to be able to afford to drive, but we increasingly work in order to drive to and pay for fitness facilities to get the exercise that should be a side effect of the daily journey.*

In Paris, and around the world, new systems of sharing are setting commuters free.

In 2011 Paris launched Autolib', an electric car-share system that works much like the Vélib', with a fleet of rentable vehicles scattered at recharge stations around the city and accessible using the Navigo card. In more typical car-share systems, such as Zipcar, whose fleet of nine thousand vehicles is spread among cities in the United States, Canada, and the United Kingdom, you book a car by phone or online,

*Any honest assessment of travel time has to include the hours you spend working to pay for your vehicle, as well as the time spent on your journey—a concept known as effective speed.

Most drivers tend to wildly underestimate the time they must spend earning money to pay for their trips. (In England, for example, the Royal Automobile Club has found that vehicle expenses are more than double what drivers believed they were.) You must work to purchase gas and oil, of course, but you must also work to pay costs hidden in loan financing, parking fees, repairs, tolls, accessories, maintenance, and depreciation. This stuff adds up. Throw all those work and driving hours together, and you arrive at your effective speed—how many miles you are really traveling for every hour of effort. Let's break it down:

The average American office worker drives twenty-seven miles a day and spends about an hour on the road. According to the American Automobile Association, that drive costs her about \$18.36. (In 2013 the AAA estimated that it cost about \$9,122 to travel fifteen thousand miles, a rough estimate of the average person's mileage.) Let's say she nets \$20 an hour as an office manager. She needs to work an extra forty-five minutes just to pay for her drive, which means, in the end, she takes almost two hours of combined work and travel time to cross those twenty-seven miles. Effective travel speed: just over fifteen miles per hour. Suddenly the average car commute doesn't look so fast.

pick it up from its designated parking spot, and return it when done. But even Autolib' and Zipcar feel clumsy compared with the versatility of what we might call smart sharing. For example, Daimler, the German car company, has scattered hundreds of Smart cars around dozens of cities, including, in 2011, Vancouver. Daimler's CAR2GO concept is deliciously simple. Like Zipcar, you find a car using the Internet or an iPhone or Android application. Like Zipcar, you unlock it with the swipe of a magnetic card over a reader on the windshield. But then you can drive that car wherever you want to go within the service area for as long as you like, and when you arrive at your destination, you *just leave it there*. The system tracks cars with GPS, so you don't need to return it for the next user to find it. No planning required. The thirty-five cents per minute charge covers taxes, insurance, mileage, and even fuel.

The CAR2GO system accommodates the unpredictability and spontaneity of daily life. It has taken Daimler one step toward Britton's new mobility: the cars leave the factory ready for sharing. And it has added one more layer of freedom to my own city. With two car-share outfits, a CAR2GO system, a tight bus network, and three rapid transit lines, people in Vancouver are selling their cars or leaving them at home. (In 2005, the average family in Vancouver owned 1.25 cars, compared with 1.7 in suburban Surrey.) The city is now looking at proposals to repurpose downtown parking garages. The top floor of one has been converted into a produce garden. "The bottom line on all these changes is more choice, less cost for those who can forgo car ownership, less car traffic, more exercise, safer streets, and liberated garages," boasted former Vancouver city councilor Peter Ladner.

Car sharing has now found a particularly American form. Just as Baupin fought the notion that everyone should have to own his own vehicle, a San Francisco start-up called Getaround has enabled those who do own to get more bang out of their vehicles by renting them to complete strangers. In 2010 Getaround began providing car owners in the San Francisco area with small Wi-Fi and GPS-enabled units. Owners choose when and where they want to offer their vehicles, and renters find them and book them via an iPhone app. One peer-to-peer user reported that she left her car in San Francisco while she went hiking in Peru—and earned \$350 per week in rentals while she

was away.* Meanwhile, even ride sharing has gotten smarter. A smartphone application called Avego enables drivers and prospective passengers to link up through their phones. At the end of each journey an automated accounting system pays the driver out of the passenger's account.

In some ways, these peer-to-peer systems work like oxytocin, the trust hormone: they offer an inducement and immediate reward for behaving cooperatively with other people. The cooperative impulse manifests in subtle ways: Vélib' users in Paris have adopted the custom of twisting bike seats sideways when they return a damaged bike to a station so subsequent users won't choose them and be disappointed. As these systems grow and eventually guide millions of strangers into mutually beneficial transactions, it will be interesting to observe more changes in user culture and in trust among strangers.

Freedom and Physiology

Car-share devotees may not need to worry about parking and repairs, but they still contribute to—and get stuck in—traffic congestion. This is the great advantage of the bicycle in dense cities, where, moving at between nine and twelve miles per hour, cyclists achieve the same average speeds as drivers (and even shorter trip times, if you take into account time spent parking), in part because they take up so little room.

Britton insisted that without actually riding a bike, it was impossible to understand how the shared bicycle was transforming Paris. He checked the tires on a second bike. Fine. He adjusted the seat. Good. I poked my credit card into the kiosk, pulled my bicycle from its dock, and we rolled out into the Paris traffic, sans helmet, like everyone else. I followed Britton down a narrow side street, we hit Boulevard du Port-Royal, and all hell broke loose. Taxis bounced past like cartoon

*Through a deal with Warren Buffett's Berkshire Hathaway, users get the same insurance coverage as owners. The states of California and Oregon have both changed their laws to ensure that car owners cannot be held liable for the accidents of their borrowers.

go-karts. Delivery trucks and motorbikes jostled frenetically. Bus engines screamed as they sucked at the warm air. At first I was disoriented and scared. I had been warned about the pathological aggression of Parisian drivers, and the streets were still full of them.

But Britton and I were not the only ones on two wheels. There were dozens of other Vélib' users around us. There were so many of us out there that drivers had to pay attention. They had to make room. In *The Death and Life of Great American Cities*, Jane Jacobs described the ballet that takes place on crowded sidewalks as people make eye contact and find their way around one another. I felt a similar if supercharged dynamic coming to life in Paris's traffic lanes. With cars and bikes and buses mixed together, none of us could be sure what we would find on the road ahead of us. We all had to be awake to the rhythm of asymmetrical flow. In the contained fury of the narrow streets we were forced to choreograph our movements, but with so many other bicycles flooding the streets, cycling in Paris was actually becoming safer. As more people took to bicycles in Vélib's first year, the number of bike accidents rose, but the number of accidents per capita fell. This phenomenon seems to occur wherever cities see a spike in cycling: the more people bike, the safer the streets get for cyclists, partly because drivers adopt more cautious habits when they expect cyclists on the road. There is safety in numbers.*

I left Britton with a high five and peeled onto Rue Monge, heading toward the Seine.

Between lights and lane changes, through windshields and helmet visors I caught split-second glances of turned heads, nods, angled shoulders—all clues to drivers' intentions. I found my place in the stampede, waving a hand, pointing, moving into open ground, claiming space as I wound my way downhill, across the Seine. I kept riding as the sun fell and the slate roof tiles turned pink. I barreled toward Bastille and the monument to the Revolution of 1830. There, atop the great copper column, the gold figure of Auguste Dumont's Spirit of Freedom was leaping into flight, holding his broken chains to the sky. The last rays of the sun exploded from his wings. The round-

*Even in New York City, where cyclists have the reputation similar to that of Paris drivers, the number of cyclists is growing much faster than the number of cyclist-involved accidents.

about beneath the monument was a spinning whorl of headlights. I joined them, pedaling hard to keep up with the circling taxis and tour buses and motorbikes.

It was absolutely thrilling. I felt free, like Robert Judge the winter rider. But the elements that made this ride thrilling also happened to render it a travel mode unavailable to most other people. You have to be strong and agile to ride a bicycle in city traffic. You need excellent balance and vision. (Children and seniors, for example, have worse peripheral vision than fit adults, and more trouble judging the speed of approaching objects.) Most of all, you must possess a high tolerance for risk. Even the blood of adventurous riders gets flooded with beta-endorphins—the euphoria-inducing chemical that has been found in bungee jumpers and roller-coaster riders—not to mention a stew of cortisol and adrenaline, the stress hormones that are so useful in moments of fight and flight, but toxic if experienced over the long term.

The biologist Robert Sapolsky once said that the way to understand the difference between good and bad stress is to remember that a roller-coaster ride lasts for three minutes rather than three days. A superlong roller coaster would not only be a lot less fun but poisonous. I personally like roller coasters, and I loved the challenge of riding in the Paris traffic. But what is thrilling to me—a slightly reckless, forty-something male—would be terrifying for my mother or my brother or a child.

So if we really care about freedom for everyone, we need to design for everyone—not just the brave. This means we have got to confront the shared-space movement, which has gradually found favor since the sharing concept known as the *woonerf* emerged on residential streets in the Dutch city of Delft in the 1970s. In the *woonerf*, walkers, cyclists, and cars are all invited to mingle in the same space, as though they are sharing a living room. Street signs and marked curbs are replaced with flowerpots and cobblestones and even trees, encouraging users to pay more attention. It's a bit like the vehicular cyclist paradigm, except that in a *woonerf*, everyone is expected to share the road.*

**Woonerven* zones depend on two critical rules: First, auto drivers don't have equal rights; they are guests, legally bound to give the right-of-way to bicycles and

Before his death in 2008, Hans Monderman, a Dutch traffic engineer, achieved cult status among road wonks for exporting the shared-space concept from Dutch back streets onto busy intersections. Monderman removed road markings and signs to force all travelers to think and communicate more with one another. He insisted that such shared spaces were more safe *because they felt less safe*. As in *woonerven*, pedestrians and cyclists who entered Monderman's shared spaces were confronted with an uncertainty they could solve only by heightening their awareness of other travelers, establishing eye contact, and returning to the social rules that governed movement in busy places before cars took over. When the journalist Tom Vanderbilt joined him in the town of Drachten, Monderman actually closed his eyes and walked *backward* into a busy four-way crossing to prove his point. Drivers avoided him because they were already looking for surprises. When he heard that residents of the area did not feel safe crossing his shared-space intersections, Monderman was pleased. "I think that's wonderful," he told Vanderbilt. "Otherwise I would have changed it immediately."

Accidents and injuries plummeted around Monderman's intersections, but he wasn't recording anyone's stress levels. And there is a vast difference between safe travel and travel that feels safe. Not everyone is as brave or agile as the hero cyclist or the backward-walking traffic expert. If you really want to give people the freedom to move as they wish, you must go beyond accident statistics to consider how people actually feel about moving.

Traffic planners learned this in Portland, Oregon, a city that has spent two decades trying to coax people onto bikes. The city painted bike lanes along busy roads before the turn of the century. But by the mid-2000s the lanes remained mostly empty most of the time. Roger Geller, the city's bicycle coordinator, looked at surveys of the city's commuters and realized that they were building infrastructure for a rare species. Only about 5 percent of Portlanders were strong and fearless enough to negotiate most busy streets by bicycle. Another 7 percent of the population were enthused and confident enough to

pedestrians. Second, nobody in a *woonerf* moves much faster than the speed of perceived safety, which amounts to a brisk walking pace.

try the on-street bike lanes. Nobody else had the moxie to ride amid all that fast-moving metal. About a third of the population fell into what Geller called the "no way, no how" group: people who would never be into cycling.

"That made me just really depressed," said Geller, but then he realized that close to 60 percent of the population fell into a group he called the "enthused but concerned." These were people who were interested in cycling but worried about the difficulty, the discomfort, and the danger. They would cycle only if the experience was as safe and comfortable as riding in a car or a bus. So Geller and his colleagues set out to create a network of "low-stress" bikeways that either physically separated cyclists from cars or slowed cars down past the speed of fear on shared routes. It worked. Commuting by bike more than doubled in Portland between 2000 and 2008. But their investment, and the behavior change they engineered, were almost insignificant compared with the European cities where Portland found its inspiration.

A City of Reassurance

What happens when you build mobility systems entirely around safety? I found out the morning I arrived in Houten, a design experiment set amid the soggy pastures of the Dutch lowlands.

I stepped off the train, eyes blurry with an Amsterdam-size hangover, and found a bustling downtown without a car in sight—just throngs of white-haired senior citizens wheeling past on bicycles, their baskets loaded with shopping. I was greeted at Houten's city hall by the mild-mannered traffic director, Herbert Tiemens, who insisted that we go for a ride. He led me down Houten's main road, which was not actually a road but a winding path through what looked like a golf course or a soft-edged set from *Teletubbies*: all lawns and ponds and manicured shrubs. Not a car in sight. We rolled past an elementary school and kindergarten just as the lunch bell rang. Children, some of whom seemed barely out of diapers, poured out, hopped on little pink and blue bicycles, and raced past us, homeward. It was like Vauban, only softer, safer, calmer.

"We are quite proud of this," Tiemens boasted. "In most of the Netherlands, children don't bike alone to school until they are eight or nine years old. Here they start as young as six."

"Their parents must be terrified," I said.

"There's nothing to fear. The little ones do not need to cross a single road on their way home."

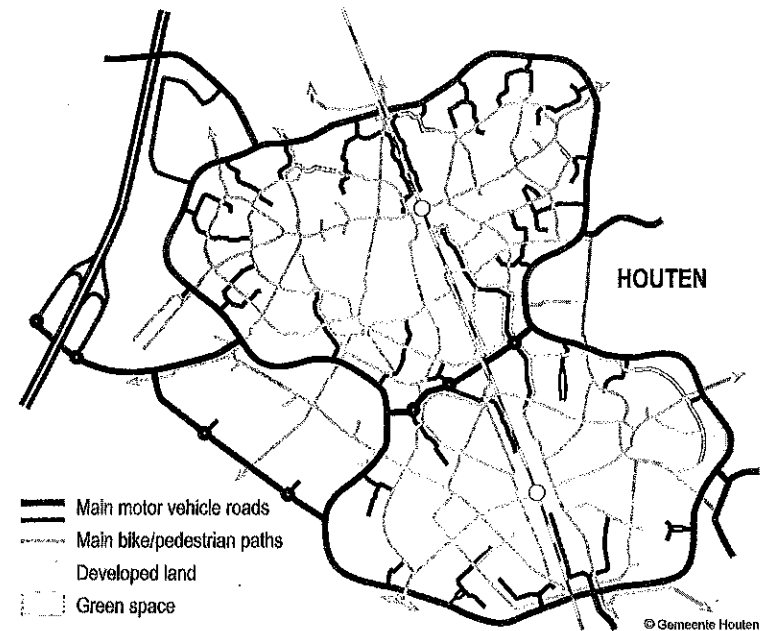
Once upon a time, Houten was a tiny village clustered around a fourteenth-century church. But in 1979 the Dutch government declared that Houten needed to do its part in absorbing the country's exploding population. The hamlet of five thousand needed to grow by ten times in twenty-five years—an expansion similar to what many American suburbs would experience. Faced with such an overwhelming change, the local council adopted a plan that turned the traditional notion of the city inside out.

The new Houten was designed with two separate transportation networks. The backbone of the community is a network of linear parks and paths for cyclists and pedestrians, all of which converge on that compact town center and train station (and, incidentally, a plaza laid out with the same dimensions as Siena's Piazza del Campo). Every important building in the city sits along that car-free spine. If you walk or cycle, everything is easy. Everything feels close. Everything feels safe.

The second network, built mostly for cars, does everything it can to stay out of the way. A ring road circles around the edge of town, with access roads twisting inward like broken spokes. You can reach the front door of just about every home in town by car, but if you want to drive there from the train station, you need to wend your way out to the ring road, head all the way around the edge of the city, and drive back in again.

Where bicycles and cars do share roads, signs and red asphalt make it clear that cyclists have priority. It is common to see cars inching along behind gaggles of seniors on two wheels.

The result of this reversing of the transportation order? If you count trips to the train station, two-thirds of the trips made within Houten are done by bike or on foot. The town has just half the traffic accident rate of similar-sized towns in the Netherlands and a tiny fraction of the rate found in most American towns. Between 2001 and 2005 Houten saw only one person killed in traffic—a 73-year-old



A Town Built for Children

The Dutch suburb of Houten is crisscrossed with paths for cyclists and pedestrians, while roads for cars lead only out to the town's ring road. (Gemeente Houten / José van Gool)

woman on her bike, crushed by an impatient garbage-truck driver. If it was a comparably sized American town, that number would have been twenty times as high.

By the end of the day in safe town, I could barely keep my eyes open. Houten was as sedating as a glass of warm milk at bedtime. This was, of course, the point. The town was *supposed* to be dull: it was the kind of place where young couples moved to have kids, just as North Americans move to quiet cul-de-sacs on the edge of suburbia. Old folks moved in, too. The market streets were packed with them, gliding back and forth on bicycles loaded with groceries and grandchildren. The place is so popular with buyers young and old, it is currently being doubled in size, its ring road looping around a second town center and train station.

The difference between Houten and North American commuter towns is that Houten actually makes good on its promise of safety, security, and good health. If protecting children from harm was really a priority in wealthy economies, we could have built ten thousand Houtens rather than ten thousand Weston Ranches in the past thirty years.

The downside? The reversed road scheme did almost nothing to reduce greenhouse gas emissions compared with other Dutch towns, because people who *did* drive had to take longer routes to go wherever they were headed (though emissions were still much lower than in North American cities). This reflects the externalities cities always experience when they adopt one grand solution to their problems.

Redesigning for Freedom

Anyone who is really serious about building freedom in their cities eventually makes the pilgrimage to Copenhagen. The Danes have spent forty years tinkering with and refining the systems that people use to get around their capital, transforming experiences that are miserable and dangerous in London or Los Angeles into something truly pleasurable. Their success is a product of two ideas: One is that the city itself is a laboratory that invites and rewards experimentation. The other is that planners must concern themselves with not just the physics but also the psychology of mobility.

I joined Copenhagen rush hour on a September morning with Lasse Lindholm, a fresh-faced employee of the city's traffic department. The sun was just burning through the autumn haze as we made our way across the Queen Louise's Bridge, a stately granite span over the shallow, moatlike lake that marks the western edge of the city's downtown. Vapor rose from the lake, swans drifted and preened, and the bridge seethed with a rush-hour scene like none I have ever witnessed. With each light change, cyclists rolled toward us in the hundreds. They did not look the way cyclists are supposed to look. They did not wear helmets or reflective gear. Some of the men wore pin-striped suits and shiny leather shoes. The women dressed in skirts and power suits, high heels and flowing scarves. Nobody was break-

ing a sweat. These were not Robert Judge adventurers. This was no race. They were calm and sexy and fit.

Lindholm rolled off a list of statistics that bear repeating: About three in ten commuters arriving in Copenhagen would use a car to get to work or school that morning. The same number would use a bus or train as their main mode. But more people would travel by bicycle than by any other mode: 37 percent. If you didn't count the suburbs, the percentage of cyclists in Copenhagen hit 55 percent. And eight of every ten of those cyclists would keep riding right through the dark and sleet-strewn Scandinavian winter. It was stunning, when you think about it: a complex, thriving metropolitan region had managed not just to accommodate heteroscedasticity but to nurture the means of travel that most cities have all but extinguished.

Copenhageners aren't choosing to cycle because of any deep-seated altruism or commitment to the environment, said Lindholm. Nor are they genetically predisposed to cycle any more than Americans are. They are motivated by self-interest. "They just want to get themselves from A to B, and now it happens to be easier and quicker to do it on a bike."

The mayor, Frank Jensen, biked to work that morning. So did several ministers of the national government. So did just about anyone who considered himself part of the city's culture of urban hipness. The height of cutting-edge style in Copenhagen is not a sports car, but the three-wheeled front-end cargo bike dubbed "the Copenhagen SUV." A quarter of families in the city with two children own one of the boxy contraptions.

This behavior is a product of design. People make different choices when they are truly free to choose. Although cycling was hugely popular in Denmark a century ago, Danes gave it up en masse during the first few decades of the auto age.* But persistent congestion and the energy crisis of the 1970s combined to produce a public backlash against auto-centric road design. Tens of thousands of people joined demonstrations calling for bike space. After the pedestrianization of the Strøget, Copenhageners saw that streets were malleable. They could be experimented with. The city had painted cycle lanes onto

*By the 1960s, only one in five Copenhageners cycled to work.



Experience Management

To accommodate surging bicycle traffic, engineers have doubled the width of cycle lanes on Copenhagen's Queen Louise's Bridge. In other areas, planners hope that double-wide lanes will promote conversation between commuting cyclists. (Charles Montgomery)

streets for years, but in the early 1980s traffic director Jens Kramer Mikkelsen began constructing bike lanes physically separated from auto space by low curbs. It changed the psychology of riding. Suddenly cyclists could travel free from fear. This was infrastructure not just for heroes but for children and seniors and people who wished to ride in safety and comfort—in other words, for everyone. It had a *Field of Dreams* effect. Just as highway building in Atlanta produced new drivers, Copenhagen's safe bike routes produced new cyclists. As the separated lane network grew, cyclists filled them, and as they did, they demanded more space. The effect has been supercharged in the past decade. As part of its plan to go carbon neutral by 2025, Copen-

hagen set itself the goal of knocking Amsterdam off its throne as the world's most bike-friendly city.

"This means that we must be concerned not just about safety," traffic director Niels Tørslov told me. "We care about how safe cycling *feels*."

The city tied together a network of more than two hundred miles of separate bike paths. It installed bike-only traffic lights at congested intersections, giving cyclists a four-second advantage over cars, so they can jump ahead before drivers begin making the right-hand turns that kill cyclists in other cities. Where traffic lights were once synchronized for the convenience of motorists, Copenhagen re-jigged the system based on the speed of a brisk bike ride. Now a rush-hour cyclist moving just over twelve miles per hour can surf a wave of green lights through the city without putting a foot down. A cushy network of "green" cycle routes crisscross the city through a necklace of parks, far from the noise and exhaust dust of cars. And the suburbs have not been forgotten. Crews are now constructing a network of wide, separated "bike superhighways" connecting the suburbs to downtown. Oh, and when that Scandinavian snow falls, Copenhagen's bike lanes get cleared before the rest of the roads.

Copenhagen now has a unique dilemma. When the traffic department surveyed cyclists, it found that they are no longer merely fearful of cars, they are scared of one another. The tracks are getting too crowded. The city has had to revisit the conundrum faced by cities a century ago, when cars first arrived: Who has the right to the finite shared resource of city streets?

Tørslov's answer is written right here on Nørrebrogade, the road that crosses Queen Louise's Bridge. Before 2008, Nørrebrogade was clogged beyond capacity with bicycles, buses, cars, and trucks. More than 17,000 cars, 30,000 cyclists, and 26,000 bus passengers rolled down its shop-lined blocks every day. The cars took the most room by far, but cyclists were crowding each other off their path, into traffic, and onto already narrow sidewalks. Buses were waiting behind convoys of commuting motorists. Something had to give.

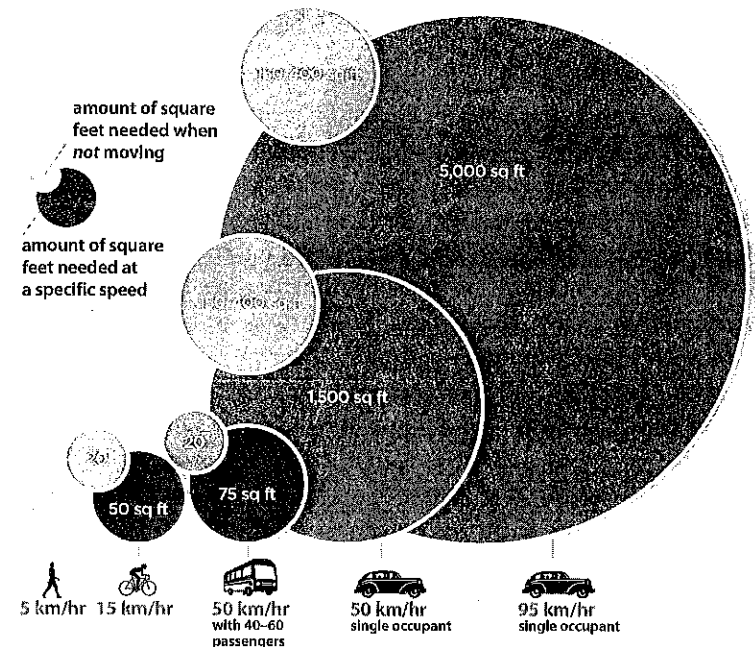
The solution was to conduct a temporary experiment: redesign the street to be more fair, which meant favoring travelers who use less space. Tørslov's designers created bus-only lanes and diverted

commuting cars to other, wider arteries. They used the extra space to double up bike lanes and build wider sidewalks. The effect was almost immediate. By the time I rode across the Queen Louise's Bridge in 2009, commuter car traffic had fallen by half. Bus passengers reported shorter trips. Seven thousand new cyclists had joined the daily parade, which had spilled across two full lanes on each side of the bridge. And the restaurants and shops on Nørrebrogade had spilled out onto the generous sidewalks. It was just the beginning of an ambitious plan to transform the entire arterial skeleton of the city by gradually doing for other arteries what had been started on Nørrebrogade, Tørslov told me. The city's new metric: "conversation cycling infrastructure," or routes that are wide enough so that two people can bike side by side and chat, making the commute just a little more like a social visit.

All of which raises a curious parallel: just as North American cities created more automobile traffic through decades of road building, Copenhagen has induced demand for other ways of moving, especially cycling, by making streets more complete. Are cities that pursue new means of mobility heading for congestion 2.0?

Well, as Anthony Downs pointed out, congestion is an entirely natural feature of any vibrant city. So we should differentiate between types of congestion. It is not moving vehicles per se that nourish the city, but people and goods. Traffic that delivers the highest volume of people and goods for every square foot of infrastructure is clearly best for the city—and arguably best for travelers themselves.

It is a fact of geometry and physics that roads left to the open market—in other words, dominated by private cars—have a hard time supplying cities with their lifeblood. The problem is that cars are space hogs. Even the smallest of private cars takes up about 150 square feet of road space when standing still. That's thirty times the space used by a person standing, and 7.5 times the space used by a person on a bicycle or on a bus. The numbers diverge exponentially as we start moving. Someone driving alone in a car moving at thirty miles per hour takes up twenty times as much space as someone riding on a bus at the same speed. To put this into perspective: if you took all the passengers off a full city bus and put them on bikes, you would take



Comparing Travel Space Needs per Person

How fair and efficient are our streets? A car moving at typical city speed uses seventy-five times as much space as someone walking. (Infographic by Matthew Blackett/Spacing.ca, with data from Victoria Transport Policy Institute)

up about a block of bike lane. But if you put them in their own cars, you wouldn't have any street left at all.

This is why any plan to provide real freedom in the city demands more than shared bicycles and cars, or even more buses. Given open competition for road space, some people will choose to drive just enough to gum up the roads for themselves as well as everyone else. They slow down delivery trucks. They ensnare buses, stealing time and certainty from transit riders. They squeeze bicycles and endanger pedestrians. Cities intent on building more variety, freedom, sharing, and sustainability in mobility have no choice but to confront the privilege of private cars.

Demand, Supply, and Surprise

Some brave cities have tinkered with the economics of demand. In 2003 the London mayor Ken Livingstone adopted the world's most geographically extensive congestion charge on vehicles entering the heart of the city on weekdays.* The system uses automatic license plate recognition cameras to identify and charge most private vehicles entering the city core, with exemptions for emergency vehicles, taxis, and residents. The fee started at a hefty £5 but has since been bumped to £10. After three years, the charge had reduced traffic in the core by a quarter and was pulling in £122 million a year. It showed that travel behavior really is elastic: when people start paying the true cost of driving (which, in London's case, includes pollution, greenhouse gas emissions, and the burden imposed on other users by drivers using a disproportionate share of road space), they find other ways of moving.

Demand management is catching on around the world. In Stockholm, the charge for driving into the core climbs as you approach rush hour and falls back to nothing during slack hours. This encourages people to delay their drive until road space is not so scarce. The alternative—public transit—is financed in part by those road and congestion charges. After a brief experiment, in 2006 the citizens of Stockholm voted to make the system permanent because it made their lives easier. Meanwhile, the southern Chinese powerhouse of Guangzhou has introduced an auction and lottery system for license plates that is expected to halve the number of new cars on the road. This represented a real sacrifice, considering the fact that Guangzhou is one of China's main auto manufacturing hubs, but its problems of pollution and congestion were too great to ignore any longer.

These methods raise an ethical question. Should a public resource like city streets be reserved primarily for people who can afford to pay a premium for it? London's answer has been to use revenues from the charge to improve local bus service. But such demand management schemes do little to shift the balance of safety and access to city streets. To do that, you have to physically redistribute the supply of

*The zone was briefly extended west to include Kensington and Chelsea, but public opposition led the extension to be canceled in 2010.

this most public resource. This is the lesson of Paris and Copenhagen, and it has finally begun to take hold elsewhere.

Nowhere has the transformational power of redistribution been expressed more vividly than in the heart of New York City. When she was hired in 2007, the city's charismatic new transportation commissioner, Janette Sadik-Khan, mused that she was now the city's largest real estate developer. It was true. The Department of Transportation controlled six thousand miles of streets, more than a quarter of New York City's land base.

For as long as anyone could remember, the city's transportation commissioners had focused on moving cars as fast as possible. That narrow approach was now out the window. Sadik-Khan insisted that she was going to put that real estate—some of the most valuable in the world—to its highest and best use, which did not necessarily mean moving cars.

She began with a reappraisal of the value of city streets, inviting Jan Gehl to study the movement of people in New York using the methods he had developed in Copenhagen. Gehl and his team found that despite the city's preoccupation with vehicle traffic, walkers were much worse off than drivers. Congestion was far more acute on New York sidewalks than out in traffic lanes. They were clogged enough to generate collisions and conflict around bus stops and street furniture, to push people into the path of cars, and to discourage many from walking entirely.* Tellingly, only one in ten pedestrians they counted were children or seniors, even though they made up nearly a third of the population.

This unfair state of affairs had its epicenter at Times Square, where pedestrians outnumbered cars by more than four to one yet were crammed into about a tenth of the space that cars got. More than

*Rude behavior on crowded sidewalks is so hard on mental health that Leon James, a University of Hawaii traffic psychologist, created a Pedestrian Aggressiveness Syndrome Scale to measure pedestrian rage. If you regularly fight your way down crowded Midtown Manhattan sidewalks, chances are you have experienced some of James's syndrome traits, which range from "thinking denigrating thoughts" about other walkers, to displaying a mean face, to aggressive passing and bumping maneuvers. Each aggressive thought or action heaps new stress on the walker and the people around her—which means that New Yorkers are in trouble because their sidewalks got 13 percent more crowded between 2007 and 2011 alone.

350,000 pedestrians passed through Times Square every day, from office workers emerging from two of the city's busiest subway entrances to befuddled tourists dragging roller suitcases from curb to curb. If you wanted to get run over, Times Square was one of the best places in the city for it.

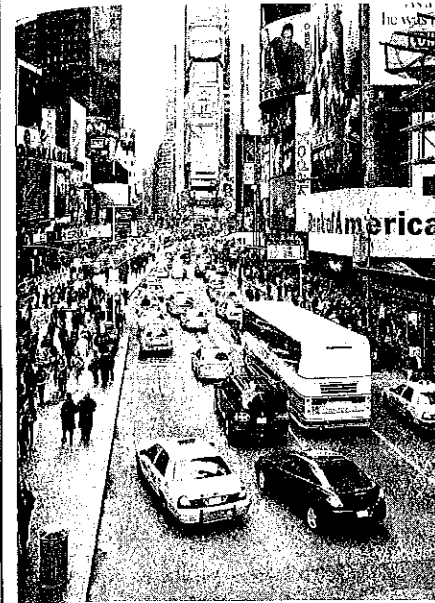
Ironically, reserving almost all of Times Square for automobiles did not necessarily benefit drivers. The problem lay in the odd geometry created by Broadway's diagonal jig across the Manhattan grid. Broadway and Seventh Avenue crisscross between Forty-third and Forty-seventh streets, creating a four-block bow tie of conflict. The complex crossings were causing brutally long red-light delays. Vehicle speeds had slowed to four miles per hour.

The square epitomized the futility of trying to solve mobility issues by simply devoting more road space to traffic. A solution had evaded planners for decades. Sadik-Khan addressed it by employing the Copenhagen method: conduct a temporary experiment to see what spatial redistribution might accomplish. On Memorial Day weekend in 2009, Sadik-Khan joined city street crews as they rolled traffic barrels into place like so many orange beer kegs, blocking the flow of cars along five blocks of Broadway in and around Times Square.

"I will never forget it," she told me later. "Have you ever seen *Star Trek*? The way people materialize in the ship's transporter? It was like that. People just appeared! They just poured out into the space we created."

Sadik-Khan's ambitious redistribution of New York City's street real estate—which included painted bike lanes as well as cycle routes separated from traffic by planters and parked cars, bus-only lanes, and public plazas—precipitated some angry backlash. (I will address the psychology of these power struggles in the following chapter.) But there is no denying that by providing for more complexity and different means of moving through Midtown, the streets became simultaneously more efficient, more fair, more healthy, and even more fun. The benefits extended to drivers. A year after the change, the Department of Transportation observed that traffic was actually moving faster on most streets near Broadway. Accidents were down. Injuries to drivers, passengers, and pedestrians plummeted.

The experiment also produced the remarkable dividend that comes when places slow down: more public life.



Before



After

Doing It in the Road

Immediately after the barricades went up, people claimed the once-forbidden road space in Times Square. (New York City Department of Transportation)

Before the change, there were two ways of experiencing Times Square. You either sat in a car and cursed the traffic and pedestrians in your way, or you shuffled along an overburdened sidewalk with one hand on your wallet. Times Square lived large in the global imagination, but when you got there, it revealed itself as an obstacle rather than a destination. Its sidewalks were so crowded they were a perfect place to experience Milgram's theory of overload: you coped by either ignoring the people around you or doing subtle battle with them. If you were a tourist, once you got the requisite snapshot, you escaped as fast as the crowd would allow. New Yorkers who could avoid it did so completely.

But after the barriers went up, the place started to breathe. I visited Times Square periodically over the next two years and did not fully grasp its new generosity until I arrived with my eighty-four-year-old mother on a blustery September afternoon in 2011, the year

after the mayor had declared the changes permanent. The walk through Midtown's jostling crowds had not been easy. My mother white-knuckled her cane, and I held her close. But as we crossed Forty-seventh Street, the aggressive crowds suddenly eased. She let go of my hand. I paused on the glowing red staircase that does double duty as a roof for the TKTS theater-ticket booth and seating for the public theater of Times Square. Before I knew it, she had stepped down over the curb onto the surface of Broadway. She moved slowly and determinedly south among the groves of chairs that the Times Square Alliance had scattered on the asphalt. She paused near the bronze statue of George M. Cohan, made a tripod with her cane, and turned her gaze upward. Her face was lit with the flash and sparkle of the billboard light show. Waves of people moved around her, but they gave her wide berth. There was room to spare. This was her own Robert Judge moment. She was free in the city, at least for a couple of blocks.

10. Who Is the City For?

The right to the city cannot be conceived of as a simple visiting right or as a return to traditional cities. It can only be formulated as a transformed and renewed right to urban life.

—Henri Lefebvre, 1968

It would be wonderful if the shapes of our cities maximized utility for everyone. It would be wonderful if city builders were guided purely by an enlightened calculus of utility. But this is not how the world works. Urban spaces and systems do not merely reflect altruistic attempts to solve the complex problem of people living close together, and they are more than an embodiment of the creative tension between competing ideas. They are shaped by struggles between competing groups of people. They apportion the benefits of urban life. They express who has power and who does not. In so doing, they shape the mind and the soul of the city.

Sometimes a self-evident truth does not become salient until you see it written in bold text across the most extreme landscape. This is what I learned in Colombia.

Jaime, my host in Bogotá, was a cautious man from the middle class. His timidity had calcified on the afternoon when a gang of paramilitaries fired a rocket at the office tower where he worked as a television editor. The projectile missed its mark, but Jaime's trust in his fellow citizens never quite recovered. He ordered me not to walk the streets of Bogotá alone. He warned me never to wander at night. Most of all, he forbade me from visiting the ragged slums on the southern fringes of the city, where civil war refugees settled on the plains between the meandering Bogotá and Tunjuelo rivers.