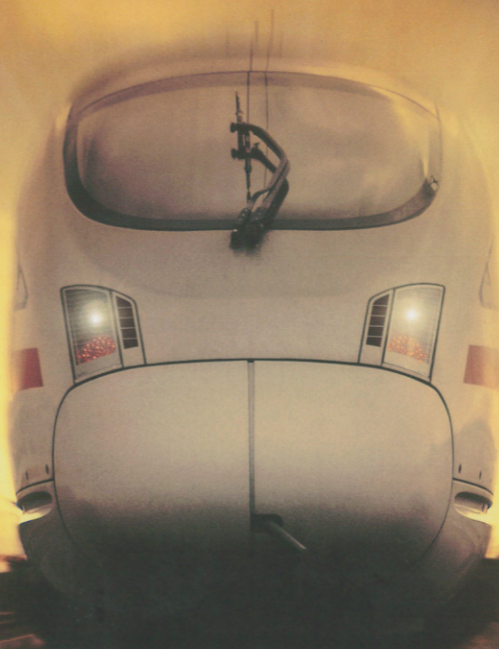


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THE LEAP

HOW TO SURVIVE AND THRIVE
IN THE SUSTAINABLE ECONOMY

CHRIS TURNER

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This book is dedicated to the memory of
Hermann Scheer (1944–2010)

This book is for Alexander

“Delays are the refuge of weak minds, and to procrastinate on this occasion is to show a culpable intention to the bounties of nature; a total insensibility to the blessings of Providence, and an inexcusable neglect of the interests of society . . . The overflowing blessings from this great fountain of public good and national abundance will be as extensive as our country, and as durable as time.”

—DeWitt Clinton,
*Memorial of the Citizens of New York, in Favour of a
Canal Navigation Between the Great Western Lakes
and the Tide-Waters of the Hudson, 1816*

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THE LEAP IN THE CITY

FOOTLOOSE IN SOLE CITY

AT SOME INDETERMINATE POINT in 2008, humanity crossed a vital threshold. It may have been a trainload of workers from China's interior arriving at the station to find work in one of the country's massive new industrial cities, or maybe it was a Kenyan family leaving a destitute farm for an uncertain future in Nairobi. A kid from the Midwest stepping off a plane at LaGuardia to find his fortune in Manhattan, or a young Mexican migrant arriving surreptitiously in Los Angeles. In any case, the weight shifted forever from one side of a fulcrum to the other—for the first time in human history, more than half the world lived in cities.

A United Nations report that year projected an urban population of 6.4 billion worldwide by 2050—nearly equal to the whole planet's population today—out of a global total of 9.2 billion. More than nine billion people, 70 percent of them residing in cities. Our future, then, if we intend to have one worth investing in, will be an urban future, and the most vital Great Leap Sideways may well be the one taken by our urban spaces.

This may sound, on the surface, like a fool's errand. Cities, after all, have long been the antithesis of living in harmony with nature. Certainly the definitive images of big-city life in my youth

were portraits of squalor, decay, depravity and crime. And some of the most hopeless of these were images of New York. Escape was the literal goal in the 1981 film *Escape from New York*, and a more figurative or psychological one in sitcoms like *Welcome Back, Kotter* and *Different Strokes*, in the music of the Ramones and Public Enemy, and in films like *The Panic in Needle Park* and the relentlessly bleak *Taxi Driver*.

Though I knew nothing of it at the time, *The Panic in Needle Park* was a roughly accurate depiction of the sort of squalor found in Bryant Park in Midtown Manhattan in the 1970s (the actual "needle park" shown in the film, so named for the popularity of intravenous heroin injection at the time, was a few blocks north of Bryant). And the Times Square of *Taxi Driver*, though impressionistic, is not a particularly exaggerated rendering. Times Square was a lurid neon adult playground in reality as well, its sidewalks lined with porn theatres and prowled by petty criminals and prostitutes. New York's municipal government had come within a hair's breadth of bankruptcy in 1975, and a blackout in the summer of 1977 had triggered a twenty-four-hour explosion of riots and looting. The city teetered on the brink of collapse throughout the era. And Times Square and Bryant Park—these two once-vital public spaces, separated by just a couple of blocks—together formed the dark, seedy centrepiece of the city's decline.

The city has been a critical social unit and primary economic engine of civilization at least as far back as ancient Greece (arguably all the way back to the Old Testament cities of Ur and Babylon). And New York was the zenith of the Industrial Age metropolis, the wellspring of a modern nation's prosperity and the repository of its wildest hopes and dreams. But its time, it seemed, had passed. Our brightest future appeared to reside elsewhere—most likely among the wide freeways and curvaceous

avenues and tidy shopping malls of booming suburbia.

My own first encounter with Midtown Manhattan just a generation later is a story of a fundamentally different place. A few weeks after the terrorist attacks of September 11, 2001, my wife and I came to New York to visit friends. We found ourselves near Times Square with a lazy autumn afternoon on our hands. We wandered down a cross-street—as I recall, we were trying to find the legendary Algonquin Hotel, thinking maybe we’d pop in for a nostalgic cocktail. Instead, we stumbled upon a wide, quiet lawn of radiant green, capped at one end by some grand stone edifice. At its base lay a broad, tree-shadowed patio—a perfect spot for an afternoon drink. The bar was open, but there were hundreds of empty seats. Half an hour after we sat down, the New York Stock Exchange closed for the day, and the patio was soon packed tight as a hip nightclub with traders from the surrounding towers taking the edge off their market buzz before starting the commute home.

We’d unknowingly taken seats on the upper terrace in Bryant Park at the foot of the New York Public Library. The experience was almost cinematic in its unexpected drama and broad comedy. We talked shop with a couple of young traders whose North Jersey accents were a thing we’d previously believed to exist only as movie cliché. We witnessed fashion statements we were powerless to avoid gawking at. And we left, much later than we’d planned, feeling somehow part of the city in a way tourists rarely do. It was urban living at its best—a couple of random visitors colliding with a horde of locals going about their daily ritual in a vibrant public space perfectly proportioned to host both of them. It was one of those unpredictable, profoundly humanistic intersections so beloved by passionate urbanists of the Jane Jacobs school.

Our serendipitous afternoon notwithstanding, there was nothing accidental about Bryant Park’s dramatic turnaround. It began

with a group of concerned citizens and local property owners, who formed the Bryant Park Restoration Corporation (BPRC) in 1980 to rehabilitate the crime-ridden square. The City of New York leased the park to the BPRC in 1988, at which point it was summarily closed for a five-year renovation. The park’s biggest problem was its isolation, which was by design—when it had been laid out in the 1930s, urban parks were imagined as oases amid the city’s gritty chaos, not central nodes in its daily life. Bryant Park had thus been elevated above the street and closed off to its neighbourhood behind high hedges and iron fencing. The BPRC redesign removed many of these fortifications and punched new rights of way through what remained. Fixed benches were replaced with more than three thousand movable patio chairs and tables, turning the park’s Great Lawn into a more versatile and informal space. And the Upper Terrace, once the hub of Needle Park’s drug bazaar, became a stylish restaurant and watering hole.

A decade later, I’d become a much more frequent visitor to the city, and I’d even absorbed a little of the native New Yorker’s contempt for Midtown. I’d come to think of Times Square in particular as a dizzying eyesore, a place with all the charm of a theme park ride’s overlong queue and none of the thrilling payoff. If it couldn’t be avoided entirely, Times Square was merely to be endured. Which is why my social call one brisk afternoon in the fall of 2009 was all the more remarkable. In intermittent drizzle at grey twilight, I strolled casually up Broadway from Herald Square at Thirty-fourth Street along a pedestrian promenade broken only by the lights at each cross street. And when I reached Times Square I took a seat right in the middle of it.

Times Square was an urban space reborn. For the first time in many generations, its name was no longer an ironic vestige of an age long past—it was a public square again. As I settled into a

metal patio chair at a little red café table, one of many scattered across a broad expanse of pebbled, sand-coloured pavement, I did what so many visitors to New York have longed to do as they found themselves jostling along Times Square's narrow, overcrowded sidewalks: I simply stopped and watched the city's pounding heart, decongested at last, as it pulsed boisterously along. At one nearby table, a tourist family took snapshots of themselves; at another, a dark-suited gentleman took a phone call. In front of us, an expanse of empty pavement hosted a quick-stepping parade of pedestrian commuters. A young man stood among them, holding a hand-lettered placard that read *FREE HUGS*, eliciting many grins and the occasional taker.

The NASDAQ ticker still spat out its endless, frenetic LED stream of market quotes, and the towering ads for soda pop and electronics still brought a neon glare to the space. But as I sat in quiet repose, with room to stretch and exhale, I couldn't help but wonder if Times Square had ever before been this civilized.

If it ever had, it would've been at a time well before the supremacy of motorized transport. For decades, cars and trucks had dominated Times Square like alpha predators prowling the Serengeti. Fully 89 percent of the square's surface area was dedicated exclusively to motorized traffic, while the 350,000 pedestrians who tromped through each day were penned into the remaining 11 percent of the space, rubbing shoulders and bumping hips on the narrow sidewalks as they struggled for marching room amid a tangle of sandwich boards and hawkers and construction scaffolding.

But on May 24, 2009, for the first time ever, Broadway was closed to motor vehicle traffic from Forty-second Street to Forty-seventh. There was little fanfare, and not even much in the way of new construction. Some simple temporary bollards went up to

mark off the space, and a few months later the pavement got a coat of epoxy gravel in green, beige and burgundy to differentiate the pedestrian and cycling space from the cross streets still open to motor vehicles. As an afterthought, a local business association scattered a couple of hundred lawn chairs in the empty space. The total cost to the city—even once the comparatively posh metal café tables and chairs were brought in to replace the widely mocked lawn chairs—was \$1.5 million, little more than a rounding error on the sums the municipal government spends trying to keep cars moving safely around the city.

As cheap and simple a makeover as the pedestrianization of Times Square was, it inspired a flurry of anticipatory anxiety and outrage. Cabbies predicted impenetrable gridlock, and Broadway theatre owners worried about declining attendance. One *New York Post* columnist, Andrea Peyser, was particularly apoplectic. "In the annals of stupid ideas," she wrote, "this has got to be the worst. Ever."

Chaos, however, failed to ensue. Even the *Post* noted "surprising results" the day after the closure, "with traffic flowing smoothly out of the city during the usually horrific rush hour." The *Post*'s front page that day depicted a Times Square scene so dense with strolling pedestrians it looked like a street festival. A banner headline read, "SOLE CITY: It's the Great Walk Way as B'way Car Ban Begins."

The heated rhetoric is almost understandable, because this Great Walk Way scene marked a fundamental change in the nature of urban life and the priorities of the modern city. The pedestrianization of Times Square is best understood as a sort of final triumphal hop at the end of a much greater Leap, a half-century in the making and ultimately global in scale, that traces its origin all the way to the car-choked streets of Copenhagen, Denmark, in 1962. Before we examine those humble Danish ori-

gins, though, let's first take a look at the tangled web of problems plaguing cities around the world—the urban crisis that has made this jump a global necessity.

THE DEFEETED CITY (S/C)

When you're hunting for a free seat amid a crowded copse of café tables in Times Square, you probably don't think of your problem as one of mobility. It's not happenstance, though, that the seat you eventually find is there courtesy of New York's Department of Transportation. The solution may have taken the shape of patio seating, but the problem—in Times Square as in urban spaces the world over—was a matter of traffic.

By *traffic* I don't mean the most basic sense of the term, the simple fact of people moving from place to place. I mean rather the more freighted modern term, the *stuck in traffic* sense of the word in which the absence of hassle and danger would be a notable surprise. This kind of traffic defines the modern city and pervades urban living so fully that in most places it's almost impossible to imagine a day's journey without it. And our understanding of traffic is so completely linked to the idea of the automobile that I would've used a qualifying noun—*bike* or *pedestrian* or *bullock cart*—if I'd meant anything other than cars and trucks. Indeed the very idea of using a city street primarily for anything other than moving motor vehicles from place to place would first require an explanation of what is to be done with all the cars.

The tidiest story of our modern traffic conundrum goes something like this. In the first decades of the twentieth century, the automobile went into mass production and revolutionized mobility everywhere it went. People could travel much further, much faster, on whims as frivolous as simply being in the mood to drive.

At the same time, the roaring industrial economy was filling overcrowded urban spaces with noxious clouds of smoke, lethal cinders and blankets of choking ash, the stink of pulped wood and smelted metal and slaughtered animals. People of sufficient means—a class that expanded in rapid synchronicity with the industrial economy itself—relocated their residences as far away from the filthy, dangerous inner city as possible. Even as steel-framed skyscrapers in dense glittering clusters were coming to exemplify the modern workplace, expansive homes on ever-larger lots on the urban periphery came to define the modern household. Enabled by the automobile commute, cities grew out as well as up, particularly in the second half of the century, after the birth of the tract suburb.

In the half-century after the Second World War, the spacious suburban home with two-car garage and broad, manicured lawn on a quarter-acre patch of former farmland or wilderness was every democratic citizen's presumed birthright and every immigrant's dream. And because population densities were so low in these new suburbs, and the workplace and shopping mall so far away, the efficient movement of cars from place to place became the ultimate goal of all transportation policy and the top priority of city planning in general. This vision of urban life, car-centred and increasingly traffic-jammed, was understood to be synonymous with the good life, freely chosen in the benevolent free market as the best of all possible worlds. After all, who wouldn't want a bigger house with fancier amenities and lots of room for the kids to safely play? Whose heart is so hard it isn't set racing behind the wheel of a sporty new car at 100 kilometres per hour on a spacious freeway? Doesn't the name itself—*freeway*—say all you need to know about where you're headed?

Here, though, we stumble again on the pervasive myth of the rational actor in a free marketplace, and again we encounter the

great rubble pile of bias and irrationality described by the behavioural economists. Suburbia illustrates the inverse of two of The Leap's mechanical laws. In much the same way that we can't measure quantum leaps with yardsticks and we can't clearly see the sustainable horizon from the unsustainable side of the chasm, we're also not very good—individually or in groups—at estimating the repercussions of our unsustainable actions and the size of the problems they create. And moreover we're simply terrible at accurately gauging and effectively pursuing our best long-term interests. A key reason for this—one particularly relevant to the choices that created our traffic mess—is that human tic called *arbitrary coherence*, as codified by the behavioural economist Dan Ariely. The “rational” prices we pay for things are mostly random, based on arbitrary “anchors” that can be established by little more than a passing reference to a particular number. (I explained the concept of arbitrary coherence, including Ariely's use of social security digits to convince his students to bid higher or lower on luxury goods, in Chapter Two.)

If we think of the modern urban landscape as a vast, multi-tiered marketplace, its shape and form a product of countless anchoring decisions regarding housing purchases, employment choices, social pursuits and the myriad means of moving between the sites where these activities occur, we find Ariely's arbitrary coherence writ large. And since the Second World War, the most common and significant anchor giving coherent shape to this whole scene has been car ownership—a sort of base price of admission to the modern good life.

There was a time (or so I've heard) when a world of pure pleasure awaited the suburban motorist. And even as the costs of it all have mounted—time lost in ever-growing chunks to commuter snarls, lives lost to collisions, cities cleaved by supersized

highways and the remnant fragments left to wither and decay—the arbitrary coherence of the whole transaction has barely wavered. However dire or absurd, each new cost is simply another line item in the price of living in (or near) a city. You simply *must* have a car to get around—or aspire to own one. Recall the powerful influence of Ariely's “endowment effect”—our tendency to vastly overestimate the value of what we have. The endowment effect renders us so obsessed with what we stand to lose by abandoning the status quo that we can't see the value of what we would gain. The automobile is so central to our conception of a comfortable, convenient life that we can't see the efficiency and usefulness of any other way of getting around, nor the enormous costs of the means we've chosen.

From nearly any point of view other than one fully invested in the arbitrary coherence of the car-centred norm, the actual price of all this traffic is astronomical. The basic maintenance and servicing of roads cost taxpayers \$100 billion per year in the United States alone, and by one detailed estimate, the taxes Americans pay on fuel fall 20 to 70 cents per gallon short of covering the total expenses paid out by the government for motor vehicle travel. (By comparison, many European countries collect three or four times as much revenue from fuel and other vehicle taxes as they pay out.) A host of studies in recent years, meanwhile, have attempted a more thorough accounting of the cost of gasoline by factoring in the full range of externalized costs of traffic, including the environmental impact of tailpipe emissions, subsidies to the oil industry, and the skyrocketing security costs of maintaining fuel supply; estimates begin at around \$5.25 per gallon and top out at more than fifteen bucks. Or how about this for an irrational state of affairs born of arbitrary coherence? The single most dangerous type of roadway in the United States is the one most prized for its

seeming safety—the wide, curving, uncongested arterial road at the city's exurban fringe.

When journalist Tom Vanderbilt embarked on a comprehensive tour of the world of traffic, he peeled back the coherent veneer to uncover a place that was not just arbitrary in its logic but literally insane. His findings, compiled in his 2008 book *Traffic*, reveal the operation of a motor vehicle as “the most complex everyday thing we do.” The act itself requires the use of a vast subset of 1,500 distinct skills, many of them so far away from our basic instincts and inborn, time-tested survival skills that, as Vanderbilt puts it, “In traffic, we struggle to stay human.” Because we're mostly moving too fast and at too great a distance from each other to permit eye contact, all of our adaptive social cues are stripped away. It's easily the most dangerous thing any of us does with any regularity. And on average, Americans spend more time in this state—overwhelmed, dehumanized, engaged in a bewildering and potentially deadly ritual—than they do having sex or eating meals with their families.

What's more, Vanderbilt discovered that nearly every “common sense” effort at fixing our traffic problem has either made no lasting difference or else deepened the problem. Wider lanes with fewer distractions on the roadside are actually more accident-prone than cramped, crowded ones. Widening highways and building new ones only encourages us to drive more and has a negligible effect on the overall flow of traffic. The more we treat traffic as a discrete transportation problem, the further we get from a durable solution. And in the meantime, the toll all that driving takes on the places we live continues to mount.

The city is a textbook case of a sum greater than its parts, but that larger cumulative total is reached only when the individual parts can be properly added together. Reconfiguring the city for

motor vehicles has, by contrast, been a protracted act of subtraction, parcelling off essential urban spaces—residences, workplaces, marketplaces, social spaces—into isolated islands linked only tenuously by traffic-choked roads.

Innovation is the fuel in the urban engine, the socioeconomic force that powers the city, and recent archaeological studies have found that it is a direct product of population density. The great evolutionary and civilizational leaps made by our prehistoric ancestors occurred only in those places with sufficient densities to encourage a brisk trade in ideas between disparate groups. Small wonder, then, that dense, human-scale communities exert an instinctual pull on us even when they've all but vanished from the housing market. Demand for walkable urban spaces in the United States—the birthplace and most welcoming home of the suburbanized, low-density car culture—far exceeds supply. One conservative estimate found that a third of American homeowners prefer to live in walkable communities, but they represent at most 10 percent of the available housing stock. Homes in dense, multi-use urban centres in American cities, even newer areas well outside the downtown core, command premiums of more than 50 percent, while by one estimate the US will have as many as *twenty-two million* excess large-lot homes on the urban periphery by 2025.

The suburban model has begun to fail even on its own terms. The cul-de-sac, the quintessential suburban street form, has turned out to be much more expensive to equip with essential services than any other type of residential street, and it feeds a traffic pattern that increases congestion in the community as a whole by up to 80 percent. Typical suburbanites, meanwhile, spend between 25 and 40 percent of their household budgets on transportation, while those in walkable urban spaces—even those well outside the centres of cities—spend less than 10 percent on average. And

since the dawn of the twenty-first century, suburbia has also been home to the largest and fastest growing population of poor people in America. We are paying more to achieve less in a deepening spiral of unsustainable urban dysfunction.

The act of bringing this spiral to its end and restoring balance to the city is the crucial first step—maybe the only essential one—in bringing sustainability to urban life. And it is a deceptively simple process—no more complicated, on the surface, than cordoning off a patch of asphalt and placing a handful of patio chairs on the reclaimed oasis of public space. The automobile turns the public street into a private sphere of fast, dangerous private transport, a transient, negative space that exists only as the conduit between isolated private spheres—home and work, work and store. The solution is to place at least as much value on public spaces as private ones and to put the priorities of people ahead of their cars in the urban hierarchy.

Simple as this transformation might seem, it begins with an act of revolutionary resolve—a disruptive technique, in other words. And it was a genial Danish professor in old Copenhagen who brought that technique to New York.

THE RECONQUEST

Jan Gehl is an architecture professor at the Royal Danish Academy of Fine Arts. As I explained in Chapter Two, he has spent nearly half a century studying the reclamation of urban spaces from the dominion of the automobile, a phenomenon he has taken to calling *reconquest*. From humble beginnings as a researcher counting strolling pedestrians and patio seats on Copenhagen's streets, Gehl has emerged as one of the world's most revered theorists of civic life, disseminating Copenhagen's urban design philosophy

and assisting in the re-engineering of urban landscapes around the world.

In Gehl's view, public spaces supply the life's blood of democracy, the essence of humanism and the bedrock of a city's green-minded livability. "Throughout history," Gehl explained, "public spaces had three functions. It's been the meeting place and the marketplace and the connection space. And what has happened in most cities is that we forgot about the meeting place, we moved the market space to somewhere else, and then we filled all the streets with connection, as if connection was the number one goal in city planning, in public space." What he meant was that we replaced public squares with parking lots, enclosed and privatized our marketplaces as shopping malls, and then turned our streets over almost exclusively to rapid transportation by private vehicle. In so doing, we enslaved ourselves to oil, choked ourselves on exhaust, and shattered the public realm where civil society once flourished. Gehl: "It's hardly a coincidence that the First Amendment to the American Constitution emphasizes the right to free speech and to peaceful gathering with your fellow citizens. That is one of the strongest expressions of the importance of the public space."

Gehl's life's work has been the careful study of the first great urban reconquest, which began in Copenhagen in 1962. Like most European capitals, Copenhagen had grown to maturity long before the invention of the automobile. Its downtown is a tangled web of narrow, twisting pathways laid out informally by medieval habit and built to the dimensions of pedestrians and horse-drawn carts. Because few Danes had the money to buy their own vehicles in the first penny-pinched decade after the Second World War, car culture came late to Denmark. Still, it took so little motor vehicle traffic to jam those medieval roads that by the early 1960s

downtown Copenhagen was hopelessly clogged. Every avenue and laneway ran thick with streams of cars and trucks, and every square in the inner city had been turned into a parking lot or traffic circle or both. On most streets, pedestrians clung precariously to strips of sidewalk not much wider than the average Dane's shoulders. Copenhagen had long been a city of bicycles, but by 1962 there was talk of banning bikes from the roads in the name of safety and traffic decongestion. The crisis was particularly acute on the Strøget, Copenhagen's primary commercial artery, a menacing chain of narrow avenues between once-grand squares that snaked from city hall to the harbour in an unbroken line of ceaseless one-way traffic.

For a number of years, the municipal government of Copenhagen had imposed a stopgap measure on the Strøget at its moment of maximum crisis—each Christmas, the street was closed entirely to motor vehicles for a few frenetic days of shopping and revelry. In November 1962, the emergency ordinance was brought in early and made permanent. Motor vehicles were banished from the Strøget's pavements forever. It wasn't the first modern European experiment in car-free urban life—a number of German and Dutch cities had closed their main shopping streets to vehicle traffic in the years after the Second World War—but the pedestrianization of the Strøget would prove to be far and away the most significant. It would transform Copenhagen, by stages, from a dour Scandinavian burgh into a thriving metropolis widely hailed as the world's most livable. Copenhagen would become a model for cities from London to Oslo, Milan to Guangzhou, Melbourne to New York. Before all that, though, the car-free Strøget was a local measure, and it was wildly unpopular for profoundly local reasons.

To stroll down the avenue to some quaint, breezy outdoor café,

detractors argued, was simply not the Danish way. Copenhagen is a northern city, cold, damp and dark for long stretches of the year. Its residents claimed to yearn only for cozy indoor spaces, for candlelight and heavy sweaters and perhaps a glass of warming aquavit by the fire. The loftiest goal of Danish social life is a concept called *hygge*, which refers to a gently intoxicating mixture of warmth, comfort and close fellowship. It is a pointedly indoor phenomenon. "We are Danes, not Italians"—this was the anti-pedestrianization rallying cry. From the overcrowded pavement of the Strøget in 1962, Copenhageners couldn't see past the unsustainable traffic situation to the sustainable horizon.

The most vocal opponents of pedestrianization were the Strøget's own merchants. If customers could no longer drive to their shops, they insisted, they would simply stop coming. A number of Strøget merchants were so sure of imminent disaster that they closed up shop in the months before the car ban and relocated to a side street. It might say all that needs to be said about the rapid and dramatic success of the Strøget's pedestrian reconquest that some of those same merchants would lead the initiative to expand Copenhagen's pedestrian district to the street onto which they'd relocated.

In any case, the merchant class of downtown Copenhagen did not collapse, and Danes, it turned out, could be as easily persuaded as Italians or anyone else to sit out in the sun sipping a coffee or a Carlsberg. Indeed a new tradition would be introduced before long at outdoor cafés the length of the Strøget (and in time across the nation), whereby café proprietors lay out fleece blankets on their outdoor seats on pleasant but still-chilly afternoons in the spring and fall.

The Strøget, like a great many other European high streets, was returned once again to its natural place as a premier public

space in the heart of the city. It was a small leap, really, and it might have remained nothing but a quaint regional story of Danish pluck, were it not for a young architect who started to haunt those liberated spaces in the months that followed.

As is so often the case with a Leap, Jan Gehl's jump was a cognitive one, a disruptive shift in point of view and priorities. In the first years after the Strøget pedestrianization, Gehl undertook an unprecedented study of urban life. His interest in the public life of the city began after he married his wife, a psychologist, in 1961. "Why aren't you architects interested in people?" his wife's colleagues would often ask him. Stuck for a reasonable answer, Gehl shifted the focus of his research from the built environment to the people using it.

Gehl became an obsessive chronicler of the everyday minutiae of the Strøget. He counted the number of people walking the street's length at various times of day and different times of year, of course, but he also categorized and quantified the myriad ways people occupied themselves—a varied, vital, amorphous urban pursuit he came to refer to as "spending time." How many café seats were there on the Strøget, and how many were filled? How many people stopped to sit on the rim of the fountain at Gammeltorv? What kinds of storefront made people stop and gawk? What sorts of steps and railings invited people to take a load off for a few minutes? What times of day and year did street entertainers draw the biggest crowds?

Gehl's meticulous study—the first thorough data-driven analysis of urban public space in Copenhagen or anywhere else—was published in Denmark in 1971. Virtually every year since, the reconquered urban space of downtown Copenhagen has been expanded or improved in some way. Until then, only a single small branch and one other square had been added to

the Strøget pedestrian network. But city bureaucrats finally had the proper tools for measuring the size of the city's quantum leap—reams of Gehl's hard data, attesting to the social and economic value of the reconquest philosophy—and they took to the work with renewed zeal. The primary street network was bolstered with four new pedestrian-only avenues in 1973. Several squares were cleared of cars that year as well, and more were added every few years. In 1980, Nyhavn—a row of old candy-coloured warehouses at one end of the Strøget, separated from the wharf by a thin strip of pavement that was being used almost exclusively as a parking lot—was closed to motor vehicles. Nyhavn is the final block in the whole city to fall into evening shadow, and with the cars cleared away that thin strip of pavement became Copenhagen's premier afternoon outdoor-café destination. It has been thronged with drink-sipping patrons, street performers and strolling tourists nearly every sunny day since. In the mid-1990s, the broad square in front of city hall at the other end of the Strøget, long an intractable snarl of traffic circles and bus lanes, was redesigned. Vehicle traffic was moved to the periphery, and the wide centre of the square transformed into a vital space for cultural and political activities in the city. In addition, Copenhagen is now laced with a growing secondary network of "pedestrian-priority" streets, in which cars are permitted at very slow speeds and must yield to walkers and cyclists.

Since the day the Strøget was first closed to motor vehicles, Copenhagen's pedestrian network has expanded more than six-fold, from 15,800 square metres of pavement to about 100,000. Eighty thousand people now stroll the Strøget on an average summer day, and the wintertime foot traffic—though moving faster and stopping less, as Jan Gehl's regularly updated data attests—falls only 40 percent.

The story of Copenhagen's reconquest, however, is not wholly a measure of pedestrian traffic volume. The real revolution has been in the *quality* of the city's public life. The raw numbers may have sold the city on its Leap, but it's all the fine-grained detail, hinted at by the data but often impossible to fully quantify, that has made Copenhagen a global model of sustainable living. The city's residents, once obsessed with the pursuit of *hygge* behind closed doors, have come to embrace the great outdoors of car-free public space with as much verve as any urban population on the planet.

THE LIBERATED CITY

On a recent visit to Copenhagen, I had a morning meeting at a business park in a distant western suburb of the city. I rode the regional commuter train nearly to the end of the line, anticipating an unpleasant slog from the train station to the site of my appointment. I've stubbornly insisted on using public transit to traverse suburban commuterville countless times before in sprawling metropolises from Southeast Asia to Silicon Valley, and it's always a mistake. I inevitably find myself marooned in a pedestrian-free desert populated by generic clusters of office pods separated from each other by six lanes of high-speed traffic, with nothing even vaguely resembling a sidewalk in between.

In suburban Copenhagen, though, I was a little surprised to find a dozen other commuters emerging onto the platform at my stop, and I was flat-out amazed when I followed their lead to reach not a parking lot but a tidy paved pathway reserved for walking and biking. It was separated from the rushing cars by a wide grassy median, and it wound through pod after pod of low glass office buildings and factories with bucolic ease. There's the whole grand

urban reconquest in a single surprising fact: it's *wholly pleasant* to walk through a business park in suburban Copenhagen. The city's Leap has been great enough that it has reconfigured even the industrial wastes of its distant, car-centred suburbs.

Copenhagen is not perfection, not some tidily packaged finished product of flawless city living, because sustainability is a process of change and adaptation, not a destination. Copenhagen is simply the state of the art in urban sustainability, the world's richest repository of best practices, refined and updated with mounting enthusiasm.

"Quality of life"—*livability*, for short—is a highly subjective term. What qualities? Whose life? Measured how? But in any case, Copenhagen now routinely finishes at or near the top of global livability rankings. It placed either first or second on the last three worldwide "Most Livable City" lists published by the jetsetting British journal *Monocle*, for example, and it was named the greenest city in Europe in an exhaustive survey conducted by Siemens and *The Economist*. The Danish capital is about the same size as Detroit, but the average Copenhagen resident lives—lives *well*—using only one-tenth as much energy. The city is a sort of living repudiation of the idea that a low-carbon, car-free lifestyle in a dense city is in any way a kind of sacrifice. Sustainability's hairshirts, it turns out, are cozy and stylish.

For a full generation now, the baseline of Copenhagen's transportation policy has been to keep growth in motor vehicle traffic volumes flat, even as the city grew rapidly. And this simple change in point of view—not to treat increased traffic volume as some inevitable facet of urban growth but to refuse to let it happen at all—has guided a fundamental shift in the city's planning and design. To cite just one unconventional measure for keeping gridlock at bay, Copenhagen's transportation officials have been

slowly chipping away at the number of available parking spaces across the city, eliminating an imperceptible 2 or 3 percent each year. At the same time, the city has actively encouraged the growth of other modes of transportation—not just feet on pavement but subways and commuter trains and especially bicycles.

Maybe the most illustrative example of Copenhagen's impressive achievement in the art of green livability is the modest digital counter mounted alongside Norrebrøgade, one of downtown Copenhagen's busiest commuter arteries. The device is a tall, slim slab in black and grey, about the size of a small billboard. Its four LED displays inform commuters of the date, the time, the number of bicycles that have passed over the sensor embedded in the bike lane beside it on the current day, and the cumulative volume of bike traffic that has passed since it was installed in June 2009. The reason the sign is on Norrebrøgade is because it is the test case for a new innovation called the "Green Wave," in which the avenue's traffic lights have been carefully synchronized so that bicycle commuters will hit nothing but green lights on their ride to and from work. The city has introduced this innovation basically because it is not satisfied with its enviable livability. Copenhagen intends to be completely carbon neutral by 2025, and one way it plans to achieve this goal is by becoming the most bike-friendly city on the planet.

In 1996 Jan Gehl and his academic partner, Lars Gemzøe, published a progress report on the Copenhagen reconquest entitled *Public Spaces Public Life*. The study overflows with impressive stats, perhaps none more startling than the city's commuter data. Thirty-one percent of the metro area's residents, the study noted, were by then travelling to and from work by mass transit—the exact same portion as travelled by car. And the largest share—34 percent of all Copenhageners—making their daily commute

by bicycle. Within a generation, the motor vehicle traffic that had nearly ground downtown Copenhagen to a halt in the early 1960s was well on its way to becoming the choice of last resort for Copenhagen's commuters.

The bicycle's share of Copenhagen commuting has since grown to 37 percent citywide, with fully 55 percent of downtown residents now using bikes as their primary transportation mode. (Only 25 percent of Copenhageners now commute by car.) Recently, the goal was set to expand the city's legions of cyclists to 50 percent of all commuters by 2013. To this end, bike lanes have been dramatically expanded and improved across the city. The standard Copenhagen bike lane is physically separated from motor vehicle traffic, either by a curb, a line of parked cars or a tree-lined median. At busy intersections, the bike lanes, often as thick with traffic as the roads next to them, are governed by their own traffic lights. When this failed to improve the bike accident figures sufficiently, the bike signals were given priority, switching to green a few seconds before the motor vehicle signals so that the bike traffic is already out into the intersection before anyone in a car can decide to make a right turn. At the most dangerous intersections, right turns for motor vehicles are controlled by a separate signal entirely and forbidden while the bikes have the right of way. (This has all but eliminated the dreaded "right hook," probably the single biggest cause of serious urban cycling accidents the world over.)

Even best-in-the-world bike lanes aren't enough to achieve the city's increasingly ambitious goals all by themselves. "We have sticks and we have carrots and we have tambourines, and you can't reach 50 percent with just carrots," Copenhagen bike planner Niels Jensen explained. "I mean, we have a pretty good infrastructure, and of course it can be better. Much better. But still it's a

pretty good infrastructure. And even if we build it complete, we don't believe that you can reach 50 percent." The city was considering the most effective stick—a congestion charge that would impose steep fees on motor vehicles entering the inner city during business hours—but Denmark's federal government has vetoed that measure until 2015 while it considers a user-fee scheme for roads and highways nationwide. Which leaves tambourines, cheerleading and other forms of persuasion from the behavioural economist's toolkit. The digital "Green Wave" sign on Norrebrogade, for example, reminds cyclists every day that they are legion, and that the city has adjusted the traffic signals to maximize the ease of their collective journey. Like a smiley face on an electricity bill, it's a routine reminder that the city's bike commuters have made the right choice, that they are part of a large and growing movement.

It's also a strong example of the sort of can't-see-there-from-here resistance that can persist even *after* a successful Great Leap. Jensen again: "The Green Waves for cycling—that's something we have been fighting here for many years. The engineers said that it's not possible to do that. You can't make a Green Wave for let's say ten or twelve signals, coordinate them, because the speed of the cyclists is too uneven, it varies a lot. But when we tried it, it worked perfectly well. So it has changed what is possible to do."

The net result of all this, Jensen noted, is to create a city where cycling becomes automatic, the default option. "It becomes like breathing" is how he phrased it. I heard almost the exact same description from the bike enthusiast who brought me to see the Green Wave counter in the first place—Copenhagen filmmaker and biking advocate Mikael Colville-Andersen, who'd only settled in the city when he was in his twenties.

By the time I met him, Colville-Andersen had become a

consultant to cities around the world on Copenhagen's approach to biking, as well as the proprietor of two well-trafficked blogs that documented its evolution day to day. He had a funky cargo bike leaned up against the park bench where we sat, watching the thick flow of morning commuters pedalling by on Norrebrogade. Here's Colville-Andersen on his introduction to cycling in Copenhagen: "When I got off the train and down to my friend's house, he said, 'Alright, there's two things you need to know, Mikael. One is that FC Copenhagen is now your football club, and you can't decide that, okay?' And the other one was, 'You need a bike.' That was just a necessity of life here."

He paused to point out a particularly stylish young woman biking by. The noted absence of Lycra racing gear and generally casual vibe of Copenhagen's bike crowd is a recurring theme—Colville-Andersen considers it critical to cycling's impressively steep growth curve in the city. "Here, the bicycle is a vehicle," he explained. "It's a tool. We have 500,000 people who ride every day, and I always say we don't have any cyclists in Copenhagen. None of them identify themselves as a cyclist. They're just people who are getting around the city in the quickest way."

As with great design generally, urban design is at its most exemplary when it is mostly invisible, intuitive, inevitable. *Like breathing*. Fortysome years after flirting with a cycling ban, Copenhagen had designed a bike transportation network with that kind of unconscious ease to it—as powerful a symbol as any of the success of the city's Great Leap. And the process, it turns out, is easily translated to languages other than Danish. Colville-Andersen even has a word for it, a verb to describe the act of making a Great Urban Leap. It's the name of one of his popular blogs on the subject. *Copenhagenize*.

COPENHAGENIZATION

For their fiftieth wedding anniversary, Jan Gehl and his wife decided to take a self-propelled tour of Gehl's life's work, a sort of mobile review of the Copenhagen urban sustainability model. They got out their bikes, I mean, and they went for a good long ride. Gehl: "My wife and I, in our early seventies, we did our 20 kilometres through the city, through all of the nice places in the city. On our bikes, in leisurely tempo, and a good style—on safe bicycle lanes—and had a wonderful dinner at an outdoor café. Which was one of seven thousand outdoor seats. And all the bicycle lanes and all the outdoor eating has happened while we were married. We could not have done that forty-five years ago."

Simply spending time—it might be the paramount example of the understated revolutionary force of the whole Copenhagenization process. Imagine almost anything called to mind by the word *urban*—from a debate across a Parisian café table to the teeming bazaars of Delhi or Marrakesh—and the image it inspires is one of people spending time. Unmeasured and unvalued until Gehl started tracking it statistically, this practice of spending time turns out to be precisely the sort of incidental interaction of people in public space that differentiates a thriving city from a dying one.

Just as Copenhagen had embarked on the rapid expansion and enhancement of its public spaces, and Gehl began assembling his array of statistics tracking urban vitality, cities all over the world were encountering grave crises in the health of the public sphere. They didn't always realize that this was the nature of the problem, though, at least not at first. The crisis instead may have been initially understood as traffic congestion or urban decay, violent crime or the drug trade, the "donut city" problem of a downtown drained of its vitality to feed growth at the

periphery, a dwindling tax base or crumbling infrastructure. Recall the near-broke New York of the 1970s, its government going bankrupt and its public squares turned into warrens of vice—it was becoming a place in which people didn't want to spend time. Its public sphere, broadly defined, was in crisis.

Though mostly unmeasured, this public sphere is not an incidental feature of the city. It is rather its lifeblood. It is the well-spring of all social capital. When Francis Fukuyama described social capital as the *sine qua non* of democracy, he was referring to the many processes of civic engagement in the public sphere that build a healthy political culture. The regulatory failure that permitted the financial meltdown of 2008 was a failure of the public sphere. The externalization of the real cost of our energy use—resulting in both our addiction to fossil fuels and the climate crisis that addiction has caused—is at base a failure of the public sphere to properly account for the public costs of private enterprise. And many of the most acute problems of the modern city were caused by the privatization of the public sphere, starting with the conquest of public streets by private automobiles.

The historian Tony Judt has argued that "the disintegration of the public sphere" is the defining crisis of twenty-first-century democracy—a self-reinforcing and thus deepening crisis, particularly for the current generation of youth growing up in societies devoid of a functional public sphere. Judt's *Ill Fares the Land* is worth quoting at length on the subject:

If public goods—public services, public spaces, public facilities—are devalued, diminished in the eyes of citizens and replaced by private services available against cash, then we lose the sense that common interests and common needs ought to trump private preferences and

individual advantage. And once we cease to value the public over the private, surely we shall come in time to have difficulty seeing just why we should value law (the public good par excellence) over force . . . In an age when young people are encouraged to maximize self-interest and self-advancement, the grounds for altruism or even good behavior become obscured. Short of reverting to religious authority—itself on occasion corrosive of secular institutions—what can furnish a younger generation with a sense of purpose beyond its own short-term advantage? . . . If we don't respect public goods; if we permit or encourage the privatization of public space, resources and services; if we enthusiastically support the propensity of a younger generation to look exclusively to their own needs: then we should not be surprised to find a steady falling-away from civic engagement in public decision-making.

Or, to put it in Copenhagen's terms, how would you learn the value of great public spaces—how would you understand how critical it was to invest in them—if you'd never spent time in one?

Such was the situation for a wide swath of the urban world just as Copenhagen's public-space renaissance was hitting its full stride, and so Jan Gehl began publishing his urban design ideas for audiences outside Denmark. The first English translation of his 1971 study of Copenhagen appeared in 1987 under the title *Life Between Buildings*, and it inspired reconquest campaigns in cities around the world. Gehl's expertise was soon in high demand, and he realized that in documenting his hometown's public life, he'd developed a toolkit that could be easily used to reinvigorate public spaces and build sustainability back into cities anywhere.

"Cultures and climates differ all over the world," he once told an interviewer, "but people are the same. They will gather in public if you give them a good place to do it."

The global reconquest has taken Gehl—and, later, the urban design firm he established to meet the growing demand for his services—from Oslo to Zurich and from São Paulo, Brazil, to Guangzhou, China. He worked with the city of London in the wake of its massively controversial congestion charge to enhance its newly decongested urban spaces, and he redesigned the harbourfront in Pittsburgh to be a "100-percent location," where people live and work and play all hours of the day and every day of the week. In every case he's found that following the same simple principle—the development of quality public space in places where there are lots of people—has worked as a catalyst for reconquest. And he has encountered essentially the same resistance to his initiatives every time.

Consider the very first step Gehl often recommends, which is the physical reclamation of some portion of the city's streets from the dominion of the automobile. Total pedestrianization is not always prescribed—sometimes simply building wider sidewalks, removing parking spaces and reducing traffic volumes can do most of the work of Copenhagenization. But in any case Gehl inevitably runs into the same litany of caveats and counterarguments. Traffic will go berserk. People will flee the space in droves. And businesses, in particular, will never be able to find customers in this strange new world.

Gehl: "In all the years I've worked, I've never come to any city anywhere without somebody pulling me aside and saying, 'You must realize, my good man, that this is contrary to the spatial culture in this particular place.' Could be Canada, could be New York—especially New York—could be Australia. All the

places—even in all the Danish provincial cities, going from one to the other—you'll always be told that in this particular little region and corner of the country, we have a rather special way of using our cars here which you must realize. And then things were changed and you heard nothing afterwards. That's typical. And when it has been recorded, there is solid proof that to treat people gently is good for business."

In Brighton, England, Gehl Architects redesigned a key commercial street, reducing automobile traffic by 93 percent, increasing pedestrian traffic by 62 percent, and upping the volume of people "spending time" by a factor of six. Gehl helped Mexico City conceive and execute its first modern cycling infrastructure, laying out more than 300 kilometres of new bike lanes. In Rotterdam and Sydney and Wellington, New Zealand, Gehl and his colleagues have counted people strolling, sitting, cycling, spending time. Without fail, the Copenhagenization process has proven useful in places with nothing whatsoever in common culturally or geographically with a Scandinavian harbour city built on a medieval street plan. *Cultures and climates differ all over the world, but people are the same. They will gather in public if you give them a good place to do it.*

Perhaps the hardest test for Copenhagenization's axioms has been the city that considers itself the exception to every rule, the ultimate metropolis—New York. Jan Gehl's whirlwind relationship with the Big Apple began in November 2005 with a lecture at New York University and a meeting with civic leaders to discuss the city's urban design. Before he left, he was interviewed by an enthusiastic executive from a local engineering firm named Janette Sadik-Khan. Just over a year later, Michael Bloomberg appointed her commissioner of the New York Department of Transportation (DOT), and by 2007 Gehl and his colleagues were

counting walkers and gawkers on the streets of New York City. They determined that New York was a world-class walking city in terms of pedestrian numbers and latent potential, but it was an incoherent, dysfunctional mess in terms of pedestrian infrastructure. Fully 30 percent of the sidewalk surface along the three busiest miles of Broadway, for example, was covered over with scaffolding, and a mere 3 percent of the "at rest" space on a key shopping artery in Soho was dedicated to pedestrians. (The lion's share of it was a parking lot for cars and bikes.) Some of Gehl's findings beyond Manhattan were especially surprising. Who'd have suspected, for example, that Flushing Main Street in Queens saw more pedestrians each day than Copenhagen's pedestrian-friendly Strøget? But its sidewalks, a mere half the width of the Danish model, were overcrowded 83 percent of the time, impeding not just walking traffic but safe and efficient transit use.

Gehl's survey was published in early 2008, and by summer the reconquest was underway. For three consecutive Sundays that August, a 7-mile stretch of Park Avenue and the Bowery, from Central Park to the Brooklyn Bridge, was closed to motor vehicle traffic. More than 150,000 New Yorkers thronged the liberated street, building support for the broader campaign. Street by street and sidewalk by sidewalk, Sadik-Khan and her speedy redesign crews transformed Gehl's recommendations into reality. Car-choked concrete expanses became modest public squares at Herald Square in front of Macy's, at Madison Square at the foot of the iconic Flatiron Building, in a small patch of nameless, derelict parking space in Brooklyn. The re-engineering of stretches of Broadway—including the full pedestrianization of Times Square—not only created vibrant public space on the city's primary thoroughfare but allowed for smarter traffic-light timings on east-west cross streets, improving motor vehicle traffic flow

throughout Midtown Manhattan. (Northbound taxis traversed Midtown 17 percent faster on average after the closure.) A bus rapid transit (BRT) system was launched to improve commuting crosstown and beyond. Ninety miles of new bike lanes were designated in just the first year of the new program, precipitating an unprecedented 35 percent spike in bike commuting (well on its way toward a goal of tripling bike traffic in New York by 2020).

Here's Sadik-Khan on the strategy at work: "It's great to have a great idea. 'World class streets for a world class city!' Who can argue with that? But getting it done really was the difference. And so we developed this rapid implementation team here, so that we could transform pavements into plazas in a matter of weeks. With just a paint can and a paint brush and some planters, we were able to grab underutilized pavement and give it back to people."

If the shock of a car-free Times Square garnered the most headlines (and inspired the most groans), the most thorough Copenhagenization of New York might be along Ninth Avenue, which runs arrow-straight up the west side of Manhattan. Ninth Avenue is a broad commuter artery carrying one-way traffic south out of the centre of the city—the sort of high-speed automobile channel that has always been especially dangerous and forbidding for pedestrians and cyclists. Using a loosely codified set of design principles for implementing Copenhagen-style smart growth called "complete streets," twenty blocks of Ninth Avenue were reconfigured as an everyday functional counterpart to the Times Square marquee. To turn the car-centred avenue into a complete street, a smart bike lane was built along one side, separated from motor vehicle traffic by a mix of medians, concrete planters and parked cars. (It was the first physically separated bike lane ever built in New York, and bike traffic shot up 57 percent within a year of its construction.) A range of medians and other "pedestrian

refuges" were installed at every intersection, serving both to slow down motor vehicles on cross streets and physically narrow the space pedestrians have to traverse to cross the street by more than 30 percent. At the complete street's southern end, triangular patches of old pavement and cobblestone have been hemmed in by concrete slabs and planters to cordon off Gansevoort Plaza as a pedestrianized square. After generations as a space almost exclusively for cars, the pavement of Ninth Avenue has been reclaimed as a public space for all. It has also become a model for citywide complete street redesign.

The tools of Copenhagenization are sufficiently commonsensical and universal that a great many cities around the world have liberated themselves without Danish assistance. Nevertheless, the same basic techniques and processes are generally at work—and the same biases, as well. Portland, Oregon, for example, is every urban designer's preferred example of a formerly car-dominated American city that has waged a thorough and successful battle against the automobile. In Portland's case, the catalyst for change was a ferocious political fight in the 1970s to stop the levelling of a downtown neighbourhood to make way for a freeway. The victors in that battle soon discovered many of the same tools their Copenhagen colleagues did. They rehabilitated and inaugurated a few public squares. They developed good public places for people to gather in. They expanded mass transit and built safe, dedicated, often physically divided bike lanes—more than 300 miles of them to date, for the same price as a single mile of freeway. As a result, bicycle use in Portland tripled in the first decade of the twenty-first century, and Portland's transit system, which nearly went bankrupt for lack of passengers in the late 1960s, now carries one of every eight of the city's commuters to and from work each day.

In Montreal, the city's public sphere reinvestment found its initial inspiration in the city's longstanding tradition of closing streets for grand summer festivals. In 2008 a twelve-block stretch of Ste-Catherine Street—the city's closest analogue to Copenhagen's Strøget—was closed to motor vehicles for the whole summer. Around the same time, the municipal government began developing a public bike-sharing system similar to the one pioneered in Copenhagen (and later expanded upon in Paris and Barcelona). The Montreal system's designers took care to address the shortcomings of the first generation of systems. Paris's Vélib' bikes, for example, were easily broken, so Montreal's bikes are built on a durable one-piece aluminum frame. In Barcelona, bikes had a tendency to migrate to the bottom of hills and never return to the top, so Montreal's system is modular, with locking stands that can be moved to meet roving demand. The resulting system—Bixi by name—was assembled from scratch in just eighteen months and launched in the spring of 2009. It was an overnight success: not only has Bixi quickly emerged as a highly visible symbol of the city's deepening commitment to urban sustainability, with more than five thousand bikes in operation by just its second year and a 99.7-percent in-service rate, but it has become the market leader as bike-sharing systems spread around the world. After just two years on the market, Bixi systems have been installed in London, Toronto, Minneapolis and Washington, D.C., and there are Bixis on order for Boston and Melbourne.

This urban bike boom is just one facet of a broader global movement toward Copenhagen-style livability. As I noted earlier, popular demand in the US for homes in walkable, human-scale communities far exceeds supply, and such housing commands a premium wherever it has been built. In one study, the simple fact of being located within walking distance of entertainment,

shopping and other amenities added between \$4,000 and \$34,000 to the value of an American home; in Belmar, the pioneering New Urbanist district in the Denver suburb of Lakewood mentioned in Chapter Two, property values were as much as 60 percent higher than the surrounding neighbourhood, while homes in a similar development in suburban Washington, D.C., were valued 50 percent higher than those in less walkable parts of the community.

In the developing world, as well, smart urban growth has become a widely adopted tool for broader improvements in quality of life. Efficient new mass transit systems in cities like Bangkok and Delhi have become powerful symbols of urban ambition, while in Bogotá and Medellín (as discussed in Chapter Two), pedestrian walkways, bike lanes and BRT were critical tools in crime prevention and poverty reduction as well as urban renewal.

These cases duly noted, Copenhagen remains the most revered model for urban sustainability worldwide. And so to fully understand how Copenhagenization works, let's take a closer look at the city that has had the longest and deepest experience with the process: Melbourne, Australia.

COPENHAGENIZATION DOWN UNDER

In June 1978, there appeared in *The Age*, Melbourne's prestige daily newspaper, a vitriolic analysis of the city's urban design. "Effective city planning has been almost unknown in Melbourne for at least thirty or forty years," wrote Norman Day, *The Age's* architecture critic. "For the ordinary Melburnian, that means our city has been progressively destroyed. It no longer contains the attraction and charm it once had." The essay's headline pointed toward the root of Melbourne's problem. AN EMPTY, USELESS CITY CENTRE, it read.

Melbourne was, in other words, an archetypal example of the “donut city” pattern that had dominated the growth of New World cities since the Second World War. The exigencies of the automobile and the suburban tract home had emptied out downtowns in booming metro areas from the Canadian prairie to the American heartland to the southern coast of Australia, as people and their tax revenue rushed to the low-rise, car-centred periphery. Melbourne was a particularly acute case: a small, central municipality surrounded by a broad and fast-expanding ring of separate suburban boroughs. The boundaries of the City of Melbourne itself contained less than half as many residents as it did at its 1954 peak, and the central business district (CBD) was almost completely bereft of noncommercial life. The CBD’s total residential population was barely 1,000, and its tall office towers were linked by “skybridges” that sucked still more life from its streets. In addition, many of the wide Victorian avenues of Melbourne’s gridded downtown had been turned over to through traffic that traversed the core at high speeds en route from one suburb to another.

Today, Melbourne might well be the most fully rehabilitated donut city in the world. The inner city bustles day and night, its broad sidewalks thick with foot traffic and its laneways overflowing with cafés and funky little shops. At the southern edge of the CBD, crowds gather on the expansive steps of Federation Square, the landmark plaza studded with stylish restaurants, galleries and performance spaces that was inaugurated in 2002. No city has worked as closely for as long with Jan Gehl—his involvement in the civic life of Melbourne has spanned more than thirty years—and so Melbourne is also the poster child for Copenhagenization. It provides incontrovertible proof that the tools of Danish urban design can be applied successfully to the streets of even the most car-obsessed New World metropolises.

The reconquest of Melbourne—its Leap from donut city to global model of urban sustainability—would in time require a thousand big changes and tiny tweaks to the fabric of the city, but it began with two running steps. The first was the election of new governments at the local and state levels in 1983, both of which came to power with explicit revitalization mandates. It was broadly understood that the status quo no longer served the city; people and public space simply had to be put ahead of cars if the city was to have any future at all. Working with a range of consultants—eventually to include Jan Gehl—the municipal government developed a new master plan and began charting its new course.

One of the key consultants, Rob Adams, was installed in a new position, director of city design, and charged with the task of coordinating activity in disparate city departments toward the common goal of revitalizing the city as a whole. Adams would prove to be an even more critical figure than Gehl in Melbourne’s reconquest. In the first years of his new job, Adams busied himself with a laundry list of minor details: installing better surfaces of iconic Melburnian bluestone on the sidewalks, cajoling downtown developers into building more and better “active frontages” for the street-level facades of their buildings, planting more trees streetside.

The next stage in Melbourne’s Leap—the point of no return, when it truly launched itself from the car-centred, unsustainable side of the chasm to the sustainable Copenhagenized side—started in 1991. It began with the partial pedestrianization of Swanston Street, the Melbourne CBD’s most important north-south thoroughfare. Streetcars and service vehicles were still permitted to use the street around the clock and it would reopen to all traffic in the evenings, but for much of the working day it was liberated from motor vehicle traffic. “We had 26,000 cars

thundering through the centre of the city," Adams recalled. Now they had virtually none. This "grand gesture," as Adams referred to it, was symbolically important, even if it was only a minor transformation at street level. Naturally, the neighbourhood's merchants held up their old yardsticks and estimated that the closure amounted to a disaster roughly the size of a retail apocalypse. Adams: "The retailers were up in arms, we were going to kill them. Well, we've doubled the number of pedestrians walking past their doors. You know, you don't shop from a motor car—not at 60 kilometres an hour, you don't."

In the wake of this first victory, Melbourne's reconquest quickened its pace. Adams brought in his old friend Jan Gehl (who had taught at the University of Melbourne in the late 1970s) to assemble the statistics and make the case for the next phase of the plan. A 1994 report, *Places for People*, co-authored by Gehl and the City of Melbourne's urban design and strategic planning departments, established "benchmark data" to measure the success of the coming changes, set targets for the city's public life to be achieved by 2001, and proposed strategies for reaching them. As in Copenhagen, Gehl's first contribution was simply to provide measurement where none had previously existed.

But Gehl served a second purpose, possibly the more critical one. Australians talk often of their chronic "tall poppy syndrome"—their tendency to hack down fellow Aussies whose ambitions grow too high—so Gehl, as a distinguished foreign expert, could make the case for boldness where a local official couldn't. Adams again: "Jan's role here was not in actually writing the strategy—he never did that—but in assisting as a sort of an international mentor that could actually sometimes act as a voice for what we were trying to do, and therefore gain recognition from the local people that this wasn't a bad way to be going."

In addition to fewer and slower-moving cars, the report recommended more residences, more outdoor cafés, more and better public spaces, quieter trams, and integrated street furniture. All of this would come to pass, and then some, with startling speed. Outdoor café seating shot up by 177 percent over the next ten years, and public space grew by 71 percent. The long-neglected City Square got a smart new makeover, and the swish new Federation Square made its debut. Weekday pedestrian traffic was up 39 percent across downtown, and evening foot traffic had doubled. The 1994 report recommended increasing downtown Melbourne's population from about 2,000 to 4,000 by 2001; by the time of the 2004 follow-up report, more than 9,300 people lived in the downtown core, and the total number of apartments in the area had grown by more than 3000 percent from the 1982 level. Newspaper kiosks, water fountains, public toilets and information pillars were all built to the same design specs, underscoring the renewed sense of integrated street life and civic pride. In 2003, just twenty-five years after dismissing downtown Melbourne as an "empty, useless city centre," *The Age* described it as "a city few would have imagined thirty or even ten years ago." Gehl called it "the Melbourne miracle."

There's probably no stronger symbol of the nature of that miracle than Melbourne's laneways, which have been transformed from unloved back alleys for service vehicles into the very heart of the city's street life. The laneways began life as a sort of correction to a planning error; when the city's downtown grid was laid out in the mid-1800s, it was built with overlong east-west blocks, so small paths were cut into the blocks, providing shortcuts for pedestrians and, in time, pleasant shopping arcades. In the age of the automobile and the office tower, however, the neglected laneways had been reduced to service corridors, places for delivery

trucks and garbage bins. When Jan Gehl conducted his 1994 survey of Melbourne's street life, he found that just 8 percent of the 3.7 kilometres of the city's laneways were "accessible and active." The *Places for People* report strongly urged the municipal government to reconquer this forgotten public space.

Rob Adams and his team were particularly vigilant on this point. The city's "laneway improvement program" obliged new and refurbished buildings alongside laneways to include active frontages and put huge incentives in place for existing developments to open their laneway-facing facades to retail activity. The impact was revolutionary: by 2004, 92 percent of the city's laneways were "accessible and active," which only hints at the scale of the change. Melbourne's laneways aren't just active—they are perpetually *thrumming*. They're lined with stylish little boutiques and shops and packed with cafés and bars. There are grandly restored Victorian arcades in the laneway network, but there are also funky little warrens enlivened by graffiti art and hip music. The old cracked concrete between buildings has been replaced in many laneways with pleasing brick or bluestone, but often as not it is barely visible for all the café tables and chairs and stools that fill the space. By day they offer up coffee and lunch to hordes of office workers, and by night they are the preferred launch pads for evenings out in Melbourne's boisterous core. The laneways zigzag throughout the city centre, as if a broad Italian piazza has been unravelled into a thin strip and strung around the city like garland.

Melbourne's lanes also illustrate a critical lesson about Copenhagenization: It is a broadly applicable disruptive technique, but it is not a one-size-fits-all urban model. When it adopted the Copenhagen point of view, in other words, Melbourne did not import the physical geography. Cobblestones were not laid on

Melbourne's streets, and its buildings did not get primary-coloured paint jobs in the style of Copenhagen's old harbour warehouses. Instead, Copenhagenization cast Melbourne's existing infrastructure in a new light. The unloved vestige of its laneways became its greatest asset. But they are distinctly Melburnian, not a universal fix. Here's how Rob Adams explained it: "A lot of people who come to Melbourne say, 'We love the lanes. Now, we've got to copy these lanes.' Well, you know, that's fantastic they want to copy them, but unless your city's actually got them already, it's going to take you decades to get people to put lanes back. So we were lucky . . . The challenge is to get people to realize you just can't pick up one model and transport it to another city. You can pick up the *principle* that we're going to make the city more livable."

It was mid-2008 when Rob Adams told me this, and he had no intention of easing up on his campaign for change. He'd just moved into an office in the municipal government's elegant new tower, which was far and away the greenest building ever built in Melbourne. It was solar-panelled for both electricity and hot water, generously sunlit and efficiently lightbulbed to reduce its energy use for lighting by two-thirds, and outfitted with nighttime "purge windows" to air-cool the building and reduce the air-conditioning load by a fifth. It was intended to inspire the city's next Leap.

"The 1980s was about livability—we've done livability," Adams told me. "You know, we can vie with the best in the world about a livable city. Our agenda now is sustainability. But ironically, the criteria used for livability and sustainability are very similar. So the good news is if you convert to a sustainable model for a city, it's actually going to become a better place to live in. Because increased densities, mixed use, connectivity, local

character, all the things that we did to improve the livability of the city are exactly the same things you need to do to improve the sustainability.”

When people gather in public—which they do, as Jan Gehl’s aphorism informs us, wherever you give them good space to do so—there’s more to the scene than just the urbane joy of it. More space for people means less space for cars, fewer tailpipes coughing carbon dioxide. People on foot use transit more often and play and work within walking distance of the places they live. There are plazas from Imperial Roman times that are as functional today as they were then, apartment blocks older than the internal combustion engine that still provide top-quality living space. The same has never been said (and never will be) for freeways and off-ramps. When the people come to the reconquered city, they may come for the livability, but they stay because the scene can sustain itself. They stay because there is public space to *be* in. Public space is the physical location for civic life, social interaction, the nurturing of that elusive but precious commodity called social capital. It is out of such raw materials that community is built. And community, both as a physical place and as a social force, is a vital ingredient in The Leap to sustainability.

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THE LEAP IN THE COMMUNITY

POWERLESS

WHEN HARVARD UNIVERSITY political scientist Robert D. Putnam set out to define and quantify “social capital”—that network of formal and informal associations, professional and personal relationships and reciprocal engagements by which an enormous amount of society’s critical institutions get built and the world’s business gets done—he recognized it would be a slippery concept. His own summary description acknowledges social capital’s ephemeral nature. “The term social capital emphasizes not just warm and cuddly feelings,” Putnam wrote, “but a wide variety of quite specific benefits that flow from the trust, reciprocity, information, and cooperation associated with social networks. Social capital creates value for the people who are connected and at least sometimes for bystanders as well . . . When a group of neighbours informally keep an eye on one another’s homes, that’s social capital in action. When a tightly knit community of Hasidic Jews trade diamonds without having to test each gem for purity, that’s social capital in action. Barn raising on the frontier was social capital in action, and so too are email exchanges among members of a cancer support group. Social capital can be found in friendship networks, neighborhoods,