

Brave New Non-motorized World

Look for a surprising resurgence of foot and pedal power in the coming decades.

By Jay Walljasper

Futurists writing about transportation used to talk about a sci-fi wonderland, where kids zoom to school with jet-propulsion packs on their backs and adults cruise along "smart highways" equipped with laser sensors. A decade ago, friends of mine here in Minneapolis bought a 1960s-era suburban house that included a helipad for the presumably not-too-distant day when helicopters would whisk everyone around town.

Not much of that came true. Instead, we have freeways backed up in all four directions and jammed arterial streets — which is why planners throughout the U.S. are going back to the drawing boards in search of new, more realistic ideas for getting people from place to place.

This shift in thinking is influenced by a shaky economy, volatile fuel prices, and mounting concern about the environment. In 2009, the Federal Highway Trust Fund will face its first shortfall in years, and declining gasoline sales and tax revenues will mean less cash for state and local transportation agencies. Meanwhile, as we saw with the collapse of the I-35W bridge in Minneapolis, an aging highway system demands hefty funding for maintenance.

Some of what's being proposed today still exudes a Space Age utopianism. Think of Ithaca, New York's interest in personal rapid transit, in which taxi-sized transit cars would zip around an extensive network of overhead lines. But more common (and certainly less expensive) is the rising number of planning initiatives focused on transportation modes that predate the Model T: bicycles and our own two feet.



It's a start

The last federal transportation bill, SAFETEA-LU, appropriated \$100 million for pilot projects to explore innovative ways to promote bicycle and pedestrian commuting in four communities: Marin County, California; Columbia, Missouri; Sheboygan County, Wisconsin; and Minneapolis.

That amount is only a fraction of the funding that would be needed for a few miles of new urban freeway. But it's enough to prove that programs enabling greater numbers of people to bike and walk are more cost-effective by a wide margin than road projects. And there are additional benefits to nonmotorized transportation, including reducing greenhouse gases and air pollution,

boosting fitness and health, and lowering household costs for gasoline and other auto-related expenses.

"We want to reach beyond the hard core by making it walking- and biking-advantageous for almost everyone," says Steve Clark, who manages Minneapolis's portion of the federal grant in his position as walking and biking program manager for the nonprofit group Transit for Livable Communities. Clark — who was one of the nation's first municipal bicycle coordinators in Boulder, Colorado, during the 1980s — outlines the initial steps in Minneapolis's strategy:

- Narrow certain busy streets from four to three lanes in order to add bike lanes and pedestrian amenities.
- Create bicycle boulevards, where bikers and walkers can pass through newly erected barriers while cars and trucks are diverted to other streets.
- Improve the pedestrian environment through traffic calming, better-marked crosswalks, curb extensions, countdown clocks on walk lights, benches, pedestrian lighting, and pedestrian plazas.

Such bike and pedestrians plans fit squarely with an emerging planning philosophy known as Complete Streets (described by Barbara McCann in the May 2005 issue of *Planning*). It is based on a simple and sensible idea: Streets are for everyone, not just motor vehicles, and should be redesigned to make room for two-wheeled and two-footed travelers. This means sidewalks on every block, bike lanes on many streets, and design features that ensure the safety and comfort of all.

Several state transportation agencies (in Oregon, Florida, and Illinois) and several cities (Boulder; Seattle; Salt Lake City; Charlotte, North Carolina; and Arlington, Virginia) have already endorsed the Complete Streets principles.

To get inspiration, you need only visit almost any Northern European city, where you will see exponentially more people moving about on bikes or foot than in U.S. cities. One reason for the disparity is safety. Syndicated columnist Neal Peirce has noted that German pedestrians are one-third as likely to be killed in a traffic accident as Americans per mile traveled, and bicyclists one-half as much.



A two-wheeled future

More than 30 percent of all trips in Amsterdam, Copenhagen, and many smaller European cities are made by bicycle — a huge rise since the 1970s thanks to improved facilities. (By contrast, in America's two biggest bike towns — Davis, California, and Boulder — cyclists account for 15 and 12 percent of trips respectively.) Stand on a street corner in Denmark, the Netherlands, or Germany, and you will see all sorts of people riding

by — business executives in expensive suits, women in chic fashions, senior citizens, families taking kids to school — not just the ultra-fit Spandex crowd we expect in the U.S.

In 2005, the distance people traveled by bike in Copenhagen surpassed that of cars for the first time in many decades. Jan Gehl, an international consultant on livable cities based in Copenhagen, proudly told me. "My wife and I celebrated our 45th wedding anniversary by riding our bikes all across the city, something that would have been much harder on our wedding day even though we were much younger," he said.

European planners are forecasting that bicycle use will climb even higher under the influence of a new planning innovation: public bike-sharing systems. More than 100 cities have created a network of stations where riders can pick up rental bikes at little or no cost and then return them at one of many other stations.

"Think of them as tiny transit vehicles you can pick up where you want, go exactly where you want, and leave them there," writes Eric Britton of the Paris think tank EcoPlan International in *Making Places*, the newsletter of the Project for Public Spaces. "They offer the same convenience as the car without all the problems. They are truly a form of personal rapid transit at a fraction of the cost."

The bike sharing systems in Paris and Lyon, France — where thousands of rental bikes ply the streets every day — are funded by a private company in return for advertising rights at stations and on publicly owned billboards. The bike sharing idea has also been adopted in Barcelona, Rome, Berlin, Brussels, Vienna, Montreal, and Washington D.C., and a number of college campuses, with San Francisco, Vancouver, and Minneapolis now giving it serious thought. (See "Share-a-Bike," May 2008).

The widespread notion that biking is a peculiarly European way of getting around, with little relevance in the auto-happy U.S., seems to be breaking down in the face of unpredictable gas prices, a nervous economy, and mounting concern about global warming. In Denver last June, 11,000 first-timers took part in the annual Bike-to-Work Day, and in Minneapolis, the number of bike commuters has increased by more than 40 percent in the last two years.

What's new?

A lot of human ingenuity and imagination is being applied to the bicycle right now, which has led to such innovations as these:

- Human-powered vehicles. Visionary tinkerers and entrepreneurs are transforming bikes into delivery vans, family vehicles, taxis, and cargo trucks. In my own Minneapolis neighborhood, a "zero-emissions" handyman makes service calls in a pedal-powered truck that is equipped with tools, supplies, and even ladders. A neighbor family drives grandpa around in a bike car — two bikes attached side-by-side by removable metal bars, with a canvas roof overhead.

Such sights are not unusual in places like India, Indonesia, and Bangladesh, where bicycle rickshaws and carts play a prominent role in moving people and goods. Although these vehicles

have been championed by the World Bank as a sustainable form of transportation that boosts local economies, many Asian authorities view them as embarrassing symbols of underdevelopment. Not so in New York, where pedicabs (the Western name for bicycle rickshaws) are increasingly seen on Manhattan streets, outcompeting taxis for fun and speed over short distances.

- **Four-lane bike trails.** The introduction of wider bikes — including adult tricycles, increasingly favored in the U.S. by the elderly and other riders not always sure of their balance — calls for a reevaluation of the width of bike lanes. This makes sense even for two-wheel travelers who like to ride side by side when traveling in pairs. Lars Gemzoe, a partner in the Danish planning consulting firm Gehl + Associates, told me, "In Copenhagen, we view biking as a social activity; therefore, our new standard is to give people room to ride two abreast with extra room for passing wherever possible."

As bicycle traffic grows in the U.S., bike paths with an extra lane for passing or turning may become necessary to keep the traffic flowing.

- **Bike expressways.** This talk of wide pavements and passing lanes indicates that these are not your father's bike paths. Bikers in the Twin Cities already enjoy a network of trails that function like a freeway system, allowing them to wheel around cities and suburbs separated from the street grid with minimal cross traffic.

- **Biking for all seasons.** Although federal funding for bike projects generally requires facilities to be designed for year-round use, many planners still view biking as a warm-weather pursuit. Yet in Minneapolis, known for its long and cold winters, 30 percent of all bike commuters (including me) ride 12 months a year. If it can happen here, there's no reason that with proper planning biking can't be a year-round activity in every U.S. city south of Fairbanks.

The biggest deterrent to winter biking is early darkness, making adequate lighting along bike trails and city streets a necessity. Snow plowing and ice removal on streets and trails are also musts.



Everyone walks

While most of the buzz about nonmotorized transportation refers to bicyclists, pedestrians are potentially a much larger constituency. After all, even the most unapologetic motorists travel by foot after parking their cars. As Paul Goldberger noted in his essay on Las Vegas ("A Surprisingly Urban Place," November 2008), the Strip itself is increasingly becoming a walking street.

One sign of walking's popularity is the success of walkscore.com, a new website that calculates the walkability of any address you type in. Some real estate firms now trumpet the high walk scores of their properties for sale. Christopher Leinberger, an urban planning professor at the

University of Michigan who specializes in real estate trends, predicted in the March 2008 *Atlantic Monthly* that some of today's desirable subdivisions will become tomorrow's slums as home buyers insist that shops and services be within walking distance.

In his 2007 book *The Option of Urbanism*, Leinberger identified 157 walkable communities in the 30 largest U.S. metropolitan areas — far more than 20 years ago. One surprise in his research is that America's most walkable metropolitan area is not New York City, but Washington, D.C., a fact often attributed to the rise of pedestrian-oriented developments around suburban Metro stops.

The next step is more pedestrian-only streets — a European phenomenon still in short supply in the U.S., where shopping malls have long been the rule. The recent success of suburban "lifestyle centers," essentially pedestrian malls surrounded by parking lots, suggests the inherent appeal of having a place to stroll without dodging traffic. But what about downtown streets that are closed to traffic? The pedestrian malls of the 1960s and '70s largely failed. In part, says Project for Public Spaces president Fred Kent, that was because the pedestrian malls had only a single use — shopping.

"To have a successful pedestrian street," he says, "we have to begin thinking of streets as places in themselves, not just as a corridor for traffic, shopping, or any other single use. That means there must be many different things for people to do while walking the streets."

Closing streets to cars is an idea that has been shown to work in a number of towns — Charlottesville, Virginia; Burlington, Vermont; Boulder, Colorado, all of which prohibit vehicles and program public activities — proving that enjoying pedestrian space is not alien to the American public.

The idea is being tested in a big way right now in New York City. "The streets of New York make up a quarter of the city's area and 80 percent of all its public spaces," notes transportation commissioner Janette Sadik-Khan on the city's website, "and so we must ensure they are safe and equally accessible for all those who use them."

Already, more than two million square feet of road space in New York's five boroughs have been converted to bike lanes. In downtown Brooklyn, Madison Square, the Meatpacking District, Chelsea, and on Broadway in between Herald Square and Times Square, some traffic lanes have been closed off for pedestrian use — a bold move that much to the surprise of skeptical New Yorkers seems to work as people gather to eat lunch, read the newspaper, and relax in the middle of some of the busiest streets in the world. These projects are the start of an ambitious plan to give every neighborhood in the city a public plaza of its own.

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