

# RESTORING CYCLING HABITAT<sup>1</sup>

Why is on-road cycling increasing only slowly, if at all, in the United States?  
Can "facilities-based" strategies for expanding bicycling prevail over fear of motor traffic?  
In this article, a longtime activist urges cycling advocates to explore "rights-based" strategies for increasing cycling in America.



**BY CHARLES KOMANOFF**

*At the same time that we have moved in the right direction in providing bicycle facilities, we continue to lose "bicycle habitat" to mindless land-use development.*

— Robert Raburn  
East Bay Bicycle Coalition (Oakland, California)<sup>2</sup>

*We already have wonderful bike lanes here in Toronto. They're called roads.*

— Anne Hansen, Bikes Not Cars (Toronto)

## **TWO CYCLING GAPS**

The bicycling movement in the U.S. and Canada repeatedly trumpets the growth of cycling. Each year, cycling advocates proclaim, more people are bicycling than ever before. This claim has become part of bicycling advocacy lore.

Through much of the 1980s and into the '90s, industry and advocacy sources reported big increases in bicycling. For example, between 1983 and 1990, the *Bicycle Reference Book* (BRB)<sup>3</sup> suggested that the number of American adults who regularly rode bicycles grew by 150% and the num-

ber of bicycle commuters rose by 133%. The message was: Bicycling is growing.

Unfortunately, this apparent upsurge contrasts sharply with travel data from the *Nationwide Personal Transportation Survey* (NPTS)<sup>4</sup> for the same period. According to the NPTS, the total number of bicycle "trips" grew only 5% from 1983 to 1990, and bicycle commute trips actually fell by 26%.<sup>5</sup> To be sure, some observers, including the author, have criticized the NPTS methodology for possibly under-counting bicycle travel.<sup>6</sup>

Statistics on bicycle sales also suggest a picture more

consistent with the federal trip data than with the rosy image of dramatic growth. From 1983 through 1990, total sales rose by only about 20%, and the market share for adult bicycles increased only slightly, from 53% of the market to 64%, during that same period.<sup>7</sup>

While there is no consensus as to the true level of bicycling in America, most data sources do suggest a relatively static picture. One thing not in dispute, however, is the disparity between the number of Americans who express a desire to bicycle and the number actually doing so.

For example, a survey by New York City officials of almost 700 Manhattan office workers in 1990 found that 49% would bike-commute up to 10 miles each way if they had secure parking at work, a place to shower, and a safe route to ride.<sup>8</sup> Similarly, a 1991 Harris poll commissioned by *Bicycling* magazine found that such facilities would induce between one-fifth and one-fourth of Americans to commute at least sometimes by bicycle.<sup>9</sup>

This range is 60 to 80 times the 1990 bike-commute modal share estimated by the NPTS. Even granting that idealized self-assessments can lead survey respondents to overstate their true willingness to bike, the gap between bicycle preference as revealed in the surveys and bicycle use as recorded in the NPTS is still stark.

This second gap is not news to bicycling advocates, who are well aware of the pent-up demand for cycling and cycling facilities. It is this awareness that motivates campaigns for more bike facilities — lanes, trails,

racks, transit links, and so forth. Yet if the gap between desire and usage isn't closing — and there do not appear to be compelling indications that it is — then perhaps a re-appraisal of the rationale underlying these campaigns is called for.

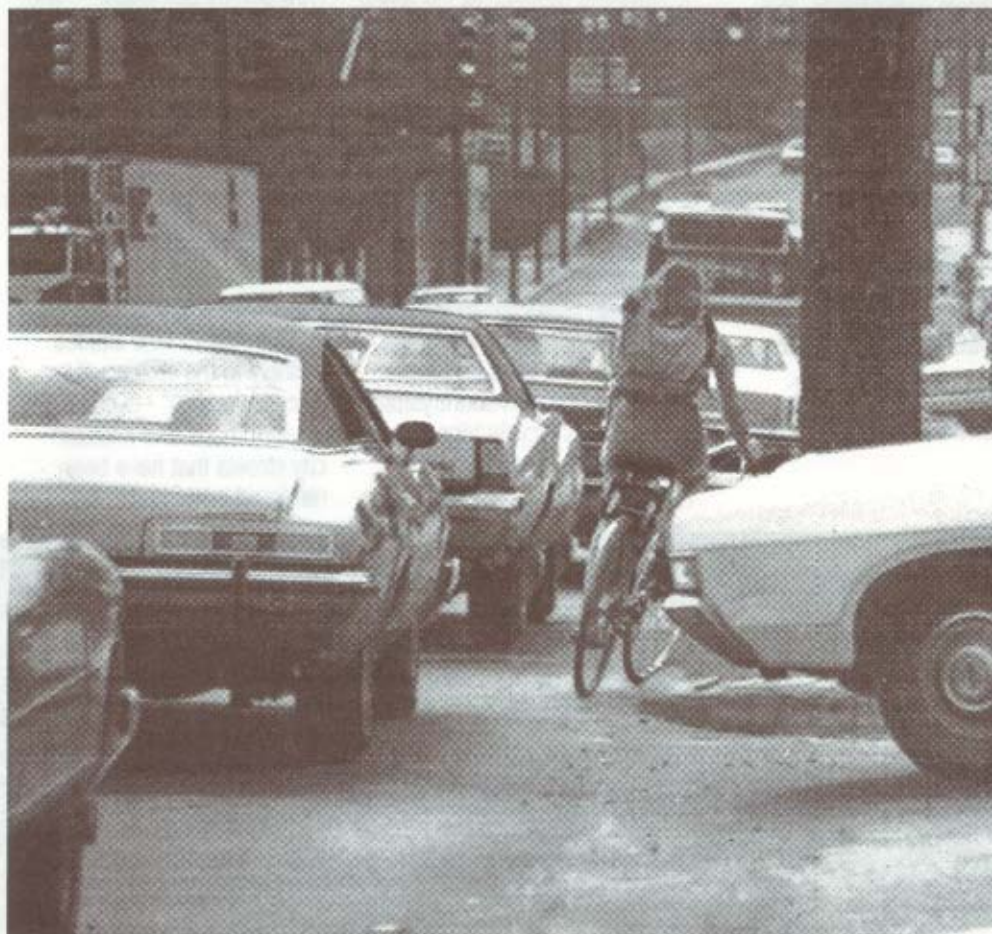
#### **CURRENT STRATEGY: EXPAND BICYCLE FACILITIES**

The current strategy to expand bicycling in the U.S. could be termed a facilities-based strategy, insofar as it seeks to develop the ingredients of a viable cycling infrastructure. These include on-street bike lanes separate from and free of motor vehicles; bike paths or trails separate from the motor vehicular street system, routed where possible through aesthetically pleasing areas; lock-up facilities for all-day

commuter parking as well as for short-term, activity-based use; and links with transit through features such as bus-mounted bike carriers and train access for bikes.

Such facilities are becoming more plentiful, although the rate of growth is uneven among cities and regions and across facility types (perhaps fastest for paths and parking, slowest for lanes). The overall pace is impressive, particularly compared to previous decades, and is testament to tenacious advocacy by local and national cycling groups, and, in some instances, to the leverage points provided in the 1991 federal ISTEA law. Advocates are also pressing for traffic-calming measures such as street narrowing, sidewalk enlargement, different pavement treatments and lower speed limits — features that would

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cycling by development and traffic. "All residents on the urban periphery," he says, "can relate to the sudden traffic influx that transforms a bucolic road into a frenzied arterial, unfriendly to bicycling." In lower Manhattan, where I live and work, streets that on weekends used to be lightly trafficked are now so packed with cars that Saturday bike trips around the neighborhood can be more stressful than weekday bike-commuting.

All told, it is as if advances in the cycling infrastructure are offset, or even outweighed, by the degradation or outright elimination of other, pre-existing elements of the cycling environment, so that the net gain in bikeability and biking remains near zero, or even negative, despite provision of new facilities.

Moreover, deeper social changes than burgeoning traffic and creeping sprawl appear to be worsening the environment for cycling. Consider these developments that marginalize or endanger cyclists:

- *In a reversal of the automotive downsizing of the 1970s and 1980s, motor vehicles have become wider, bigger and more powerful; spare room in the street system that used to accommodate cyclists is increasingly*

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generally make streets more conducive to cycling as well as walking.

Building new facilities is an obvious prescription for boosting cycling, as the quote from Robert Raburn at the start of this essay acknowledges.

I can personally attest to the importance of cycling facilities. Access to the New York regional commuter train network, begun in 1983 and still growing incrementally (though restricted to off-peak trains) makes possible my recreational rides into the nearby northern countryside as well as bicycle trips with my young son to his grandmother on Long Island.

More recent access gains — to subways, the George Washington Bridge and a spectacular park road along the Hudson River under the New Jersey palisades — are also invaluable (although it should be noted that restrictions to these facilities, though on the books for many years, were rarely enforced until the advent of an anti-cycling climate in the mid-1980s).

#### **THE LOSS OF HABITAT**

But Raburn also alludes tellingly to the erosion of "bicycle habitat" — quiet country roads and bikeable city streets that have been rendered inhospitable to



occupied by bulky sport utility vehicles.

- Interior car features such as cellular phones invite drivers to tune out their surroundings and to be less attentive to the presence of non-automotive road users such as cyclists.<sup>10</sup>
- Occupant-protection measures (primarily air bags and seat belts) promoted by federal regulators and "public-interest" safety advocates may end up encouraging motorist risk-taking by making vehicles more crashworthy.
- Ever-intensifying time pressure, compounded with mounting traffic volumes, makes drivers more combative, to the point that "Police say aggressive driving is the drunken driving of the '90s," according to a major newspaper.<sup>11</sup>

Thus, in our daily cycling rounds through Manhattan, my family and I must contend not just with more traffic than 10 and 20 years ago, but with larger vehicles, protruding exterior mirrors, and less attentive and more aggressive drivers. While so far we have measured up to the challenge, I sometimes wonder if we would be venturing to ride at all, were we not already hardened veterans. Similarly, although other social trends can be identified that enhance cycling, most notably strictures against drunken driving, the overall tide from non-infrastructure factors appears to be unfavorable to bicycling.

To restate the question: Are we merely running in place so far as cycling improvements and encouragement are concerned? Is provision of new facilities



Photo courtesy of City of Portland, Oregon

even keeping pace with destruction of the old? Is an expanded cycling future only a pipe dream in a culture obsessed with risk reduction through individual action, but loath to apply collective action to reduce systemic danger, especially when such action might threaten motorists' sense of entitlement? If yes, is the present expansion of cycling facilities destined to elicit only a modest increase — if that — in on-road cycling in America?<sup>12</sup>

### THE CENTRAL ROLE OF VEHICULAR VIOLENCE

Impediments to cycling in America are many — inadequate bike storage, rigid dress codes, limited cyclist access to highway bridges and transit, among others. And, accordingly, much advocacy and investment has focused on removing these and similar obstacles. But by far the greatest bar to increased bicycle use is fear of physical harm from motorists or motor vehicles.

Cyclists' dread of traffic takes a variety of forms:

- Fear of injury or death from cycling;
- Similar fears felt and expressed by family members, friends, etc.;
- Stress from having to

defend one's right-of-way on the street;

- Fear of intentional harassment from motorists;<sup>13</sup>
- Inability to experience the intrinsic exhilaration of cycling on account of the attention demands of traffic;
- Awareness that motorists know they can break the law without being called to account.

More than bike theft, personal grooming requirements or the like, this short list explains why so few Americans cycle regularly for transportation. Every bicycling advocate has at least a dozen friends or acquaintances who have given up cycling, or resolved not to try, because of fear and stress arising from actual or potential vehicular violence. In my own years of cycling advocacy, I believe I have heard a thousand such stories.

These concerns do not arise from thin air. Each year some 800 bicyclists are killed in U.S. traffic "accidents,"<sup>14</sup> almost all resulting from collisions with motor vehicles (as distinguished from falls, which result in only a handful of fatalities).<sup>15</sup> Thousands more cyclists suffer disabling injuries. Grievous cycling casualties are often widely publicized, particularly when

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more than one cyclist has been killed (and the collision, typically, originated in egregious driver error, drunkenness or intent). The effect is to reinforce the vulnerable status of the cyclist, rather than to prompt steps that would curb motorist misbehavior.

That is, cyclist fatalities are blamed on the supposed intrinsic perils of cycling, rather than on driver misconduct or cycle-hostile traffic engineering. In contrast, motorist fatalities are not ordinarily associated with the idea that driving is dangerous. Indeed, while the probability that a trip will end fatally is "only" several times greater for cycling than for driving, societal perception of the risk ratio is almost certainly more extreme.<sup>16</sup>

In addition, while most cyclists manage to avoid death or serious injury, virtually all endure close calls, motorist hostility and other reminders of their "fragile position riding exposed atop two thin wheels," as one urban cyclist has put it.<sup>17</sup> Such experiences account for much of the stress cyclists anticipate and experience, which acts as a significant discouragement.

## **A RIGHTS-BASED ORGANIZING STRATEGY**

I have led and participated in numerous campaigns to expand the physical infrastructure for cycling. While I continue to do so, I also urge cycling advocates to explore complementary strategies focused on guaranteeing and safeguarding cyclists' right to use public roadways.

A set of possible strategies is offered below. Most of them also apply to rights for pedestrians, who far outnumber cyclists in annual fatalities (by 7-to-1 during 1991-95) and "mode share," and who are natural allies of cyclists in seeking safe and convivial streets.

### *Initiatives employing citizen suits or related approaches*

- Suits to require municipalities to enforce existing statutes enjoining motorists from infringing upon cyclists' lawful right-of-way.
- Suits to require municipalities to provide routes on which motor vehicle traffic is restrained, reduced and/or slowed to safe levels; for example, municipalities might be called on to designate networks of

"neighborhood streets" on which any collision between a motor vehicle and a non-motorized traveler — or, at the least, a child — is made an offense of strict liability, thus encouraging more responsible (and less) driving.

- Suits charging breach of performance against environmental and/or transportation officials who have failed to fulfill air quality standards, in part because of failure to implement bicycle transportation facilities.
- Suits requiring state Departments of Motor Vehicles to test drivers' physical and emotional capacity to share roadways with non-motorized travelers as a condition for granting a license.
- Reform of state motor vehicle codes, to de-emphasize reliance on intent in favor of a driver "standard of care" as part of the duty of motor vehicle operators.<sup>18</sup>

### *Civil-rights suits*

These would be based on evidence that the absence of cycling facilities (routes, transit links, etc.) discriminates



Photo courtesy of City of Portland, Oregon

against people of color, who as a class are disproportionately poor and, thus, are less able to afford the personal cost of owning and operating an automobile and must "resort" to cycling.<sup>19</sup>

#### *Large-scale tort campaigns*

- Organize and empower motor-vehicle victims (or their families) to mount tort actions to exact damages against individual drivers, automobile manufacturers or others who could be held culpable in incidents in which lawfully and prudently proceeding cyclists were injured or killed.
- Mount tort actions against automobile manufacturers that advertise their vehicles' suitability as weapons or their capacity to abridge speed limits or other safety-related traffic laws.<sup>20</sup>
- To crack the anonymous nature of driving, citizens would develop and maintain publicly accessible databases recording license plates of vehicles that are observed infringing upon cyclists' and pedestrians' lawful right-of-way; plates exceeding a threshold level of complaints over time would provoke public censure, letters to insurers or licensing authorities, etc.
- Cyclists (and pedestrians) should press for federally-mandated (and funded) inquests in each cyclist (and pedestrian) fatality, perhaps by the National Transportation Safety Board.<sup>21</sup> These could help establish the true level of motorist culpability in fatal collisions with non-motorized travelers as a basis for focusing danger reduction efforts on driver intervention, rather than on



cyclist or pedestrian "education" or behavior modification.

- Cyclists and pedestrians should also organize to block auto insurance "reform" measures that would limit claims for pain and suffering on the part of non-motorized victims of vehicular collisions who have been involuntarily exposed to risks posed by drivers.

#### *Kids as a "wedge"*

Some of the above strategies may be most effective if deployed on behalf of children's right to cycle, walk and play in their neighborhoods. For example, "neighborhood streets" where traffic speeds and volumes are limited might first be implemented as "safe routes to school," where children — whose school attendance is compulsory — can travel safely. Similarly, photo radar, automated cameras at intersections and other means to detect dangerous motorist behavior might be eased into public acceptance if begun in school zones. Creating room for children to safely and purposefully walk and cycle can have tremendous positive implications, ranging from

enhancing children's physical and mental health to liberating "soccer moms" from chauffeuring tasks.<sup>22</sup>

#### *Assertion of cyclists' right to roads*

Many people regard roads as existing primarily or even exclusively for automobile use, with cyclists and walkers accorded secondary status at best. This view is based in part on the assumption that roads are funded by motorist user fees when, in fact, local roads used most heavily by cyclists are financed largely by property taxes and other broad-based levies.<sup>23</sup>

We cycling advocates should assert our "property rights" to roads, through studies, tax-withholding actions, and the like. Advocates should also work to overturn outmoded engineering standards, such as the *Highway Capacity Manual* and the *Manual of Uniform Traffic Control Devices*. These references inhibit cycling and walking by applying the sole criterion of maximizing traffic throughput to the design and operation of streets, sidewalks, traffic signals and the rest of the roadway infrastructure.<sup>24</sup>

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*Mutual aid*

Cyclists need to support each other wherever possible — in lobbying and campaigning, in encounters with motorists who abridge cyclists' right to ride safely, and in courtrooms. When veteran Southern California cyclist Hal Bivens was killed several years ago by a motorist who had fallen asleep at the wheel, not only did witnesses record the (uninsured and unlicensed) driver's vehicle plate number and reckless conduct, but the Orange County Bicycle Coalition flooded judicial authorities with over 80 letters from Bivens' friends and other concerned cyclists, as well as testimony from a cyclist who had been struck and severely injured by another careless motorist.

These actions reportedly led to an unusually severe sentence (two years' imprisonment) while educating the public about the potential legal consequences of irresponsible driving.<sup>25</sup> A logical extension might be for cyclist and pedestrian advocates to organize, regionally or even nationally, along the lines of RoadPeace, the British group representing victims of automotive violence.

This list is neither rigorous nor comprehensive. It may include clunkers and omit effective strategies. Moreover, it is not intended to downgrade facilities-based or grassroots-organizing approaches. Rather, it is offered as a complement to such strategies, recognizing that legal advocacy is most effective when coordinated with (and subordinated to) political organizing and popular mobilization.<sup>26</sup>

As Anne Hansen notes in the quote at the start of this essay, America and other

industrial countries already have a fully-developed network of bike lanes: the public roads. The vulnerability that present-day cyclists experience (and which deters would-be cyclists) on public roads not only suppresses cycling in America; it also contravenes our right as free people to move peaceably around the earth. On both pragmatic and moral grounds, we cyclists should organize around our right to ride free of the fear and reality of vehicular violence.

**CREDITS**

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**ENDNOTES**

- 1 An earlier version of this paper was presented at Louisiana Environment '97, a conference at Tulane Law School, New Orleans, sponsored by the Tulane Environmental Law Society and the Tulane Institute for Environmental Law and Policy.
- 2 Robert Raburn, "View from the Saddle: Where We've Ridden, Where We Will Ride," in *rideOn*, East Bay Bicycle Coalition, Oakland, CA, Vol. 26, No. 1, Jan. 1997.
- 3 Bicycle Institute of America, *Bicycling Reference Book, Transportation Issue*, 1993-1994 Edition, p.6. This edition reported that the number of American adults who regularly ride bicycles had grown by 150% in less than a decade, from 10 million in 1983 to 25 million in 1990. During the same period, according to the BRB, the number of American bicycle commuters grew from 1.5 million in 1983 to 3.5 million in 1990.
- 4 See the *Nationwide Personal Transportation Surveys* (1983, 1990), available from the FHWA Office of Highway Information Management, HPM-40, Washington DC 20590. Published periodically by the U.S. Department of Transportation, the NPTS extrapolates a statistical portrait of travel in America from detailed surveys of over 20,000 households. The next NPTS is scheduled for publication in 1997.
- 5 The two most recent editions of the NPTS, covering 1983 and 1990, indicate that over those seven years the total number of bicycle "trips" in America grew from 1,677 million to 1,767 million (up 5%). And while total commuter trips (of which the vast majority were by car) rose 19%, the number of bicycle trips for commuting fell from 236 million to 174 million (down by 26%), so that the bicycle's "modal share" of commuting trips tumbled, from one in 192 trips in 1983 (a 0.52% share) to one in 312 trips in 1990

- (0.32%). If the bike-commute trips estimated in the 1990 *NPTS* are apportioned among the *BRB*'s estimate of bike commuters for the same year, each commuter would have averaged a cycling frequency of just one day per two weeks.
- This may be calculated by dividing 174 million bike-commute trips by the Bicycle Institute's 3.5 million bike commuters in 1990, and employing the *NPTS* convention that each round-trip is two trips. The result is only 25 bike-commuting days per bike-commuter in 1990.
- 6 Charles Komanoff and Cora Roelofs, *Environmental Benefits of Bicycling and Walking in the United States*, 1992, Case Study No. 15 of Federal Highway Administration, *National Bicycling and Walking Study*, 1994, pp. 40-42. The author employed Bicycle Institute data in this report.
  - 7 See the chart and table, p. 7 of the *Bicycling Reference Book*. Data are originally from the Bicycle Manufacturers Association of America.
  - 8 The NYC Dept. of Transportation survey is summarized on p. 22 of *Bicycle Blueprint: A Plan to Bring Bicycling Into the Mainstream in New York City*, Transportation Alternatives, 1993, edited by the author.
  - 9 *National Bicycling and Walking Study, Final Report*, p. 30.
  - 10 See Donald A. Redelmeier, M.D., and Robert J. Tibshirani, Ph. D., "Association Between Cellular-Telephone Calls and Motor Vehicle Collisions," *New England Journal of Medicine*, Vol. 336, No. 7, Feb. 13, 1997, pp. 453-458, for a statistical finding that use of cellular telephones is associated with a quadrupling of the risk of a collision — equivalent to the increased risk from driving while intoxicated.
  - 11 *Washington Post*, "Driven to Become Road Warriors" (subtitled "Pathological Changes May Fuel Aggressive Driving"), March 31, 1997, p. B1. The article depicts bullying motorists "swathed in the armor and anonymity of air bag-equipped cars and hulking sport utility vehicles. . . . Police and psychiatrists point to [sport utility vehicles] as contributing to drivers' dangerous sense of invulnerability. Isolating and intimidating, their giant shells somehow separate one driver from the humanity of another at the same time that drivers must attend closely to the actions of strangers." See also *Miami Herald*, April 22, 1997, p. 1A. "Road Rage: More Drivers Blow Their Stacks." Although neither article makes reference to pedestrians or bicyclists, the motorist behavior it portrays has profound implications for them.
  - 12 To be sure, time lags in planning and installing cycling facilities, and in stimulating and measuring usage, make it premature to conclude that ISTEA and related advocacy in the 1990s will fail to effect a significant increase in cycling. Still, the author is unaware of persuasive indications to the contrary.
  - 13 One-third of a sample of Atlanta-area recreational runners reported problems with verbal harassment, and one-tenth reported being bitten by a dog or hit by a thrown object. *Medicine and Science in Sports and Exercise*, Vol. 27, No. 8.
  - 14 According to the Insurance Institute for Highway Safety, U.S. cycling fatalities averaged 796 per year during 1991-95. Pedestrian fatalities averaged 5,615 annually for the same period.
  - 15 Some bicycle accidents classified as falls (i.e., single-vehicle incidents) may have been precipitated by traffic, for example where a cyclist was forced onto an unsafe surface to avoid being hit.
  - 16 Again with 1990 as a base: using *NPTS* trip data and fatality data from the *U.S. Statistical Abstract*, passenger vehicles performed 217.4 billion person-trips with 33,000 fatalities, or one per 6.6 million vehicle trips; while bicycles carried 1.77 billion trips with approximately 800 fatalities, or one per 2.2 million bicycle trips, for a relative risk of 3.
  - 17 Lawrence M. Stern, in a 1987 letter to New York City Mayor Edward I. Koch, protesting an attempt to ban bicycle-riding on several midtown Manhattan avenues. Stern wrote of "an angry and frustrated . . . driver attitude which endangers my already fragile position riding exposed atop two thin wheels amid the traffic of drivers ensconced in their heavy metal machines."
  - 18 See Bill Wilkinson, "It's Time to Reform the Vehicle Code," in *Pro Bike News*, Feb. 1997. Wilkinson is a founder and executive director of the Bicycle Federation of America.
  - 19 Bruce Epperson, "Bicycle Planning: Growing Up Or Growing Old?," *Bicycle Forum*, No. 35, Jan. 1994.
  - 20 A suitable first target might be AM General Hummer Corp. of South Bend, IN, which advertises civilian sales of its military Hummer vehicle with the only partly tongue-in-cheek command, "You are invincible. You are all-powerful. You are unstoppable. You are on your way to the grocery store." See *Economist*, Feb. 1, 1997, pp. 52-53.
  - 21 During preparation of this article in April 1997, two transportation fatalities occurred within 1 km and two weeks of each other on Manhattan's Upper East Side, when a cyclist was run over by a tractor-trailer truck, and a helicopter crash in the East River killed a passenger. The helicopter crash became the subject of a full-scale investigation by the National Transportation Safety Board, whose charter encompasses aviation accidents, major rail accidents, and most marine and pipeline accidents. No federal, state or municipal agency investigated the cyclist fatality, even though the NTSB charter also includes "any transportation accidents of a recurring nature"—a rubric that would appear to apply to most bicyclist fatalities in traffic.
  - 22 See *Wall Street Journal*, Sept. 10, 1996, "The Bicycle Loses Ground as a Symbol of Childhood Liberty," p. A1, for a poignant treatment of the decline in kids' bicycle-riding.
  - 23 See, for example, *Crossroads: Highway-Finance Subsidies in New Jersey* (1995) and *Subsidies for Traffic: How Taxpayer Dollars Underwrite Driving in New York State* (1994), both co-written by the author, available from Tri-State Transportation Campaign, New York, NY, which found that motorist user fees pay for only one-sixth (NJ) and one-fourth (NY) of local road costs, and only three-fourths (NJ) and two-thirds (NY) of all statewide road costs. Todd Litman of the Victoria Transport Policy Institute (British Columbia) has also developed this point in his paper, "Whose Roads? Defining Bicyclists' and Other Non-Drivers' Right to Use the Roadway."
  - 24 For a thorough and thoughtful review of traffic engineering practices and their effects on the public uses of streets, see Stephen H. Burrington, "Restoring the Rule of Law and Respect for Communities in Transportation," *NYU Environmental Law Journal*, Vol. 5, No. 3, 1996.
  - 25 Personal e-mail communication from Michael Mott, April 1997.
  - 26 Arthur Kinoy, *Rights on Trial: The Odyssey of a People's Lawyer*, Harvard Press, Cambridge, MA, 1983.