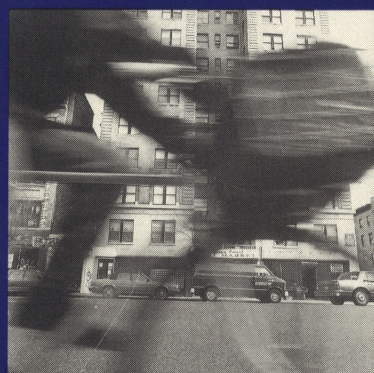
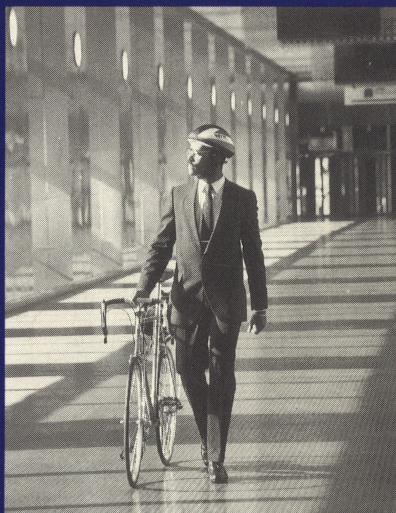
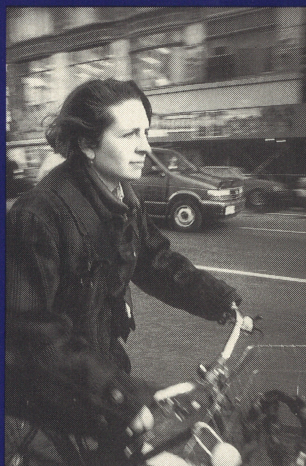


# BICYCLE BLUEPRINT

A Plan to Bring Bicycling  
Into the Mainstream  
In New York City



TRANSPORTATION ALTERNATIVES



# About Transportation Alternatives

Transportation Alternatives is a non-profit advocacy organization founded in 1973 to promote environment-friendly urban transportation. Our roots are in bicycling, but our agenda embraces broader issues — freedom from automobile-dependence, a grassroots relationship to environmental issues, and protecting and enhancing neighborhoods and civic life by promoting cycling, walking and public transit.

T.A. is both a New York City political force and a support network giving meaning to daily bicycle commutes and neighborhood struggles against the automobile. In recent years, T.A. has grown to become the largest and most influential citizens environmental transportation initiative in North America. Our ability to speak directly to broad transportation policy issues by combining pedestrian, bicyclist and environmental agendas and constituencies, is cited as a model by other grassroots groups and by national organizations seeking to spur local transportation organizing.

## T.A.'s Strategy and Mission

Transportation Alternatives works at five interdependent levels to build our organizational strength and to carry our transportation vision into public and policy-making arenas:

### 1. Grassroots Constituency Building

The main pillar of T.A.'s strength is our 2,400-strong dues-paying membership. This dynamic body gives us the political weight and nucleus of citizen activists necessary for successful advocacy work. Political engagement by T.A. members and supporters combines direct action, mass letter-writing, dissemination of newsletters and other outreach materials, and lobbying political representatives. T.A. is committed to grassroots-initiated political activity; our high level of volunteer enthusiasm owes much to the support and follow-through we provide to budding citizen activists.

### 2. Incremental Improvements

By winning specific gains for pedestrians and bicyclists, T.A. has obtained respect for our overall agenda while concretely improving the quality of cycling and walking in the NY area. T.A. victories include: overturning the midtown bicycle ban (1987-88) • securing pedestrian and cyclist access to River Road on the Jersey Palisades (1989) • winning legal bicycle access to the George Washington Bridge ramped sidepath (1990) • gaining reconstruction of the Williamsburg Bridge bike-pedestrian path (1991-92) • creating an auto-free block adjacent to Washington Square Park in Greenwich Village (1992) • expanding bicycle access to NY-area subways and commuter rail lines (1992) • establishing secure bicycle parking in eight private parking garages and several high-rise office buildings (1992).

Current T.A. initiatives include: removing motor traffic from the Central and Prospect Parks loop roadways • further improving pedestrian and bicycle access to suburban commuter rail stations • creating traffic-calmed and auto-free areas in Greenwich Village, Brooklyn's 7th Avenue commercial district and other sites • ensuring that Federal transportation funds support NYC bicycle and pedestrian infrastructure projects.

### 3. Policy Analysis and Pressure

T.A. intervenes directly in transportation policy debates through representation on advisory groups, meetings with elected officials, and distribution of original research. Recent analyses include:

- A comprehensive paper outlining a "Win-Win" *Transportation Plan* to finance public transportation in the NYC region by charging vehicle users a fair share of the social costs they impose on our infrastructure, neighborhoods and environment.

(Continued on inside back cover)



# **BICYCLE BLUEPRINT**

**A Plan to Bring Bicycling  
Into the Mainstream  
In New York City**

**PUBLISHED BY  
TRANSPORTATION ALTERNATIVES**

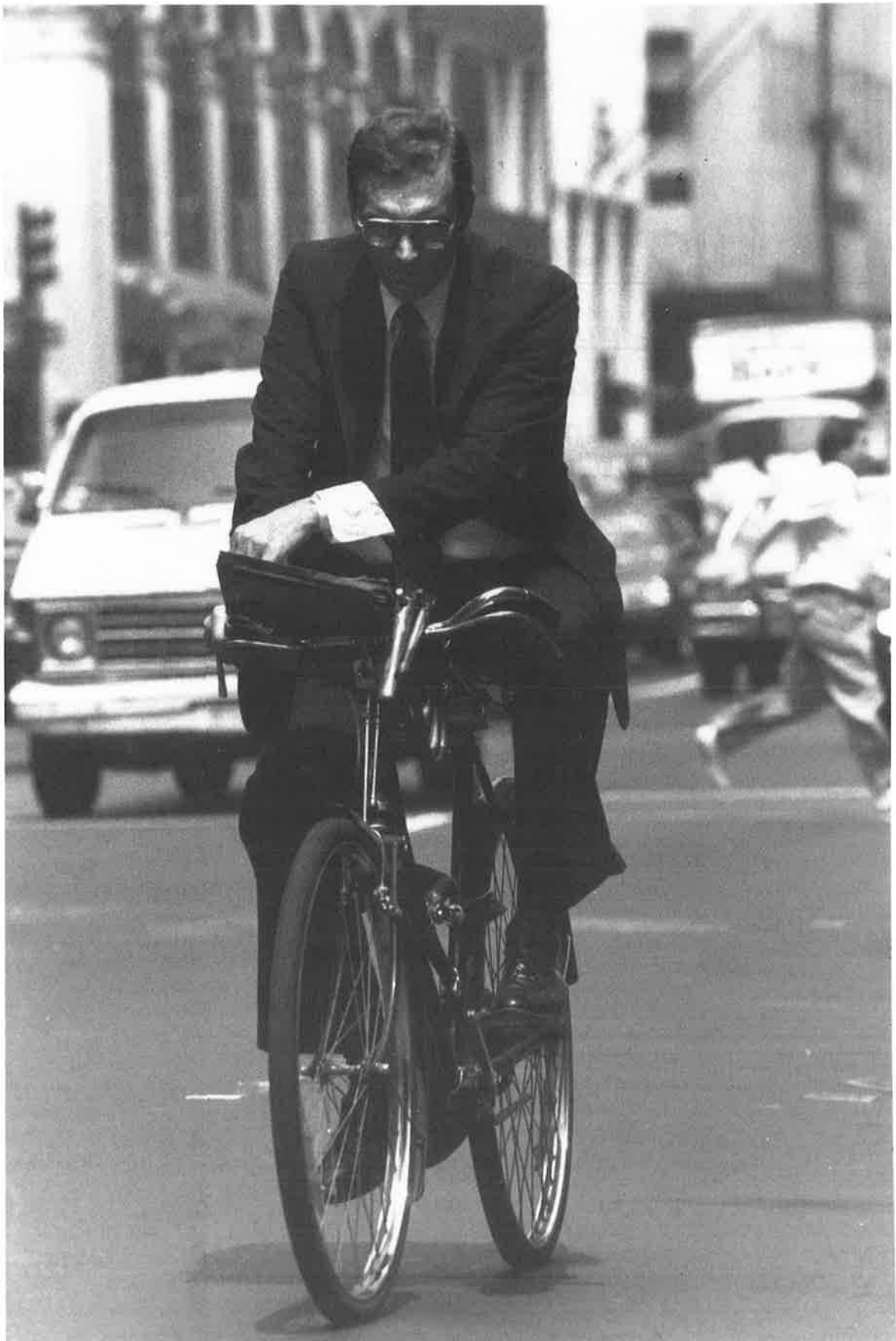
**Michele Herman  
PRINCIPAL AUTHOR**

**Charles Komanoff  
Jon Orcutt  
PROJECT DIRECTORS**

**David Perry  
DESIGN DIRECTOR**

**New York, 1993**





JEAN-JACQUES MARQUETTY

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## Credits and Acknowledgments

### Authors

Michele Herman, Chapters 3, 5-10, 14-17, 19-20

Jon Orcutt, Chapters 1, 4, 9, 11-13

Charles Komanoff, Chapters 1, 2

Cora Roelofs, Chapter 18

### Editor

Charles Komanoff

### Design / Graphics / Photo Editor

David Perry

### Desktop Production

Mark Masuelli

### Research Assistance

Daniel Convissor, Chapters 3, 5-6, 16

Mary Frances Dunham, Chapter 19

Dave Lutz and Anne McClellan, Chapter 7

### Peer Reviewers

Jeff Abrahamson, Bicycle Coalition of the Delaware Valley, Philadelphia

John Benfatti, NYC Dept. of Transportation

Matt Chachere, Transportation Alternatives, NYC

Andy Clarke, Bicycle Federation of America, Washington, DC

John Dowlin, Bicycle Network / Bicycle Parking Foundation, Philadelphia

Steve Faust, Federal Transit Administration, NYC

Ellen Fletcher, Silicon Valley Bicycle Coalition, Palo Alto, CA

Roger Herz, Bicycle Transportation Action, NYC

Ed Ravin, Transportation Alternatives, NYC

Michael Replogle, Environmental Defense Fund, Washington, DC

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## Authors' Preface:

# Time to Work Wonders

To everyone who rides a bicycle in New York City, to everyone who wants to but doesn't dare, and to everyone who longs for a more vibrant city:

We offer you this *Bicycle Blueprint*.

As bicyclists and cycling advocates, we have found joy and freedom riding on the city streets. Cycling enriches our lives and humanizes our city, and we want to help others share this experience.

We protest the poor conditions that keep us second-class citizens and inhibit our fellow New Yorkers from cycling. New York's five boroughs offer ideal density and topography for cycling, but our streets are too dangerous for all but the most intrepid.

Cycling should not require the degree of courage, compromise, and pluck now needed to get around safely and securely. We should not be victims of building managers who bar bikes; traffic engineers who cut off bridge access; road crews that overlook bike-sized potholes; and, worst, motorists who think little of risking a cyclist's life in order to save a few seconds. On any given day, a routine bike ride

can turn into a heart-stopping contest for survival. No wonder ex- and non-cyclists far outnumber active cyclists in New York City.

With this *Blueprint*, Transportation Alternatives calls on government and the private sector to change the equation on our streets. Let us banish the fear from cycling. Let every New Yorker who wants to, feel free to hop on a bike. Together, let us create a more bicycle-friendly, livable New York City.

This *Blueprint* expresses the realities and the possibilities of cycling in our great city. We offer hundreds of compelling, feasible recommendations for bringing cycling into the mainstream in New York. Each is targeted to a specific agency or department; many are described in great detail. Officials who in the past have disregarded cyclists' needs, whether out of ignorance or prejudice, can now begin to set in place the provisions we deserve. In the process, they will improve the quality of life for all New Yorkers.

The bicycle has always been a wonder — a simple, healthful, efficient, beautiful machine, perfectly suited to city streets. Come, let us work wonders in New York City.

April, 1993

Michele Herman  
Charles Komanoff  
Jon Orcutt  
David Perry





DAVID PERRY

**The poet W.H. Auden wrote of “new styles of architecture, a change of heart.” Here, human-powered vehicles moving Transportation Alternatives to its storefront office ride past Auden’s former home on St. Marks Place.**

**Foreword:** by J.C. McCullagh, editor/publisher, *Bicycling Magazine*

## The Bicycle Can Save New York

I love New York and visit the city often — but rarely on my bicycle. My last trip to the city by bike was with John Marino, founder of the Race Across America, as he finished a cross-country bike ride. Coming out of the Holland Tunnel, which was cleared of traffic, I narrowly escaped injury when a cab ran me off the road.

I recall the 1980 New York Transit strike when residents took to bikes in great numbers. I went to the city with my bike to do some media appearances, but couldn't take the bike inside their office buildings.

I frequently appear on the TV morning shows originating in New York. It is understood by everyone in the studio that the advice I give doesn't apply to the city, which is a special kind of cycling island, dangerous, unhealthy, and beyond solution. That is one reason *Bicycling* has rated New York City one of the worst in the nation, though we upgraded that judgment slightly in 1992 because of the good work done by Transportation Alternatives.

But suddenly, I'm unsure that New York is beyond redemption. I've just read the text of *The Bicycle Blueprint, A Plan to Bring Bicycling Into the Mainstream in New York City*.

This book is a refreshingly spirited and original look at how the bicycle could become a real alternative for the city.

Hours before reading this lively document I attended a ceremony at which Bob Rodale, late chairman of Rodale Press, received an award for his contributions to publishing and humanity. An avid cyclist, and founder of *Bicycling*, I thought about how he'd view the inhospitable streets outside the Waldorf. An optimist, his operative phrase was: "you can," meaning we all have the capacity to change our world. He would embrace this plan for the same reason he started a magazine for private farmers in Russia: the task was daunting, but necessary.

Bob also believed we can regenerate our bodies, our land, and our cities. He would be at

home with the H.G. Wells quote: "When I see an adult on a bicycle, I do not despair for the future of the human race."

When I read the *Blueprint*, I was filled with hope and moved by the authors' vision, their aesthetics. Don't get me wrong. This work is a specific action plan to make the city livable again. In fact, it's one of the best blueprints I've read in the last decade — no bureaucratic talk here. Equally important, the authors push beyond the traditional bike lane solution and call for, in the poet Auden's words, "new styles of architecture, a change of heart."

This is a book about how New York can better serve its citizens. The authors remind us that their city is late to the task. After all, Amsterdam, Turin, Cologne and other European cities are giving the streets back to pedestrians and cyclists. The car will no longer have free run. "Traffic calming" is the watchword. Cities are being returned to their original purpose: to foster health, life, and creativity.

A central theme of the *Blueprint* is: take cycling seriously. The book is a plea as much as a document. Let's implement an inexpensive plan to make the bicycle a full partner in the transportation mix. Let's make fundamental changes in transport policy before it's too late.

This proposal should be read by all concerned government officials in New York, starting with Mayor Dinkins. I challenge the Mayor to publicly endorse the *Blueprint*. I also challenge the private sector to embrace the examples of Sterling-Winthrop, Saatchi & Saatchi, J.P. Morgan and other corporations that have made the bicycle welcome.

In my opinion, there's a direct relationship between the quality of cycling and the quality of life. Some of our most livable cities — Seattle, Eugene, Madison, and Palo Alto — are also the best cycling cities.

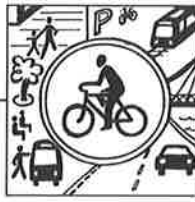
The bicycle can be an instrument of change.  
The bicycle can save New York.





CHARLES KOMANOFF

**Cyclists pause at the Unisphere in Flushing Meadow Park, during Transportation Alternatives' 100-mile NYC Century bike ride.**



## Chapter I

# Integrating NYC's Bicycle Policy

### How to Read the Blueprint

Each of the following chapters treats a different facet of bicycling experience in New York City. Though the emphasis varies according to topic, all chapters include (i) *analysis of current policies* — or lack thereof — which help shape current cycling conditions, and (ii) *recommendations for change* to improve bicycling conditions and further the social goals of personal mobility, fiscal savings, clean air and safer, more convivial streets.

Each topic is accompanied by a set of specific policy recommendations. These are printed in two different forms in the *Blueprint*: first, at the end of the chapter to which they apply; and second, listed together following Chapter 20, organized according to the specific governmental agency or private sector to which they apply. Some recommendations can be implemented immediately by administrators and legislators for little or no cost; others require capital investment and some degree of departure from the transportation establishment's current thinking.

Some sections are aimed at specific city, state or other agencies, while others are more general in nature. Many of the proposed changes fall under the jurisdiction of the New York City Department of Transportation (DoT), but Bicycles and Transit (Chapter 9) is addressed primarily to the area's transit operators, regional planners, and suburban authorities, while Indoor Parking (Chapter 13) speaks to commercial landlords and the City's Department of General Services, and so on. We hope that agency personnel and legislators with interests in particular aspects of bicycling or transportation policy and its far-reaching consequences for the shape of our city will focus on those sections addressed to them, and take the steps we advocate to heart.

### The Importance of Integrated Bicycle Planning

Though different chapters may be aimed at different agencies, we stress the importance of integrated, rather than piecemeal, transportation planning. To increase cycling in New York City, agencies must work together, and alongside the bicycling community, to improve conditions.

For example, an ambitious bike lane and greenway program will spur an increase in cycling, but that growth will be constrained unless accompanied by safe bike parking facilities. New, better-designed bike lanes may reduce accidents involving cyclists, but even more accidents will be avoided if such improvements go hand-in-hand with public education and enforcement of traffic laws.

Also, within the broader realm of city planning, the agencies involved must agree on the need to restructure transportation priorities and practices. Too often, marginal improvements for cyclists and pedestrians are put in place while planning for autos and highways literally crowds out these alternatives from the streets. Even within a single agency such as the NYC DoT, one hand may be seeking to extend a bikeway while the other is restricting cyclist access to a key river-crossing. Thus, if the recommendations of this *Blueprint* are implemented piecemeal, without thought for their place within a wider change of transportation thinking, much of its value will be lost.

This *Bicycle Blueprint*, then, is more than a set of policies to increase cycling. It presents a vision of New York City that is people-oriented and refuses to accept the cynical trade-off of short-term economic values for sustained human livability. Chapter 4, Street Design, advocates a substantial transfer of street space from automobiles to bicycles, in part through creating an extensive network of on-street bicycle

**This Blueprint presents a vision of New York City that is people-oriented.**

lanes. Not only is cycling environmental transport *par excellence*, but growth in cycling facilities can also be used as an active agent of motor-traffic restraint.

As we state in another Transportation Alternatives report, the goal of “traffic calming” is a “civilized environment which provides a safer, cleaner and more pleasant, convenient and attractive place to live, work and play.”<sup>1</sup> We believe that the vision and measures advocated here, translated into official policy, can contribute greatly to a humane street atmosphere benefitting not only cyclists but also pedestrians and the community at large.

### The Practice of Integrated Bicycle Planning

In communities where cycling has become accepted as a major mode of transport and has grown to encompass a large percentage of personal trips, a *comprehensive bicycle planning process* is usually in place. In the most cycle-friendly towns, bicycle planning is a discipline in itself, no longer subsumed under highway planning departments. In others, cycling is at least treated as a significant component of municipal transportation, alongside planning for auto and public transit, and is explicitly written into both general transportation plans and specific construction projects.

In the Netherlands, for example, town bicycle planning is heavily funded by national programs and supports one-third of national commuter trips on a well-planned infrastructure of 10,000 kilometers of bikeways, bike bridges and underpasses, bike-priority intersections and

dedicated bicycle parking facilities.<sup>2</sup> In Dutch cities like Delft which have made enormous strides in bicycle transport, designing the bicycle system includes not only master-planning and integrated facility development, but also detailed analysis of bicycle traffic flows and safety and accident surveys.

More and more towns and cities in northern and western Europe are devoting highly professional treatment to bicycle transport. Several European bicycle-friendly cities have launched a coordinated effort to share bicycle planning experience and promote it elsewhere. The “Cities for Cyclists” league includes Copenhagen and Nakskov, Denmark; Groningen, Netherlands; Erlangen, Germany; Nottingham, England; and Winterthur, Switzerland.<sup>3</sup> Such cities have considerable bicycle program staff, including bicycle-specialist engineers—with direct input into transport policy formulation.

Positive experience in Europe as well as in the United States suggests that three elements are necessary to guide bicycle planning and projects through government agencies which were created to plan for automobiles.

1. Government must have staff specifically devoted to bicycle planning and promotion. An official Bicycle “Coordinator” or “Program Manager” is needed to ensure that master plans, design guides, policy documents and specific capital projects take account of cycling and plan for its growth within a city’s or region’s transportation mix.
2. Bicycling staff must enjoy the ongoing, visible support of other agency staff and elected officials.
3. Governmental transport planning must be connected to and integrated with the bicycling community, generally in the form of a bicycle advisory committee or regular meetings between government agencies and organized citizens’ cycling groups.<sup>4</sup>

**Copenhagen. Bicycles account for 25% of all trips in Denmark, and the share approaches 50% in some cities and towns.**



SOREN SVENDSEN/DANSK CYKLIST FORBUND


## Bicycle Planning in North America

Dozens of North American cities, counties and states have acted to institutionalize bicycle planning along the above lines. They have established and expanded professional bicycle planning and promotion staff, and adopted and carried through bike master plans and high-visibility programs to elevate cycling's status. Some cities have adopted specific targets for desired levels of cycle commuting and personal trips by bike. The following are among the outstanding examples:

- In 1983, Toronto created the City Cycling Office, now with a staff of four. Toronto's bicycle planners not only oversee construction plans and projects to ensure road and bridge compatibility with cycling; they have also spearheaded creation of 1,700 bike parking sites and large-scale public education and promotion campaigns.<sup>5</sup>

- The bicycle office of Seattle, Washington (population, half-a-million) has six full-time staff; their facility and program development played a leading role in Seattle's designation as the top U.S. cycling city by *Bicycling* magazine in 1990.<sup>6</sup>

- In what may be the most ambitious municipal bicycle transportation initiative yet to emerge in the 1990s, the City of Chicago has adopted a far-reaching plan to extensively develop personal, official and commercial bicycling by the year 2000. The plan aims to transfer 10% of auto trips under 5 miles to cycling by the turn of the century, by constructing a network of 300 miles of bike routes, adopting a bicycle parking ordinance and expanding municipal bike-parking facilities, increasing commercial, governmental, and police use of bicycles, and increasing educational programs for cyclists and drivers. Because this plan has come from one of the nation's largest cities — and an older, northern, transit-based city relatively similar to New York physically, socially and climatically — it warrants particular attention from NYC transportation planners.<sup>7</sup>



### Citizen Bicycling Improvement Request

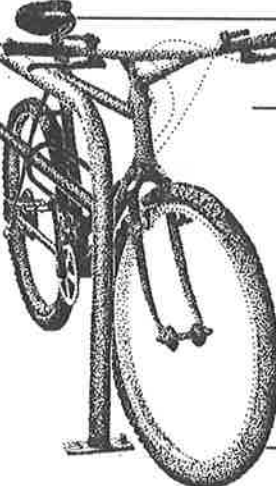
#### City of Seattle Bicycle Program

The Bike Spot Program makes low cost improvements to enhance bicycle safety and access. We do maintenance work, signs and striping, and small construction projects. Almost anything is possible!

**Location:** Roadway Name \_\_\_\_\_

**Landmarks:** (cross street, # of feet from curb, address). Be specific! \_\_\_\_\_

**Description of Problem:** (What is it, and why is it a problem) \_\_\_\_\_



### BICYCLE RACK REQUEST

#### City of Seattle Bicycle Program

We need your help to put bike racks where you want them. We install racks in neighborhood business districts, where bicyclists going to various places can park. We can also help bigger or isolated businesses choose a rack and find a good place for it. Let us know where you'd like a rack, and who to talk to there.

**Proposed Bike Rack Location:**

Business: \_\_\_\_\_ Zip: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

Owner or Manager: \_\_\_\_\_

Other Comments: \_\_\_\_\_

Your Name: \_\_\_\_\_ Day Phone: \_\_\_\_\_

Address: \_\_\_\_\_ Zip: \_\_\_\_\_ Date: \_\_\_\_\_

For further information contact:  
Seattle Engineering Department Bicycle Program 684-7584

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- In Pasadena, California, the municipal administration commissioned *The Plan to Make Pasadena Bicycle-Friendly*.<sup>8</sup> Under the plan, all streets are considered to be bikeways and are maintained and upgraded as such. The plan also foresees expansion of the city's bicycle staff, creation of a municipal bike parking ordinance and improvement of bike-transit links.

- In March, 1991, the City of Madison and Dane County, Wisconsin updated their bicycle plans (first established, along with considerable cycling infrastructure, in the 1970s). The linked plans incorporate facility development, maintenance policies and bicycle education and enforcement programs.<sup>9</sup>

- Portland, Oregon's Alternative Transportation Program has adopted a goal similar to Chicago's — to have 5% of commuter trips to be made by bicycle by the year 2000. The program has produced an area bike map, installed bike parking lockers, enacted a bike parking ordinance, organized large-scale promotional events and

**One reason Seattle ranks as America's #1 cycling city — city government actively solicits improvements to its bicycling infrastructure.**

**Chicago's Bike 2000 Plan seeks to transfer 10% of auto trips under 5 miles to cycling.**

begun implementing a network of bike routes and lanes.<sup>10</sup>



- In 1990, Boulder, Colorado (population, 80,000) created an Alternative Transportation Center within its Transportation Division. The center organizes and promotes public transportation and employer-provided transit and carries out bicycle and pedestrian planning and promotion. Boulder's Bike Week produces more participants than any similar effort in North America (4,500 in 1991<sup>11</sup>). Two full-time bicycle planners in city government conduct opinion research on appropriate hardware and siting for bicycle parking while overseeing construction of bikeways.

- Oregon is a leader at the state level. State law dictates that 1% of transportation funds be spent on bicycle facilities; a bicycle plan is one of seven modal system plans making up the state's unified transportation plan. The plan considers means to accommodate bicycles on transit vehicles, specifies weather-proof bike parking hardware for commuter destinations, and identifies streets for bike lane installation and rural roads for shoulder-widening. To implement these policies, the Oregon Highway Division's Bikeways Program has two full-time staff, plus an officially-constituted bicycle advisory committee (BAC). The program has also helped foster action on bicycling at the local level: six counties have bike master plans and BAC's; 30 Oregon cities have bike master plans, and 11 have BAC's.<sup>12</sup>

- North Carolina adopted a detailed bicycle policy in 1979 and updated it in 1991. The bicycle program now has seven staff, and receives its own budget plus additional funding through the state Transportation Improvement Plan. North Carolina's school bicycle education program is a widely-cited model.<sup>13</sup>

**The NYC  
bicycle  
coordinator  
functions in  
isolation,  
unsupported  
by other  
officials.**



## Bicycle Planning in New York City

New York City government has moved cautiously and incompletely to institutionalize bicycling in its transportation planning. Nevertheless, enough pieces are in place so that judicious pressure from key agency heads and other public officials could easily jump-start a new era of bicycle planning and expansion in New York City.

### The Bicycle Coordinator

From 1979 to 1981, the New York City Department of Transportation employed a bicycle coordinator, a bicycle safety coordinator and an assistant for the latter. The bicycle safety coordinator functioned mainly in a public education role, producing radio and TV spots and subway and bus ads to raise awareness of cyclists' presence and rights on NYC streets. The position was funded by the National Highway Traffic Safety Administration, but these Section 402 funds were cut off in late 1981. Although this work is vital to safeguarding cyclists' right to the road (see Chapter 20, Public Education), it is unclear whether the City ever applied for further funding or sought alternate sources to re-establish the position.<sup>14</sup>

The bicycle coordinator position, currently situated in the City DoT's Bureau of Traffic, Division of Planning, has been held by two individuals (including the current coordinator). The bicycle coordinator briefly had a part-time assistant, but now works alone.<sup>15</sup> The bicycle coordinator has played an important role on some projects, including converting the Brooklyn Bridge stairs to ramps and completing the Central Park bike/jogger lane. However, the position's overall effectiveness has been severely constrained by lack of support from other DoT personnel, chiefly engineers who plan and implement capital projects. The bicycle coordinator has also become a lightning rod for the bicycling community's frustration with poor conditions and official neglect.

Unfortunately, the bicycle coordinator position has functioned as an isolated piece of bicycling strategy unsupported by other elements. Until recently, the City had not attempted to formal-

ize a commitment toward bicycling; nor had it resolved to provide dedicated funding for cycling programs or projects. A promising initiative was begun in 1991 when the DoT Commissioner's office ordered the drafting of a bicycle policy statement. The draft statement requires road and bridge construction and rehabilitation projects to explicitly accommodate cycling, and directs each DoT bureau to respond with detailed plans for carrying out bicycle-friendly improvements.<sup>16</sup> Not a single bureau had done so by early 1993, however, testifying to the low regard in which cycling is held by the bulk of DoT personnel, and to the difficulties facing the bicycle coordinator.

Nowhere is the DoT's ambivalence toward promoting bicycle transportation more evident than in its treatment of its own 1990 survey of commuter attitudes toward bicycling. As we discuss in Chapter 2, *State of Cycling*, the DoT found that high percentages of midtown Manhattan office workers would consider cycling to work if they could be guaranteed safe bike lanes, secure workplace parking and a place to change clothes and wash up. Yet the DoT's report on the survey failed to take the simple step of distinguishing survey responses as a function of commuting distance; as a result, it understated the level of interest in cycling indicated in the responses. More tellingly, DoT representatives ranging from the Commissioner to the Bicycle Coordinator have rarely, if ever, mentioned the survey findings, even in forums devoted to bicycle transportation.

DoT statistics on such vital matters as bicycling volumes, traffic accidents, and bike messenger levels also are often incomplete or of questionable accuracy. Cyclist "screen-line" counts, for example, capture only cyclists entering, rather than circulating within, the Central Business District; even the screen-line counts themselves appear to undercount cyclists crossing into the CBD by 10-15 percent.<sup>17</sup>

### **The Bicycle Advisory Committee**

In 1977, the City established the Bicycle Advisory Committee (BAC), an informal body representing citizens groups and public agencies concerned with cycling. The following

decade-old quotation sadly rings true of NYC Bicycle Advisory Committee meetings today:

While monthly meetings were earlier held with deputy or assistant commissioners, the level of DoT participation has decreased. Minutes have been sporadic; provision of current status [of projects or inquiries] and data has been less than optimum.<sup>18</sup>

Although meetings now occur regularly every 6-8 weeks, the BAC remains relatively ineffectual. Attendance by relevant City agencies, such as Police, General Services and Parks, or by DoT personnel other than the bicycle coordinator, has been sporadic, impeding continuity. Follow-through is made more difficult by the lack of progress reports concerning initiatives from previous meetings. As a result, the meetings often consist primarily of unproductive venting of the cycling community's frustrations. The BAC should be formally re-



KATHRYN KIRK, OFFICE OF BROOKLYN BOROUGH PRESIDENT

constituted by mayoral order with a clear mandate to increase the level of bicycle transport in NYC, with compulsory attendance by relevant agencies and departments. Such a move would bring the New York City BAC up to the level of professionalism attained by comparable bodies in many other U.S. cities and states.

**Direct contact with city officials is an aim of Bike-to-Work Week. Shown here is Brooklyn Borough President Howard Golden (front row, center).**



C.T. WEMPLE

**ISTEA legislation explicitly provides for funding bicycling projects and programs.**

### **Other Levels of Government**

Many of cycling's advances in New York City have been made possible through intervention of supportive city and state politicians. However, such individuals are a distinct minority, either through temperament, competing priorities, or pessimism that city administrations will follow through. Moreover, to date the Transportation Committee of the City Council has shown little inclination to oversee the DoT or face up to the city's many pressing transportation problems, let alone encourage cycling as a fundamental alternative.

A bright spot for NYC cycle planning is the new area of *greenway development*. The NY State Office of Parks, Recreation & Historic Preservation, NYC Department of City Planning and the Borough Presidents of the Bronx, Brooklyn and Manhattan — together with citizens' organizations — have taken a leading role in mapping and exploring funding sources for an extensive system of off-road bicycle and walking routes, concentrated in the outer boroughs and on the Manhattan waterfronts (see Chapter 7, Greenways). This network could become a major recipient of bicycle and pedestrian facility funding under new federal transportation legislation (see below).

New York State government has a bicycle coordinator in its Department of Transportation, a

bicycle safety liaison in the Governor's Traffic Safety Office, and cycling-oriented planners in the Office of Parks and Recreation. The state has set guidelines for development of bicycle facilities and has recognized that secure bicycle parking is a major element in any bicycle transportation strategy.<sup>19</sup> NY State DoT also has personnel in each of its regional landscape design offices designated as bicycle planners. However, at this writing, the New York City area (NYS DoT Region 11) bicycle planner and the cycling community have only recently made contact. Hopefully this will increase as the state carries out its new federal mandate to produce a plan for bicycle transportation, and as local cycling advocates step up lobbying for cycling projects funded by state-controlled flexible federal transportation dollars.

### **The New Transportation Planning Environment**

The regulatory framework fashioned by the 1990 Clean Air Act Amendments and the federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) opens the door to rapid, government-supported proliferation of bicycle transportation in New York City. These acts mark a major shift in thinking at the federal level, giving cities and states an opportunity to develop innovative, environmentally-sustainable transportation strategies. For New York — a transit and walking city staggering under the twin burdens of cars and smog — the potential for revitalization through auto-reduction is tremendous. Such a departure will require strong City leadership, however.

ISTEA's bicycle provisions are already leading some cities to adopt ambitious plans for bicycle promotion. For example, the City of Chicago's extensive, goal-oriented plan outlined above undoubtedly owes much to the fact that cycling is eligible for flexible federal transportation funds under ISTEA. Moreover, the Clean Air Act Amendments have closed loopholes in clean-air mandates by putting urban areas on strict but achievable pollution-reduction schedules. Public officials who short-change non-highway transportation options and thereby miss air quality goals risk high political costs

for provoking cutoffs of federal funds and curbs on new development.

Several sections of the ISTEA legislation explicitly provide for funding bicycling projects and programs. Each state must appoint a bicycle program manager to develop a long-range plan for bicycle transportation. Using ISTEA funding, NY State DoT hired its bicycle program manager in early 1993. Metropolitan Planning Organizations — locally the New York Metropolitan Transportation Council (NYMTC) — are charged with developing biennial transportation improvement plans, which also must include a bicycling component.

To date, NYMTC has solicited general ideas pertaining to bicycle transport to include in its planning documents.<sup>20</sup> Still, it is unclear how extensive or specific its bicycle plan for the metropolitan area will be. Neither NYMTC nor the New York State Dept. of Transportation has committed to making bicycle planning a high priority, or of combining planning efforts with the City DoT. In contrast, the New Jersey Dept. of Transportation recently let a contract for a comprehensive study of means to increase bicycle use in that state; the contractors include experienced bicycle planners.

ISTEA provides the opportunity, and the Clean Air Act the responsibility, for New York City and State to move forward with innovative transportation strategies. Planned and administered intelligently and with the involvement of the cycling community, bicycle plans and programs that enable New Yorkers to use bicycles for transportation can play a meaningful part in improving the city's economy, environment and overall quality of life. But absent a strong commitment to bicycle transportation, even the new clean air-transportation opportunity could be fumbled away.

### The Benefit-Cost Advantage of Bicycling for New York City

In a city beset with the gargantuan problems of New York, the simple, unassuming bicycle — the most efficient form of urban transportation ever invented — can be a powerful solution. By making a genuine, comprehensive commitment to encouraging cycling, city government could underwrite a dramatic improvement in many of the conditions that now undermine New York as a place to live and work: pollution, traffic congestion, noise, danger and the general aura of facelessness and hostility.

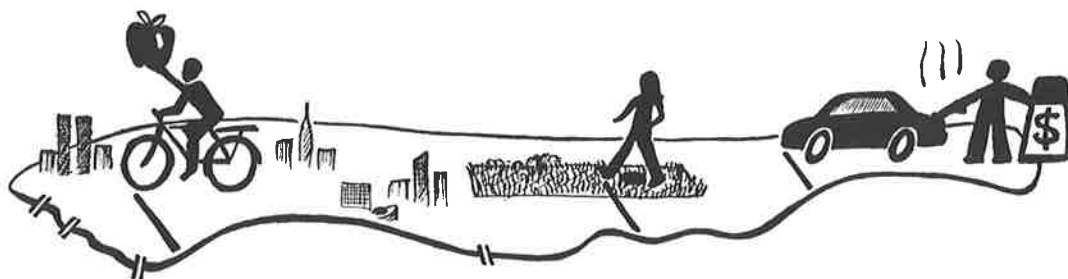
The advantages of bicycle transportation for New York derive primarily from three factors:

- the inherent positive nature of the bicycle;
- the high economic and social cost of motor vehicle use; and
- the modest cost of changing the city's institutions and infrastructure to make bicycling safer and more accessible.

### The Positive Nature of Bicycle Transportation

A 1989 Transportation Alternatives "Bike-To-Work Week" poster touted bicycling as *non-polluting, liberating, healthful, scenic, economical and fun*. Although the list isn't exhaustive — "space-saving" and "human-scale" also apply — the adjectives in the T.A. poster capture the essence of bicycling's positive value for cities such as New York.

Automobiles are far and away the prime cause of New York City's dangerously unhealthy air. But even mass transit consumes fossil fuels and creates pollution — directly in the case of bus-



On 350 calories — one apple tart or a "special" slice of Ray's Pizza — a cyclist can travel 10 miles, a pedestrian 3½ miles, and an automobile 100 feet.

**Williamsburg Bridge bike path during 8-month closure, 1991-92. NYC bicycle commuters learn to take obstacles in stride.**



ANNA WEST

es, and indirectly for electric-powered rail transport. Bicycling, in contrast, is human-powered, or, if you will, a product of solar energy (mediated into food via photosynthesis, and into mechanical energy via the cyclist's metabolism). Like walking, cycling is renewable transport, and therefore non-polluting; however, the mechanical advantage of the bicycle allows the cyclist to cover 4-5 times as

proved street conditions, especially reduced pollution and danger from motor vehicles, cycling could truly become a "health club of the streets," providing free aerobic exercise as part of one's normal daily travel, not in a sweaty gym but in the urban outdoors.

Much of the scenic and fun value of riding a bike comes from the ability to experience and interact with the vibrant street life of New York. Unlike motorists, who are separate from (if not intruders upon) the communities their cars rumble through, and transit users who are stifled underground, the cyclist can feel and observe the passing scene and stop casually for errands. And while nothing quite matches the intimacy of walking through a neighborhood, cycling at least comes close while affording far greater mobility. What's more, many cyclists, especially women, feel less vulnerable to street crime aboard a bike than on foot or on mass transit. By making bicycle riding available to a broader spectrum of people in a wider set of circumstances, we can increase the affinity that New Yorkers feel for their city and for each other.

much ground as the pedestrian. With a bicycle, a New Yorker can traverse the metropolis pollution-free — on the energy of an apple tart!

Of course, bicycles are many times more efficient in using street space than automobiles, and roughly comparable to buses operating at high load factors. Moreover, compared to cars, and also to buses and subways, bicycles are blessedly quiet. In crowded, noisy New York, the bicycle's economy of space and sound is a powerful advantage.

Cycling is also personally liberating. On a bike, one can "transcend time, traffic and the regulated ordinariness of city life,"<sup>21</sup> wrote one bicyclist. Cyclists control their own schedule, largely free of the gridlock, breakdowns and bureaucracies that are the constant bane of motorists and transit riders. Hand-in-hand with the psychic benefits of autonomous travel comes the physiological benefit from cycling exercise — not to mention the sheer fun and exhilaration of propelling oneself on two wheels. With im-

Finally, bicycling is affordable. Per mile traveled, bicycle riding costs the frequent cyclist less than half as much as mass transit and only one-quarter as much as driving — even assuming cyclists must replace their bicycles every three years due to bicycle theft and bad pavement.<sup>22</sup> The low cost of bicycle transportation is a big reason that many young and hard-pressed New Yorkers — students, artists, freelancers — rely on bikes.

By extending bicycling to a fuller spectrum of the citizenry, the city could significantly lower the cost of living in New York. We estimate that the annual savings would average \$575 for each transit user switching to bicycles, and \$1,100 per motorist. The implied savings in outlays from a 10-fold increase in cycling are on the order of half-a-billion dollars annually for the city as a whole.<sup>23</sup> Clearly, by making cycling more widespread, city government could free up substantial discretionary income for entertainment, education, and other goods and services that are New York's economic and social *raison d'être*.

**A 10-fold increase in cycling could save New Yorkers between half-a billion and a billion dollars a year.**

### **Economic and Social Costs of Motor Vehicles**

Motor vehicles impose an extraordinary burden on New York City. Roadway construction, maintenance and administration cost the city close to \$800 million a year more than is collected from motorists through fuel taxes, tolls and other charges (see next footnote); this amount, equivalent to \$105 a year for every man, woman and child in the city, must be made up through higher taxes on personal and business income, property and sales.

But this subsidy to motorists is only the tip of the proverbial iceberg; transportation planner-engineer Brian Ketcham and economist Charles Komanoff estimate that the "hidden" costs of motor vehicle use — air pollution, time lost in congestion, traffic noise and vibration, national security costs to maintain oil supplies, land appropriation, and the human toll of car accidents on motorists, pedestrians and cyclists — total approximately \$21 billion a year in New York City. About half of these costs are borne by motorists, but the other half is borne by the public at large.<sup>24</sup> Averaged across the entire populace, the use of cars and trucks costs New Yorkers an astounding \$3,000 per person per year, above and beyond motorists' out-of-pocket costs including taxes and insurance.

While at first glance this number appears fantastic, it becomes plausible when one considers the destructive reality of motor vehicles in New York. Cars and trucks kill over 600 people each year in the City — of whom more than half are pedestrians or cyclists — and injure over 15,000. They also usurp huge amounts of the city's land area, turn neighborhoods into urban expressways and commercial districts into racetracks, subject everyone to constant noise, and are by far the city's largest source of air pollution. That the cost of this destruction is not yet incorporated into what motorists pay to drive does not make them any less real for New Yorkers and our city as a whole.

How do these motor vehicle usage costs pertain to bicycling? Obviously, any increase in non-motor transportation reduces car and truck miles driven in New York and thereby reduces

the overall economic and social cost of driving. And while not every present or potential bicycle mile traveled substitutes for a car or truck mile, the opportunities to increase cycling are so great, and the costs of motor vehicle use so enormous, that even a fractional displacement of cars by bikes can make a noticeable dent in vehicle-related costs.

For example, even assuming that four-fifths of new bicycle riders came from the ranks of transit users and pedestrians, and only one-fifth from motorists or car poolers, a 10-fold increase in non-commercial cycling in New York would eliminate approximately 3 percent of automobile miles traveled.<sup>25</sup> Assuming that cars and trucks each account for half of motor vehicle costs in New York (since ton-miles traveled by city cars and trucks are roughly equal), the 10-fold cycling increase hypothesized here would thus eliminate approximately \$300 million a year of the \$21 billion in motor vehicle hidden costs — accidents, congestion, pollution, and so forth — cited above. This saving is in addition to the half-a-billion dollar savings in annual direct travel costs that we estimated above would be realized by New Yorkers participating in the increase in bicycling.

To be sure, the measures recommended in this report to increase cycling would have their own costs. Still, it is hard to imagine that the necessary changes in the city's institutions and infrastructure, or the costs of cycling itself, would absorb more than a fraction of the savings that individuals and the public at large would reap from expanding bicycling and cutting back on car traffic. Indeed, a New York less overrun by autos and more attuned to bicycles would be more attractive to tourists as well as residents. Certainly, Americans and non-Americans alike would find it intriguing if cosmopolitan New York City, renowned for theater, art, music and sheer diversity and vitality, transformed itself to become one of the world's great bicycling cities.<sup>26</sup>

**A New York with fewer cars and more bicycles would be more attractive to tourists as well as residents.**





DAVID PERRY

**FDR Drive, 5-Boro  
Bike Tour.**

## Chapter 1 Recommendations

### Agencies

#### Mayor's Office

Issue a *Bicycle Policy Statement* affirming New York as a pedestrian- and cycling-friendly city. Statement should explain how bicycling benefits New York City and declare cyclists' right to safe streets, bridge access and safeguarded parking. Statement should adopt ambitious goals for bicycling, e.g., a one-third increase by 1995 and a further one-half increase to 2000 (resulting in a combined doubling from today's levels).

Formally reconstitute the NYC Bicycle Advisory Committee under the auspices of the NYC Dept. of Transportation, but with attendance also required by key City personnel (e.g., from NYC Dept. of Environmental Protection's clean air planning group, NYPD Traffic Division, NYC Parks Dept., Dept. of City Planning) and encouraging participation by City Council Transportation Committee Staff and NY State DoT Region 11 Bicycle Coordinator.

#### NYC Dept. of Transportation

Provide staff and political support for the DoT bicycle coordinator position, including reinstitution of the bicycle safety coordinator position.

Ensure that DoT Bureaus respond to draft NYC DoT Bicycle Policy with detailed plans for bicycle-friendly improvements in construction and maintenance work.

#### City Council

Convene public hearings to examine the economic

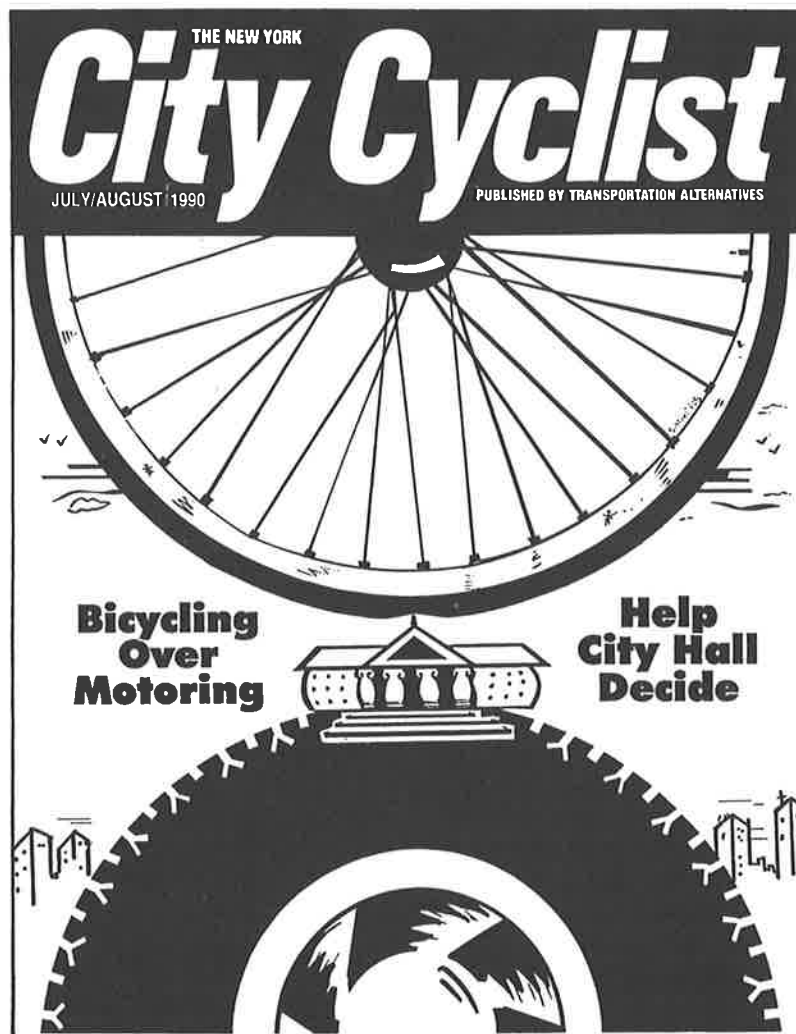
and environmental costs and benefits of each form of transportation in New York City — transit, bicycling, walking and motoring — and develop a City Council agenda for transportation improvements in NYC.

## Chapter 1 Notes

- 1 George Haikalis and Barry Benepe, *Greenwich Village Traffic Calming Study*, Transportation Alternatives, 1992, p. iii.
- 2 "Gridlock Weary, Some Turn to Pedal Power," *The Urban Edge*. Vol. 14, No. 2, The World Bank, Washington DC, March 1990.
- 3 *Cities for Cyclists* Brochure, European Cyclists' Federation, 1991.
- 4 Andy Clarke, *Bicycle-friendly Cities: Key Ingredients for Success*, Bicycle Federation of America, Washington DC, 1992. See also Peter Lagerwey (Bicycle Coordinator, City of Seattle) "Institutionalizing Bicycling in the Transportation Planning Process," *Pro Bike 1990 Proceedings*, Bicycle Federation of America, 1991.
- 5 Telecom with Toronto City Cycling Office, May 15, 1992.
- 6 *Bicycling Magazine*, "The 10 Best Cities for Cycling," April 1990.
- 7 *The Bike 2000 Plan: A Plan to Make Chicago Bicycle-Friendly by the Year 2000*. City of Chicago, Mayor's Bicycle Advisory Council, 1992.
- 8 *The Plan to Make Pasadena Bicycle-Friendly*, Mayor's Bicycle Task Force, City of Pasadena, 1991.
- 9 *Pro Bike News*, Bicycle Federation of America, Vol. 12, No. 2, Feb. 1992.
- 10 *Pro Bike News*, Vol. 11, No. 7, July 1991.
- 11 *Pro Bike News*, Vol. 11, No. 10, Oct. 1991.
- 12 *Pro Bike News*, Vol. 12, No. 2, Feb. 1992.
- 13 *Pro Bike News*, Vol. 11, No. 12, Dec. 1991.
- 14 *City Cyclist*, Transportation Alternatives, Fall 1981.
- 15 *City Cyclist*, Transportation Alternatives, May/June 1988.
- 16 *Draft Bicycle Policy Statement*, New York City Dept. of Transportation, 1991.
- 17 In 1990, long-time cyclist writer-advocate Mary Frances Dunham spent several days monitoring DoT traffic counters; Dunham counted 1,257 cyclists at screen-line locations, versus DoT's 1,091. See M.F. Dunham, "Assessing the

Percentage of Bicyclists in the Traffic of Manhattan's Central Business District," Feb. 1991.

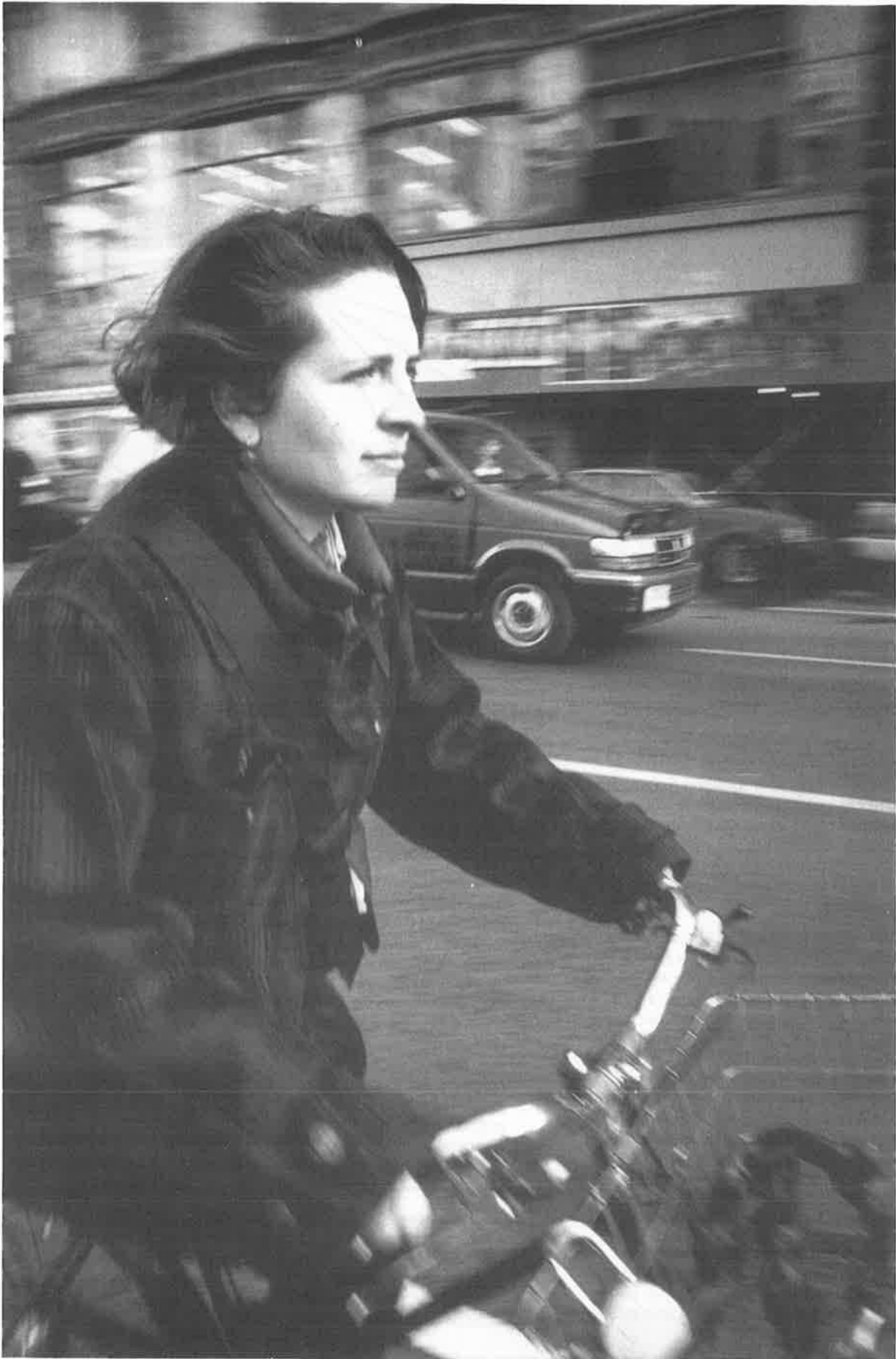
- 18 Roger Herz, "Issues and Actions," *City Cyclist*, Transportation Alternatives, Summer 1981.
- 19 New York State Dept. of Transportation, "Revision No. 18 to Highway Design Manual," Dec. 16, 1986.
- 20 William Warner, Regional Plan Association, "Bicycling and Pedestrian Movement," draft segment of NYMTC Long-Range Plan, August 1992, New York.
- 21 Charles Komanoff, "Bikes Just Lack 'Curb Appeal'," *The New York Times*, Sept. 1, 1990.
- 22 Estimated per-passenger-mile costs are 10¢/mile for cycling, 25¢/mile for transit, 38¢/mile for autos. Key assumptions include cycling usage averaging 96 miles a week (of which one-third is commuting), 40 weeks a year, with annual parts and maintenance costs of \$300/year in addition to new bicycle purchase every three years; auto costs of 50¢/mile with 1.3 passengers per car; transit fare of \$1.25 with average trip distance of 5 miles.
- 23 Applying the per-cyclist annual savings earlier in the paragraph to 630,000 new riders (from a hypothesized 10-fold increase in daily cyclists, from 70,000 to 700,000), yields \$360 million in aggregate savings if all cyclist switches were from transit, or \$686 million for switches from driving. Although a large-scale substitution of cycling for transit would cut into Transit Authority revenues, other measures ranging from transit improvements to increased driving charges could offset any attrition from making cycling more attractive. In any event, transportation planners increasingly are calling for financing transit through general revenues rather than the farebox.
- 24 The \$800 million direct subsidy figure is based on Federal Highway Administration data. Estimated annual hidden costs borne by New York City non-motorists as of 1990 were \$2.9 billion for health and property damage from air pollution, \$2.5 billion for accidents, \$2.0 billion for appropriation of land; \$1.4 billion for noise; \$1.1 billion for time lost in congestion, \$300 million each for military costs allocable to defending oil supplies and the present worth of future climate change costs; and \$200 million for damage to buildings and infrastructure from vibration from heavy trucks. See B. Ketcham and C. Komanoff, "Should Drivers Pay More?," *Auto-Free Press*, Nov/Dec 1992.
- 25 The hypothesized 10-increase from today's 70,000 daily commuter cyclists implies 630,000 new cycle commuters, of whom 20% are assumed to abandon motor vehicles (126,000) and



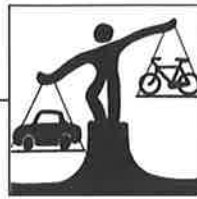
JANE SANDERS

80% mass transit (504,000). We assume that the latter shift from transit itself provokes a 1-in-20 reduction in driving, by making transit less crowded. This further reduction of 25,000 drivers or passengers results in a total of 151,000 fewer auto trips per day. Assuming that the bicycling trips displace cars for 8 miles daily (4 miles each way), 4 days per week, 40 weeks per year, with an occupancy rate of 1.3 passengers per car, the auto mileage displaced by the increase in bicycle commuting is around 150 million miles per year. Assuming further that total bicycle use is triple commuting distance alone, the total auto mileage displaced would be 450 million miles annually. This is around 3% of New York City's current automobile travel of 14.5 billion miles per year.

- 26 *Bicycling* magazine rated New York one of America's three worst cycling cities (April 1990). In a May 1992 update, *Bicycling* said New York, though still not hospitable to cyclists, was "improving," in large part due to the activism of Transportation Alternatives.



ANITA BARTSCH



## Chapter 2

# State of Cycling in New York

New York City is one of the best of places to ride a bicycle. The terrain is flat, the geography is compact, and the city offers a matrix of routes to choose from along with an ever-changing galaxy of sights, sounds and serendipitous encounters. Cycling here is almost always the fastest, most reliable path between point a and point b, and gives commuters a greater sense of both autonomy and community than any other transportation mode. As one cyclist wrote, “There is magic in blending with traffic, feeling the wind in one’s face, the sheer fact of traversing the city under one’s own power.”<sup>1</sup>

Cycling is ecologically sound and provides a perfect workout. And once the bicycle is paid for, biking is virtually free. “At times in New York, which puts a price on everything,” wrote another cyclist, “the freedom and mobility of a bicycle can make you feel like a rich man.”<sup>2</sup>

Unfortunately, New York City is also one of the worst of places to ride a bicycle. Everything seems to conspire against the cyclist. The pavement is torn and filled with glass, the bridges are crumbling and often off-limits, the air is polluted. The streets are choked with cars, and pedestrians and motorists are inattentive at best and frequently hostile. Cyclists also have to worry about having their bike stolen whenever they lock up outdoors, and must contend with buildings that flatly refuse to grant them entry.

### Current Ridership

Nevertheless, an estimated 75,000 New Yorkers use bicycles for transportation on a typical day — fewer in bad weather, more in spring and summer (see Appendix B). Some cyclists are able to rely more or less completely on their bicycle for transportation; while this can take ingenuity, resilience and bravery, the rewards are great in terms of economy, mobili-

ty and independence. More adventurous cyclists also have access to utility or freight-hauling bikes and trailers, which further mitigate dependence on motorized transport.

Bicycle ridership grew significantly in the 1980s. The 11-day transit strike in 1980 induced thousands of New Yorkers to try bicycle transportation, and many of them have never looked back. According to the New York City DoT, daily cycling trips entering the Manhattan central business district (south of 60th Street) increased 30% from 1980 to 1985 and 60% from 1980 to 1990.<sup>3</sup> Bicycling here has also been spurred by frustration with auto congestion, by improvements in bicycle technology that make biking safer and more comfortable, and by an increased cultural emphasis on physical fitness and ecological awareness.

Approximately 5,000 of the daily cyclists are hired riders — bike messengers carrying parcels for rush delivery, or delivery cyclists with carry-out food or store purchases.<sup>4</sup> The remaining 70,000 bicyclists are “bicycle commuters” or “utilitarian” riders, cycling between home, work, school and/or errands. This group cuts across all barriers of race, socioeconomics and age.

Much of New York City’s bicycle traffic is concentrated in Manhattan, especially south of 60th Street. A survey conducted by Transportation Alternatives in May 1992 of 8,000 vehicles in motion on midtown Manhattan avenues during midday found that 9.0% were bicycles. Similar surveys in May 1990, June 1989 and April 1988 indicated that 9.6%, 8.0% and 8.3%, respectively, of vehicles were bicycles. In all four surveys, bicycle volumes on midtown Manhattan avenues typically averaged between 125 and 200 per hour (see Appendix B).

**Many New Yorkers would commute by bicycle if provided with decent facilities.**

### Interest in Bike Commuting According to Trip Distance

Distance (1-way)	Respondents to Survey	Number Who Would Commute	Percent Who Would Commute
0-5 Miles	369	165	45%
5-10 Miles	319	171	54%
<b>0-10 Miles (subtotal)</b>	<b>688</b>	<b>336</b>	<b>49%</b>
> 10 Miles	1,592	310	19%
<b>Total</b>	<b>2,280</b>	<b>646</b>	<b>28%</b>

Data compiled from NYC DoT report, *Improving Manhattan Traffic and Air Quality Conditions — Effectiveness of Bicycle Programs*, Sept. 1990. Percentages denote respondents who would bike to work if “bicycle lanes were painted on the street, you could bring your bicycle into the building that you work in, and facilities to shower and change clothes were provided at work.”

DoT distributed 22,700 survey questionnaires to 12 Manhattan business firms (2,000 per firm, except 700 to one smaller firm) participating in the agency's Project SMART (Strategies for Mobility and Reduction of Traffic). While the 2,280 completed responses indicate a nominal 10% response rate, the effective response rate is higher insofar as not all employees necessarily received survey forms. DoT wisely omitted any mention of bicycles from the survey heading, to avoid biasing responses toward bicycle enthusiasts.

Survey is summarized in DoT report, although responses are not broken out by distance. For breakout as above, see Nov. 29, 1990 letter from Transportation Alternatives to DoT Assistant Commissioner Gerard Soffian, and confirmatory response dated Jan. 3, 1991. See also “Commuters to DoT: We're Ready When You Are,” *City Cyclist*, Jan/Feb 1991, p. 3.

#### Would-Be Ridership

There is enormous pent-up desire for transportation cycling in New York City. Anecdotal evidence strongly suggests that thousands of people would love to take their dusty bikes out of the basement and ride again, if only conditions seemed less dangerous and hostile. Survey data support this belief: nearly half of 688 Manhattan office workers living within 10 miles of their job and responding to a 1990 survey by the NYC Department of Transportation said they would bike to work if provided with safe lanes, secure parking and wash-up facilities (see table).

Although conventional wisdom has it that few people will consider riding more than 5 miles



to work, the percentage of DoT survey respondents wishing to bike-commute was greater for those commuting 5-10 miles (54%) than for workers traveling under 5 miles (45%). Even more surprising, of an additional 1,592 survey respondents whose commuting distances exceeded 10 miles, 19% said that bike lanes, parking and a place to wash up would induce them to ride to work.

Even allowing for possible exaggeration or selection bias in the survey, there is every reason to believe that many New Yorkers would commute by bicycle if provided with decent facilities. In countries whose infrastructure and culture actively encourage bicycling, the numbers of actual cyclists correspond to the numbers of would-be cyclists in New York City.

Bicycling constitutes 25%, 18% and 11% of nationwide trips in highly industrialized Denmark, Netherlands and the former West Germany, respectively.<sup>5</sup> The share reaches up to 50% in some cities and towns with well-developed cycling networks, incentives and other infrastructure such as secure parking at transit stations. In Japan, bicycles are used for over 30% of work and school commutes.<sup>6</sup> And in China, the bicycle share exceeds 50%.<sup>7</sup> An estimated 3.6 million people work in New York City.<sup>8</sup> If 20% rode bikes to work, the daily cycling population would be 700,000, or roughly ten times the present level.

#### Public Perception of Cycling

For the most part, the city's media place bicyclists between the proverbial rock and a hard place. Sometimes bicyclists are stereotyped as “kamikaze” cyclists who endanger pedestrians and themselves; sometimes cyclists are ignored completely, an invisible part of the city's traffic mix despite their struggle to brave difficult conditions. The sporting aspects of cycling — touring, training and equipment — get far more coverage than cycling's value for transportation, ecology and economy.

Cycling in New York City is closely associated with danger. Each year some 15 to 20 New Yorkers are killed and several thousand injured,

some seriously, riding bikes. Curiously, the vulnerability of cyclists seems to inspire as much scorn as sympathy, almost as if non-cyclists believe cyclists deserve to pay for the folly of venturing onto the streets in the first place.

The flip side of cycling danger is the hazard that pedestrians feel from cyclists. Although cyclists often pass too close for the pedestrian's comfort, the attention given to cyclist-pedestrian conflict is far out of proportion to the statistical risks. To put the risks in perspective: one pedestrian *a year* is killed in a collision with a cyclist in New York City, while one pedestrian *a day* is killed here by a motor vehicle. Moreover, accounts of bicycle-pedestrian accidents invariably blame the cyclist, ignoring the reality that both the cyclist and the pedestrian are victims of chaotic motor traffic.

The association of cycling with danger, though perhaps diminishing in recent years, still acts as a powerful impediment to the public's and government's taking cycling transportation seriously.

### Cycling's Untapped Potential

The biggest impediment to making New York a bicycle-friendly city is not money, but attitude. As succeeding chapters make clear, the infrastructure and administrative changes needed to encourage cycling are easy and cheap enough to implement — if only there is political will to set them in motion. One more point: people like to ride bikes. In every city in the world that is set up for cycling, people ride. There is no good reason why New York City, with its perfect topography and compact land use pattern, should deny people the opportunity.

As H.G. Wells wrote in the 1920s, "When I see an adult on a bicycle I do not despair for the future of the human race." A New York City with hundreds of thousands or even a million people

riding bicycles daily would be a city less afraid for its survival and more able to fulfill its promise as a place of greatness and opportunity.



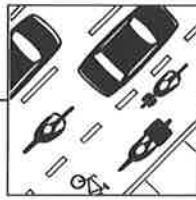
### Chapter 2 Notes

- 1 "The Bike Ban Is Bad Medicine," by Charles Komanoff, *New York Observer*, Jan. 25, 1988.
- 2 "A Bike & A Prayer," by Chip Brown, *7 Days*, July 6, 1988.
- 3 *New York City Bicycle Statistics*, NYC Dept. of Transportation, annual, show the following daily cycling volumes entering the Manhattan Central Business District by crossing the 60th Street "screenline," entering via the East River bridges, or debarking from the Staten Island Ferry: 1980, 6,829; 1985, 8,310; 1990, 10,930. See Chapter 1 for comment indicating that DoT screenline volumes undercount actual cycling levels.
- 4 The Mar/Apr 1991 *City Cyclist* and the March 19, 1991 *New York Times* both noted the shrinkage in the bicycle messenger industry resulting from the recession and the spread of telefax communication. However, the Times account cited no statistics and appeared to overstate the extent of the decline.
- 5 **Netherlands:** "Netherlands Adopts National Bicycle Policy," Public Innovation Abroad. International Center/Academy for State and Local Governments, March 1992. **Denmark and West Germany:** Fergusson and Rowell, *Bikes Not Fumes: The Emission and Health Benefits of a Modal Shift from Motor Vehicles to Cycling*. Cyclists' Touring Club, Godalming, England, 1991.
- 6 "Bicycle Parking Systems in Japan," Sadao Satoh, *Proceedings: Velo City '91*, European Cyclists' Federation, Milan, 1992, p. 89. Figure includes multimodal commutes which contain bicycling "segments."
- 7 Marcia Lowe, *The Bicycle: Vehicle for a Small Planet*, Worldwatch Institute, Washington, DC, 1989, pp. 31-39.
- 8 New York Metropolitan Transportation Council, *Regional Transportation Status Report 1990*, January 1992, Appendix, Table 1, reports 3,570,000 million people employed in New York City, of whom 2,295,000 million work in Manhattan.





T.A. FILE



## Chapter 3

# Cyclists and City Streets

### Where Do Bikes Fit In?

To understand the dynamics of bicycling on New York City streets, it helps to first examine — from a cyclist’s-eye view — the climate in which cyclists ride. The city looks different to a cyclist than it does to a motorist, and with good reason: bikes are fundamentally unlike cars. Yet both the law and agencies that set traffic policy lump cyclists together with motor vehicles, the result being that the special qualities and needs (and vulnerabilities) of cyclists are either ignored or misunderstood.

Meanwhile, people who drive motor vehicles are all too aware that bicycles differ from cars. Bikes are both slower and more nimble than cars; they take up less space, yet can seem “in the way” to unacculturated drivers. Many motorists regard cyclists as interlopers on *their* streets, begrudging cyclists even the fraction of a lane they use. Either way, cyclists — and the city — lose. Cyclists have to ride on streets where they are not made welcome, and are expected to obey traffic laws that were not designed for them and frequently don’t make sense. The city as a whole pays the myriad costs of attempting to manage a traffic situation made unmanageable by too many motor vehicles, while missing out on the civic benefits large-scale cycling could offer.

### No Room on the Street

Public space for getting around New York City is doled out in this way: pedestrians get the sidewalks; parked motor vehicles get the curb-side lanes of streets and avenues, and moving motor vehicles get the rest of the lanes. To many, this seems a perfectly logical — or at least unquestioned — arrangement of space.

To a cyclist, however, left almost entirely out of the equation, this method of doling out street space is irrational and often infuriating. One

long-time cyclist has calculated that over a hundred lanes are available for motor vehicles on midtown Manhattan avenues, while the equivalent of several dozen lanes are allocated to pedestrians in the form of sidewalks. Yet cyclists, although engaging in a legal and viable form of locomotion — indeed, one that predates the automobile, poses virtually no threat to the populace’s health or safety, makes no noise, takes up little room and rarely creates gridlock — are allocated one-half of a single lane in midtown — and a substandard one at that.<sup>1</sup>

For the most part, cyclists in New York City are consigned to finding a narrow niche in a danger zone between parked and moving cars (with the minor exception of occasional narrow, unprotected, poorly marked and poorly maintained painted bike lanes). Why is it, cyclists wonder, that motorists deserve this space while cyclists do not? Or why, on a six-lane-wide avenue, can’t one lane be set aside for bikes; or two lanes; or, at least on selected avenues, all the lanes? (For discussion of bike lanes, see Chapter 4, Street Design.) Cyclists also wonder why it is that while cars have two full parking lanes, cyclists have no dedicated place to park, and must instead trust their luck to finding a sturdy, unobstructed signpost on the sidewalk.

**Many motorists regard cyclists as interlopers on their streets.**

### The Rule Books

This failure to treat bicycles as a discrete transportation mode runs through the laws that govern traffic. The city DoT’s *Traffic Rules and Regulations* and the city’s *Administrative Code*, both of which supersede the state rules, subject bicyclists to the same rules as motorists — despite the many intrinsic differences between the two. The handful of bicycle-specific rules in these rule books are vague and spotty (not to mention unenforced on the street). For instance, the Administrative Code says bicy-



MICHAEL O'BRIEN

clists may ride two abreast, just like drivers and their passengers, but nowhere does it grant cyclists the space to do so. Cyclists are required to use bike lanes where they exist, but other vehicles are allowed to enter those lanes for “access, safety, turns, etc.”<sup>2</sup>

Moreover, language in the city DoT rules aimed at protecting cyclists from motorists [NYC DoT rules 4-12 (p)] is limited to cyclists using the city’s few bicycle lanes. Although the NY State Vehicle and Traffic Law directs drivers to exercise due care when sharing the road with cyclists [Section 1146], the city rules need to be updated specifically to instruct motorists to look for bicyclists before opening car doors and to yield to cyclists when changing lanes, turning, or where there is insufficient room to overtake a cyclist.

In part because of the tone set by the government, and also by tradition, cyclists are often treated badly, like perpetrators rather than victims of anarchic traffic patterns. Most New York City cyclists have been told by angry motorists and pedestrians — who seem to believe it — that they have no business riding on the streets in the first place. Newspapers rail against cyclists for their failure to obey traffic rules, ignoring the fact that pedestrians and motorists are also chronic rule-flouters, and overlooking the fact that the rules make no allowance for the bicycle’s unique character and needs.

### Why Cyclists Do What They Do

Cyclists often have valid reasons for behaving the way they do, paralleling the reasons that motivate pedestrians and motorists. Behind most of these actions is a sense that since the city denies cyclists the barest minimum of space or respect, cyclists must carve out their own safe and efficient path as best they can. This is not to excuse cyclists who are reckless or inconsiderate and those who frighten people needlessly — they deserve public scorn just as does a rude or reckless motorist (they also deserve an education in better riding habits).

Some cyclists ride briefly on the sidewalk when double-parked vehicles block the street because it is safer and more passable than the clogged roadway. Some cyclists ride against traffic, particularly on the avenues, because the choice of routes in the correct direction is limited. For instance, only cyclists with rugged mountain bikes dare ride regularly on Sixth Avenue, which has been a virtual mine field of steel plates, huge bumps and deep holes since it was torn up for reconstruction in 1989; the next logical choice, narrow Madison, is choked with diesel-fume buses.

### Cyclists and Red Lights

New York cyclists are notorious for running red lights. By now, going through red is an ingrained cycling tradition. Big-city impatience and the desire to maintain hard-earned momentum discourage bicycle riders from stopping fully when the law dictates — the same is true for pedestrians. But, though it may seem surprising for non-cyclists, many riders point to health and safety as reasons to *disobey* red lights.

For one thing, going through a Manhattan red light gives the cyclist a block or two of respite from the exhaust fumes of accelerating cars and trucks. More importantly, bicycles and cars accelerate differently. Motorists waiting behind a stopped bicycle are in no mood to wait for the cyclist to reach cruising speed. Pressure from impatient drivers is especially unnerving for novice cyclists, who need a modicum of open street space to start up. Because motor

traffic occupies that space, the only way bicyclists can start up safely is by getting in front of the traffic, which often entails running lights.

Reducing the frequency and danger of bicyclist red-light running will probably require the following steps: educating cyclists; educating motorists about bicyclists' right to the road and need for safe distance; enforcing laws forbidding intimidating and dangerous driving; and, at certain intersections, reconfiguring streets and traffic signals to give bicyclists a head start when the light turns green.

In some European cities, bicycle lanes have separate traffic signals with their own phasing. These give cyclists and pedestrians 5-10 seconds of green time in advance of motorists waiting at the same intersection, thus helping non-motorized road users establish secure presence in the roadway. This enhances comfort and safety while engendering respect (among cyclists) for traffic control devices (see Chapter 4, Street Design).

### **Crossing and Yielding**

Though cyclists are nominally lumped together with motor vehicles, in many ways they more closely resemble pedestrians — they are small, maneuverable, human-powered and exposed to the elements. As with pedestrians, cyclists' most frequent offense is crossing against traffic signals. Pedestrians are rarely or never ticketed for this offense, but cyclists have received up to 25,000 summonses per year.

Cyclists who barrel through lines of pedestrians at red lights are behaving inexcusably. But a cyclist who slows to a near stop for a red light, looks, waits for all pedestrians to cross and then "slips through" is being responsible and considerate. Rather than trying to issue a ticket to every cyclist who runs a light — a futile endeavor — the Police Department should focus its efforts on cycling offenses that endanger others.

The cycling community has made great strides in educating its constituency on courteous riding habits (see Chapter 17, Accidents). The city, rather than railing against cyclists and in-

dulging in ticketing binges, should also make an effort to educate its populace.

### **Making the Streets Safer**

The biggest reason more people don't ride bikes in New York City is fear of motor vehicles. The sheer volume of cars and trucks, and the speed and assertiveness with which they are driven, creates a constant climate of danger for bicycle riders. Exacerbating this danger is the tendency of motorists to assume a greater claim to that space and set the pace for its use.

To reduce this danger and increase ridership, the city can take both short- and long-term steps:

- **Enforcement:** The Police should widen and shift their traffic enforcement priorities. Although NYPD traffic division officers periodically launch ticketing "blitzes" against cyclists, they do not ticket motorists who violate cyclists' rights by cutting them off, turning abruptly, bullying and otherwise infringing on the rider's right of way. Simply enforcing the 30 mph speed limit on city streets would go a long way toward improving the cycling environment.
- **Speed Limits:** Lowering speed limits and re-timing traffic lights accordingly would induce motorists to slow down, reducing their speed differential over cyclists and leading to safer interaction. These steps

***The sheer volume of cars and trucks, and the speed and assertiveness with which they are driven, creates a constant climate of danger for bicycle riders.***

***Cyclist "threads the needle" between cars and pedestrians near Herald Square.***



DAVID PERRY

would be most effective at off-peak times, when motorist speeds often reach 40 miles per hour or faster — 10 or more miles above the legal limit for city streets.

- **Auto Reduction:** The City should implement a comprehensive program to increase roadway user fees, reduce the costs and unattractiveness of public transit, and otherwise discourage car and truck use (see Chapter 10, Reducing Motor Traffic).

- **Traffic Calming:** The DoT should begin to redesign city streets along lines now widely used in Europe to slow motor vehicle traffic and put other road users on a more equal footing with motorists (see Chapter 4, Street Design, especially section on Traffic Calming).



GEORGE T. NELSON

### Conclusion

The climate in which cyclists ride is a product of both a set of implicit rules on the streets themselves and explicit city and state rules that set the tone for that behavior. Permeating both is a deeply ingrained bias favoring motor vehicles, coupled with a failure to take the different needs of cyclists seriously.

The fact that some 75,000 New Yorkers ride bikes regularly despite enduring third-class treatment attests to the sheer practicality and attractiveness of urban cycling. But if the city

really wants to encourage its citizens to ride, it must begin by making the streets more welcoming. Cyclists' needs are not the same as motorists'; in fact, they are much simpler and cheaper to accommodate.

## Chapter 3 Recommendations

### Agencies

#### NYC Dept. of Transportation

Reduce speed limits on avenues and streets to reflect normal congested conditions. Re-time traffic lights accordingly.

Inaugurate phased pedestrian-cyclist traffic lights to give non-motorized travelers a safe head start before motorists, as in European cities.

Plan to discourage, not accommodate, motor traffic. Phase-in neighborhood "traffic calming" projects.

#### NYC Police Department

Enforce motor vehicle and traffic laws governing:

- motor vehicle speeds (enforce 30 mph speed limit on all city streets, and lower speed limits instituted on some avenues and streets);
- parking and double-parking violations;
- blocking of bicycle lanes;
- infringement of cyclist right-of-way.

#### NY State Dept. of Transportation

Hire a full-time bicycle program director as directed by the federal ISTEA law (Intermodal Surface Transportation Efficiency Act of 1991). The position should be at a high enough level to command sufficient responsibility to ensure implementation of bicycle capital programs in all 11 State DoT regions. The NYS DoT should formally involve the NY State Bicycle Coalition in the selection process.

### Legislative

In consultation with the cycling community, amend the *New York City Traffic Rules* as follows:

Add the following new sections to Article 5:

- Section 52. Turning vehicles shall yield to straight-through bicycle traffic.
- Section 53. Vehicles changing lanes shall not interfere with the right-of-way of a bicyclist.

Add the following new section to Article 8:

- Section 97. Drivers and passengers entering and exiting a vehicle shall exercise due care to avoid

interfering with cyclists, especially in opening vehicle doors.

Amend Article 11:

- Section 157 (which prohibits bicycles on expressways, highways, interstate routes, etc. unless authorized by signs): Bicycle access to roadways and bridges shall only be denied through the rule promulgation procedure of the Dept. of Transportation.

### Chapter 3 Notes

- 1 Ed Lieb, "Worse Than 100-to-1," *City Cyclist*, Nov/Dec 1992, p. 15. Lieb counted 111 North-South vehicle lanes (including parking lanes) between the Hudson and East Rivers, and 33 "side-walk lanes."
- 2 Although the law permits cyclists to leave a bike lane that is made impracticable or unsafe by obstructions, many police officers ignored this distinction until 1989-1990, when pressure from Transportation Alternatives led to a marked reduction in "out-of-bike-lane" ticketing.



**Dutch sticker for cars blocking bike path.**  
Translation: Rude Parker, F\_\_\_ Off!



JON ORCUTT

**Allowing cyclists a full lane would let couples ride side-by-side — as drivers and their passengers do — protected from fast-moving vehicles and opening car doors.**

## “A Bike and a Prayer”

by Chip Brown

*Cycling in New York is fraught with difficulty, as this Blueprint documents in detail. Yet negotiating the perils of city streets can also be exhilarating. Chip Brown, a writer living in New York, captured both sides of city cycling in this piece from the July 6, 1988 issue of 7 Days magazine. Copyright © Chip Brown, 1988.*

If you ride you know those moments when you have fed yourself into the traffic, felt the



GREG MILLER/7 DAYS

hashed-up asphalt rattle in the handlebars, held a lungful of air in a cloud of exhaust. Up ahead there are two parallel buses. With cat's whiskers, you measure the clearance down a doubtful alley. You swing wide, outflank that flower truck. The

cross-street yellow light is turning red. You burst off the green like a surfer on a wave of metal. You have a hundred empty yards of Broadway to yourself.

It was the Irish writer Flann O'Brien who put forth the theory that if you ride a bicycle long enough it takes on your nature and you take on a bit of its. That's why you see bicycles hanging out in your pubs and people leaning stolidly against walls. It goes without saying that there never was a more lyrical invention — a machine so attuned to the nature of dreaming.

But leafy country lanes are one thing and the motorized hysteria of New York another. City riding is not a good way to live a long and peaceful life. Its ecstasies are the sort that soldiers know after battle when they have danced with the beast. To ride through the congested heart of Manhattan at rush hour is to dance with the beast. You compass extremes of terror and exhilaration. You are initiated into an occult world no passenger of buses, cabs, and

trains can know. At its deepest, riding in the city becomes a way of seeing, a form of self-expression, a consciousness.

Usually, it starts as a simple case of convenience. There isn't a faster way of transporting yourself in style. At times in New York, which puts a price on everything, the freedom and mobility of a bicycle can make you feel like a rich man. Gliding by the limos of fat cats mewed up in traffic, you know that life is just and fortune has many guises.

Like dogs, bicycles are social catalysts that attract a superior category of people. Their slow speed vis-a-vis Lear jets makes them anathema on the fast track; on your bicycle you'll be spared encounters with the upwardly mobile segments of society, because they are put off and bewildered by a machine whose character is essentially populist, not to say horizontal. (The upwardly mobile prefer to spend Friday nights trying to cross the Triborough Bridge in so-called luxury sedans.)

At a deeper level, city riding is a continual lesson in feminine principles, in particular the art of being vulnerable. A confrontational, macho aesthetic spells calamity. You must learn to yield, to dodge, to seek harmony. You are obliged to mind the web of interrelations, that complicated mesh of interests, conflicts, intentions: See that stockbroker signaling for a cab at the corner? Wake up, that man's arm may bring a ton of yellow metal swerving across your path. See that poet with the uncertain expression? He's forgotten his briefcase; he's about to turn around in the middle of the road. That fellow double-parked in front of Gray's Papaya — is he going to fling his door open? No, he's eating a hot dog.

Your eye for geography grows sharp. Your legs attend the lost world of contours, the dales and hills that are ironed out by internal combustion. History crops up in hazardous remnants of trolley track protruding from pavement near the George Washington Bridge. Squint into the

gritty air, battling head winds off the Hudson: no wonder the tall ships went to the shelter of the East River.

You ride a corridor of scents and odors — Central Park's wet earth and oxygen, the treacly stench of garbage in Szechuan Valley, the atmosphere of fast food and fumes on 125th Street. Every corner brings a whiff of city life — exhaust, bacon, urine, pizza, new concrete, wet scaffolding, cut flowers, Calvin Klein's Obsession. Every steel plate on the street grows slick as ice in rain. Fifth Avenue feels like velvet compared to Eighth. The light changes. It's close to nine, a summer Sunday night; you're rolling east to west, down a blazing canyon: a blindered horse, aimed at the sun.

Afterward, there is a sense of quiet triumph and repose. You sustained the requisite vigilance. The folly of city riding rests in those moments of absent-mindedness when disaster is not averted, when your guard is down, your thoughts elsewhere. Perhaps you are foolish enough to believe that life is easy: you are lulled by the world's goodness; a fine day has driven malevolent forces into hiding. In an instant, the beast bares its teeth, and you must reckon with your fragility.

One spring night I went for my first ride after laying off for the winter. It was giddy and strange to be perched over wheels again. The gears chirred like a belted kingfisher; the shop fronts of Columbus Avenue streamed past in fast forward. I was thinking how just last fall I had put my ex-girlfriend on my bike and ridden her across the park, and how romantic that seemed now through the veil of memory, even though at the time I had been more concerned with what our combined weight was doing to my rims.

Coasting down Columbus Avenue at good speed (sensing in the long glide the slope of Manhattan bedrock), I moved to the right to turn onto a side street. I slipped between a cab and the curb. Suddenly a yellow door flew open in my path.

If you have a nice bike or if you're sentimental about your bike (my green Bianchi carried me through adolescence), your first thought is, *Save the bike*. The cry got halfway up my

throat; I had time to jerk the wheel over, and then I was unweighted, sailing over the handlebars. I glanced off the top of the door and returned like deadweight, landing on a fire hydrant on my back. A man rushed up.

"Are you all right? Sit down, buddy, sit down," he shouted. "Oh, man, are you lucky, I seen the whole thing, man, I thought there was going to be brains all over the sidewalk." (How could there have been when I left them at home — only an idiot would ride between a stopped cab and the curb.) My back hurt, my knee throbbed. "Are you all right?" he said.

Somehow my bike had come through unscathed, and that was just what the doctor ordered.

"I'm fine," I said. But I walked home and did not ride for a few days.

You venture back cautiously. Wake up, wake up, says the city. Who doesn't profit from such a bulletin — who doesn't need to be shaken by the shoulders and told to live now while there's time? People averse to risk content themselves with cabs and trains, but they have the machinery of illumination at their fingertips. And at times there is no alternative.

You have a date. It's set for six. You really like this girl. You take a little nap because at your age you have to take a nap to keep up with people her age. You snap awake. You've overslept. It's a quarter to six. It's a quarter to six on the Upper West Side and *you're supposed to meet her at a bar in Chelsea in 15 minutes*. Is it a quarter to six in Chelsea too? She dumped her last boyfriend because he was always late. Men who are late are the one thing she can't abide. Oh, it's over, it's finished, a woman who could have been the mother of your children, your last chance for happiness. How are you going to cover 70 blocks in 15 minutes through the most congested city in North America?

Subway? Subway! By the time you get a token and change to the local she'll have already married someone else.

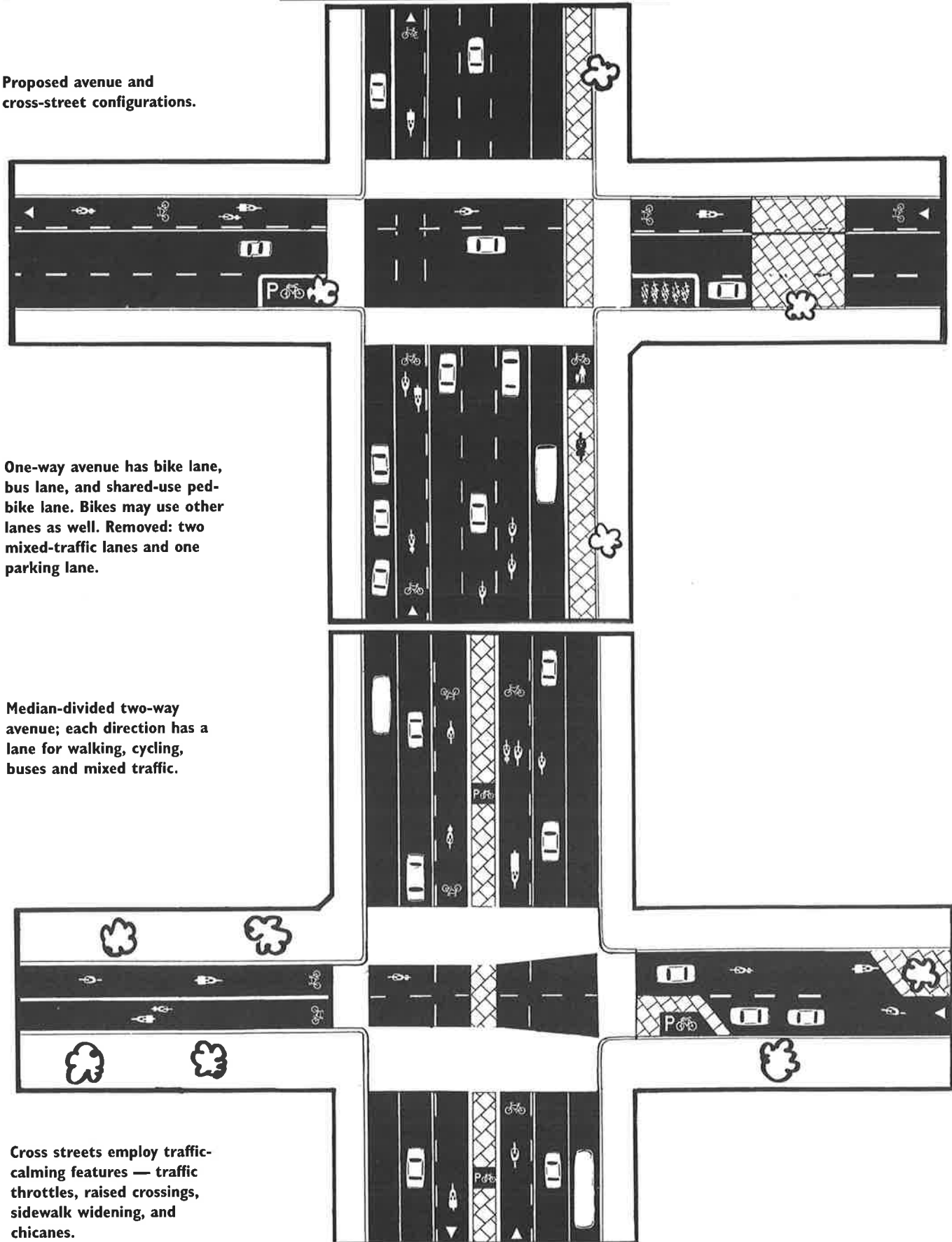
Cab? Cab??!! By the time a cab gets there, she'll be nursing twins.

The answer is bike. I know because it worked for me. Well, all except the part about the girl.



# Riding Infrastructure

**Proposed avenue and cross-street configurations.**





## Chapter 4

# Street Design

In a report on the potential of bicycling programs to reduce traffic congestion and air pollution, the NYC Dept. of Transportation (DoT) observed:

The current level of bicycle ridership in New York City is not indicative of the potential use of the bicycle mode, but rather indicative of those who are so dedicated to cycling that they are willing to utilize a transportation system that has been shaped for decades without extensive provision for bicycles.<sup>1</sup>

Traffic surveys by Transportation Alternatives and anecdotal evidence suggest that other than young adult males, relatively few New Yorkers are willing to brave current traffic conditions by riding a bike.<sup>2</sup> On-street improvements are essential to encourage more and safer city cycling by women, children and middle-aged and older citizens.

Polls since the 1970s confirm the importance of dedicating space on the street for cyclists. A 1992 Harris poll commissioned by *Bicycling* magazine found that one-quarter of respondents would bicycle to work if safe bicycle lanes were available.<sup>3</sup> Locally, the 1990 City DoT survey reported in Chapter 2 found that 49% of Manhattan business workers living within 10 miles of work would commute by bike if given “safe bike lanes” and other infrastructural improvements. Transportation Alternatives traffic surveys also found higher volumes of cyclists on 6th Avenue — with its bicycle lane (albeit substandard) — than other avenues.<sup>4</sup> Most research on the subject has found a correlation between ridership levels and the amount of dedicated street space for bicycles.

### Bike Lanes in NYC

#### Old or Out of the Way

In the face of clear indications that more and better lanes will increase bicycling in New York, the City’s bikeway inventory remains woefully inadequate. The NYC Department of Transportation has designated 111 miles of bikeways in the five boroughs (including 14 miles in Manhattan) as bike routes.<sup>5</sup> These fall among three categories:

**Class I** bike paths are physically separated from motor vehicle and pedestrian traffic;

**Class II** on-street bike lanes are defined by a painted stripe;

**Class III** bike routes are represented only by posted route signs.

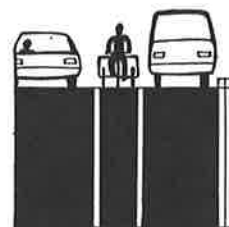
This chapter addresses Class II facilities — on-street bike lanes. Class III (signed only) bike routes are not considered here as facilities that contribute meaningfully to cycling. (Readers should also refer to Chapter 7, Greenways, for treatment of Class I off-road bicycle paths.)

While 111 miles of bike routes may seem impressive, it is hardly a drop in the vast bucket that is New York City’s road system. For example, if laid out end-to-end, Manhattan’s 14 miles of bike lanes would be sufficient for only a one-way journey through 13-mile-long Manhattan, with no allowance for side ventures or a return trip. In proportion to the City’s 6,200-mile roadway network dedicated to auto traffic, 111 miles for cycling is minuscule — a ratio of 56 to 1. (The ratio of total paved *lane miles* of roadway to bicycle lanes is more than three times larger — 174 to 1.<sup>6</sup>)

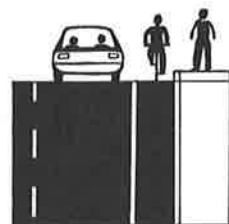
What is more, of the 111 miles of bike routes, 16 miles are symbolic Class III routes, while nearly 55 of the remaining 95 miles are located at the far edges of the Bronx, Staten Island, Queens and Brooklyn (including 30 miles that



Class I



Class II



Class II



Class III

**An extensive on-street bike lane network is essential to bring cycling into the transportation mainstream.**

predate World War II). Five miles are available on weekends only (Forest Park) and 4.5 are on bridges,<sup>7</sup> leaving only around 30 miles to serve most daily riders cycling for transportation.

Of these commuter-oriented bike lanes, only the route from Prospect Park to the Brooklyn Bridge route is continuous between meaningful destinations. Otherwise, routes all over the city that are heavily cycled — for example, Brooklyn Bridge-Centre St.-Lafayette St.-4th Avenue-Park Avenue South — have no dedicated bicycle space. Similarly, the Sixth Avenue lane (which itself has been obliterated by construction since mid-1990) lacks a link from the Brooklyn Bridge. Central Park's southbound West Drive is unconnected to the lane that runs through Midtown on Broadway before switching to 5th Avenue.

For comparison, the city of Madison, Wisconsin, which has 170,000 residents, has 99 miles of paths, lanes and signed routes to complement its 587 road miles.<sup>8</sup> The ratio of 1 bike-lane mile for every 6 road miles is 10 times greater than the ratio for New York City.



DAVID PERRY

**An all-too-common sight — parked vehicles blocking a bike lane.**

### **Design Flaws**

Apart from their meager extent, current NYC bike lanes are underutilized and downright dangerous. Indeed, because current lanes place cyclists precariously between traffic-flow and motor vehicle parking lanes, where they are continually encroached on by motor vehicles, they have soured many cyclists on the very idea of bike lanes.

New York City on-street bike lanes are correctly placed along the left side of one-way avenues, where cyclists are more visible to motorists and are far from bus stops. (On two-way streets, bike lanes are located to the right of traffic lanes, just outboard of the parking lane.) But most bicycle lanes are so narrow — just under 4 feet wide — that opening car doors protrude far into them. Parked cars also obscure lines-of-sight between cyclists and pedestrians crossing the street in mid-block. Drivers also cross bike lanes to park, and double-parking in bike lanes is rampant. At intersections, New York City bike lanes invariably disappear.

These conditions notwithstanding, the City has made no move to expand or improve its on-street bike lane system. Transportation Commissioner Lucius Riccio has insisted that bicycle traffic reach 500 an hour on a street to justify additional bike lanes — an arbitrary criterion that perpetuates the catch-22 status of cycling, whereby lack of cycling facilities stifles demand and lack of demand stifles facilities.<sup>9</sup> (Transportation expert Michael Replogle likens this to determining the need for a new bridge based on the number of people currently swimming across the river.) Although bicycling increased significantly here in the 1980s (propelled in part by the new mountain and “hybrid” bicycle designs), sustained further growth is unlikely without dedicating substantial street space to cyclists.<sup>10</sup>

### **Cyclist Skepticism**

Whereas bicycle lanes in Europe have been designed for the cyclists' safety and mobility, most bike lane design in New York and the U.S. appears more concerned with maintaining auto traffic and access. Not surprisingly, given this half-hearted and unsystematic treatment, many bicyclists have come to mistrust the very notion of dedicated bike lanes. Add to this the enforcement in some jurisdictions of “mandatory sidepath” regulations — laws requiring bicycle traffic to use bike lanes where they exist — and the reasons for hostility to bicycle lanes among some cycling advocates become clear.

The “Effective Cycling” school argues that cyclists’ needs are best served where cycling is accepted as an integral part of traffic flow on shared-use roadways, and when cyclists develop the requisite riding and traffic skills. Further, confining cyclists to special bicycle lanes or paths delegitimizes bicyclists’ right to the road and can force cycle traffic to use circuitous routes.<sup>11</sup>

Transportation Alternatives strongly endorses the in-traffic cycling skills that Effective Cycling proponents seek to impart to individual bicyclists. However, we also hold that an extensive on-street bike lane network is essential to bring cycling into the transportation mainstream amid traffic chaos on New York City streets. Bicycle lanes can work if they are designed and implemented unapologetically as a means to wean people from driving into bicycling. Such a network of working cycling lanes would bring forward many bicycle owners — “effective” or not — who choose not to fight it out with the city’s unyielding motor traffic.<sup>12</sup>

### Working Bicycle Lane Systems

#### Encouraging Ridership

Every city renowned for cycling in Europe and North America has an extensive network of interconnected city-level and district-level bike paths or lanes, complemented by networks of bicycle-friendly streets shared with cars (at low traffic speeds and volumes) and supporting facilities like bike parking. Indeed, nowhere in industrialized countries does one find significant levels of cycling without street space dedicated to bikes. Copenhagen experienced dramatic growth in commuting and other utilitarian bicycling in the years after it replaced many inner-city parking lanes with curbside bicycle lanes, to 25% of all journeys — an increase of 50% in just five years.<sup>13</sup>

Delft and Groningen in the Netherlands have extensive bikeway systems, complete with overpasses, tunnels, off-ramps, bicycle traffic signals and parking. At least 40% of trips in Delft are made by bicycle; 50% of intra-city journeys in Groningen are bicycle trips, while

20% of commutes from outside city limits are also by bike.<sup>14</sup> In Erlangen, Germany, development of a bicycle lane and path network (combined with motor traffic restraint measures) helped double cycle trips to 30% over a 12-year period.<sup>15</sup> Even more ambitious policies in the large Austrian city of Graz led to a doubling of bike trips to 12% in just three years.<sup>16</sup>

In the United States, cycling has increased similarly in cities that have provided street space for bicycling. Davis, California has long provided facilities and programs for cyclists, including an extensive bike lane system. Although Davis is a university town, almost half of the 25% of Davis commuters who cycle are non-students, giving Davis an impressive commuting level among “ordinary” citizens.<sup>17</sup> Eugene, Oregon and Palo Alto, California, other university towns, experienced significant increases in bicycling following active official encouragement and bike lane construction. 1980 Census figures for Eugene and Palo Alto showed over 8% and 10% of trips, respectively, made by bike.<sup>18</sup>

**A safer way  
to cycle**



Bike lanes encourage utilitarian bicycling in non-university towns as well. One analysis compared major cities with differing ratios of bike lane miles per arterial roadway miles, and found three times as much bike commuting in cities with substantial number of bicycle lane-miles as in cities with very few.<sup>19</sup>

#### Promoting Safety

Indeed, most surveys of bicyclists cite traffic danger as among the greatest deterrents to bicycling for everyday transportation.<sup>20</sup> In the 1992 *City Cyclist* survey, fewer cars and better bike lanes were considered “very important” by 61% and 59% of respondents, respectively — outranked only by more support from government and media and better street surfaces. Even sidewalk cycling, a growing bane of NYC pedestrians, is a product of heavy auto traffic and its crowding-out of bicyclists. New York City bicycle accident and fatality statistics show starkly the dangers of such auto traffic to cyclists (see Chapter 17).

**Cycling  
increases in  
cities that provide street  
space for  
bicyclists.**

## The Lanes That Failed

"I was swept away by the thought of what could be when I saw a million bikes in Beijing. And I see two in New York City — on a Sunday." With these words, in November 1980 Mayor Edward Koch removed the barrier-separated bike lanes he had installed one month earlier between Greenwich Village and Central Park.

The 6- to 8-foot wide lanes ran northbound on 6th Ave. and southbound on 7th Ave., Broadway and 5th Ave. Chronically blocked by pedestrians, food vendors and trash, they were shunned by some cyclists, who found riding in traffic more efficient. Taxi and trucking interests protested taking street space for "invisible cyclists," although DoT reported both lower accidents and increased riding on 6th Ave.

The last straw for Mayor Koch was when Governor Carey derided him for his bike "fetish" after a too-close encounter with a cyclist. The lanes, which were conceived and executed without consultation with the bicycling community, were the Mayor's last move on behalf of cycling. This retreat and Koch's escalating hostility to cyclists — culminating in the 1987 Midtown bike ban — set back NYC cycling for a decade. Future bike lane experiments must put a premium on consultation with the cycling community, enforcement of the lanes' integrity, and patience. A one or two month transportation experiment proves nothing.

A remnant of the 1980 bike lanes survives on 6th Ave. between 34th and 35th Sts.



Cyclist protests removal of barrier bike lane, 1980. The city tore out the lanes, on 6th Ave. and Broadway, only months after installing them.

MOY WONG

Evidence from Europe, the venue for most serious research into fundamental issues of bicycle transport, suggests that bike lanes, properly designed and maintained, save lives and help avoid many non-fatal accidents as well. In marked contrast to practice in NYC, bike lane planning guidelines in many European countries use levels of motor traffic as a determinant: the more autos, the greater the need for bike lanes.<sup>21</sup>

For example, the Netherlands is Europe's most densely populated country and also has the most cars per square mile. Yet the Netherlands maintains over 10,000 kilometers of bike paths and lanes<sup>22</sup> — a ratio of 1:12 between cycle path and road miles — and cycling deaths per kilometer traveled are the lowest of all industrialized countries studied.<sup>23</sup> Dutch planners report a 20% drop in cycling accident rates and a 36% decline in injuries in Delft, following installation of the cycleway network.<sup>24</sup>

One of the most comprehensive analysis of bicycling accidents examined 4,000 mishaps in Cologne, Germany. The study found that bike lanes dramatically reduced the incidence of "dooring" (cyclist struck by opening car door) while reducing the severity of cyclist accidents by 20%. Accidents involving cyclists in bike lanes were concentrated primarily where a lane ended and cyclists had to find their way in mixed traffic, and where motor traffic entering a roadway crossed the bike lane.<sup>25</sup>

In one of the few U.S. examples with before-and-after data, on-street bicycle lanes in the Tierrasanta section of San Diego reduced bicycle accidents. In 1989, after on-street parking on three roads was converted to bike lanes, bicycle accidents fell from nine crashes (including one fatality) in the 1988-89 school year, to three non-fatal accidents in 1989-90. Removing car parking has also improved the physical appearance of the streets.<sup>26</sup>

## Bike Lanes for New York City

### General Design Considerations

In some European cities, bicycles are accommodated on specially-marked segments of sidewalk. However, in New York City space for pedestrians is already too scarce and should remain inviolable—indeed, it should be expanded. An effective and ambitious New York City bike-lane system should instead occupy street space now used for driving and parking autos.

Even minimal improvements and additions to existing bike lane networks would deliver a strong message that the city's transportation and environmental priorities are changing, and that priorities are shifting from "keeping the cars happy."<sup>27</sup> In the Recommendations that conclude this chapter, we outline a phased scheme to make New York City streets bicycle-friendly, roughly corresponding to escalating government commitment to auto-reduction and "green modes" of transportation.

To construct an on-street bike lane network that can attract existing and potential New York City cyclists, the City will have to abandon its four-foot lane-width standard and test a number of innovations. It may also need to revise policies that bear on bicycle space, especially rules concerning on-street parking and taxis. What should not take place is extension of NYC bike lanes as presently configured—4 feet wide, shoehorned between parked and moving motor vehicles. Planners have concluded that "It is usually more desirable not to construct a bicycle facility than to construct a poorly planned or designed facility."<sup>28</sup>

According to standards developed by the American Association of State Highway and Transportation Officials (AASHTO), and adopted by many state transportation departments, including New York's, bicycle lanes situated between traffic and parking lanes should be at least 5 feet wide.<sup>29</sup> Moreover, where the adjacent traffic lane is less than 12 feet wide—as is often the case on New York City avenues—5 feet may not be wide enough.<sup>30</sup> City transportation officials should widen existing bike lanes to at least 5 feet, as necessary.

### Specific Design Considerations

*The City should also adopt these easy-to-implement measures to improve bike lane visibility and curb blockage by motor vehicles:*

- Bike lanes should be painted a different color than the surrounding or adjacent pavement. The paint should be mixed with a texture-giving aggregate (as was recently done with paint used on the surface of the Williamsburg Bridge bikeway).
- To reinforce the sanctity and identity of the bike lane, painted lines delineating bike lanes should be several inches wider than regular lane stripes.
- Bike lanes should be clearly marked at frequent intervals with bicycle-profile stencils denoting their function directly, replacing the current enigmatic diamond markings.
- Frequent signs should be deployed on avenues and streets with bicycle lanes. Surrounding streets and avenues should have signs directing cyclists to lanes, denoting the lane's direction (i.e., up- or downtown in Manhattan, cardinal points in the outer boroughs).
- Bike lanes should continue through intersections (indicated with dashed lines).

Widening bike lanes to 5 feet and more may require narrowing adjacent "motor vehicle lanes" to substandard width. This should not be a binding constraint against creating or improving bicycle lanes. As noted earlier, motor vehicle space should be converted to bicycle space to further the linked goals of increasing cycling and discouraging urban motoring.<sup>31</sup> This could also serve pedestrians, as some of the freed space could become wider sidewalks.

Transportation Alternatives has also proposed bike lanes on the left side of both median-divided and paint-divided two-way roadways. Examples are egress routes from bridge cycle-paths (from the Manhattan-bound lanes of the Brooklyn and Williamsburg Bridges) where the T.A. proposals could reduce bicycle-pedestrian conflict and help cyclists merge with auto traffic. Bike lanes in the left lanes of median-di-



**A New York City bike-lane system should occupy street space now used by autos.**



vided Park Avenue would remove cyclists from the proximity of parked cars.

The City DoT rejected these proposals due to concerns about bicycles in the “middle” of streets or avenues, even where medians exist. Yet cyclists on the left side of motor vehicles are more visible to drivers and therefore less prone to be struck by turning motor vehicles, a major cause of cyclist injuries and fatalities.<sup>32</sup>

*As part of a long-term reapportionment of street space, the DoT should consider and implement where appropriate the following alternative bicycle lane designs:*

- 5-foot or wider lanes between sidewalks and parking lanes. Parking lanes would be moved inward to displace one motor vehicle lane and accommodate the bike lane.
- 5-foot or wider lanes next to center islands or medians, on two-way routes including Houston St., Delancey St., Park Ave., and Broadway north of Columbus Circle.
- 5-foot or wider curbside lanes displacing on-street parking lanes (with remaining new space applied to widen sidewalks).

*The following auxiliary features should be implemented first on a pilot basis, later on a more widespread basis:*

- Bicyclist waiting areas in front of motor vehicle stop-lines in front or behind crosswalks. These will help cyclists accelerate from stops without being shouldered aside by motorists, and help cyclists position for turns while discouraging waiting in pedestrian crosswalks.
- Slightly raised bicycle lanes across intersections without traffic lights. This is intended largely outside Manhattan, to mark the presence of bicycle through-traffic and as a speed hump to slow motor vehicles.
- Grade-separated curbside bike lanes. Employed in Copenhagen and other European cities, these provide cyclists with an extra buffer (a mountable curb) from motor traffic. The roadway is separated into 3 levels: sidewalk at highest level,

then the bike lane, and motor vehicle roadway at lowest level.

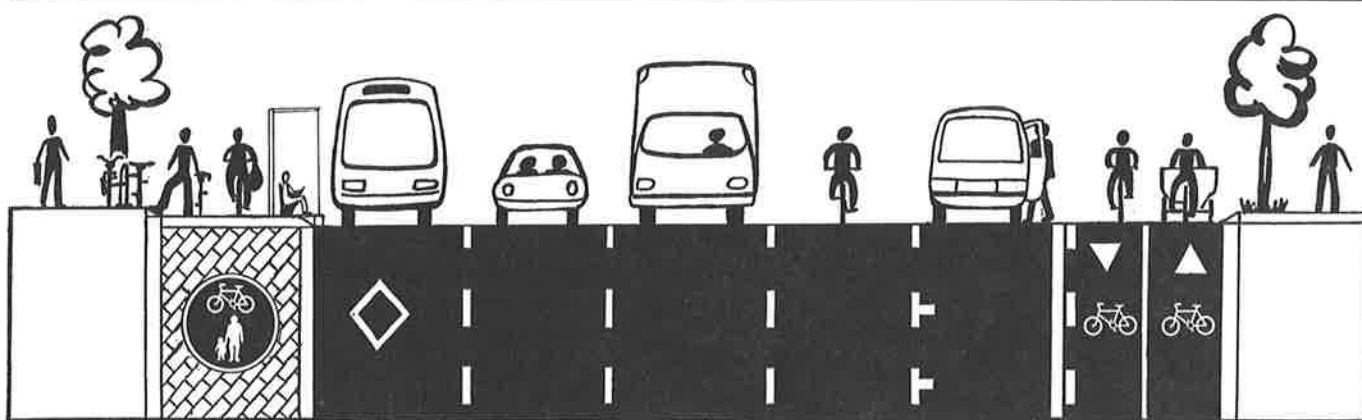
- Curbside or median bike lanes with no grade separation from motor vehicle lanes. A line of paving stones or other tactile marker would alert drivers straying across the boundary, and also provide an effective visual marker.

### Elements of a NYC Bicycle Lane System

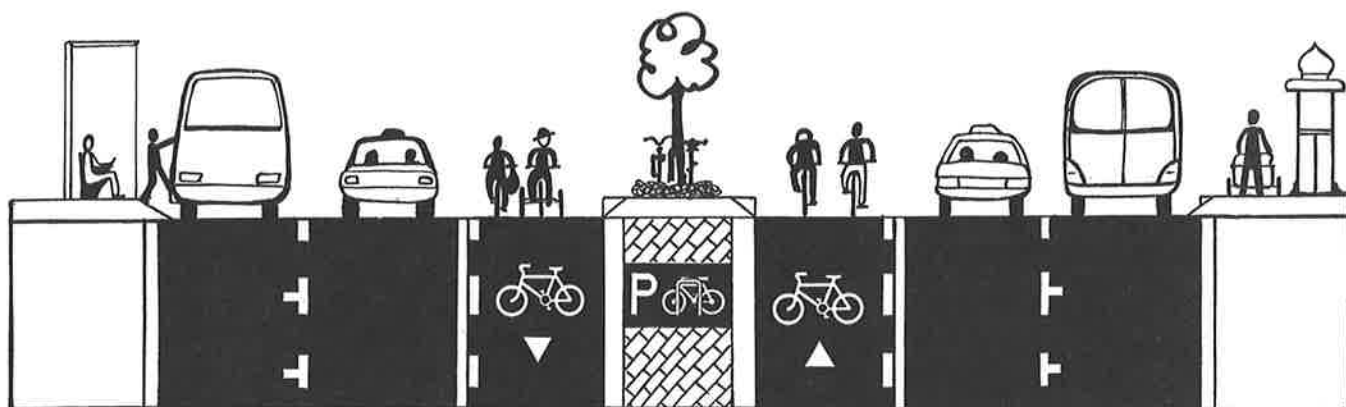
As noted above and detailed in Chapter 7, an off-road (Class I) bicycle and pedestrian network has been proposed by the NY State Office of Parks, Recreation & Historical Preservation, the NYC Dept. of City Planning and others. The network will largely occupy waterfront, abandoned rail corridors and other “fringe” rights-of-way, and construction has begun in some places. To function as efficient transportation and not merely recreational infrastructure, it will need to be complemented by an extensive network of on-street bike lanes able to link these pathways with important destinations and direct arterial routes. (Greenway plans do envision bikeways on key roadways like Queens Boulevard and Broadway in Manhattan, though these are not on the list for priority implementation.)

In parallel with construction of the greenway system, the NYC Dept. of Transportation should initiate a tandem process of improving and expanding bike lanes on city streets. While further study is needed to develop full design and traffic details, below we sketch a bike lane plan for Manhattan and indicate general areas of need in other boroughs. The proposed streets would employ combinations of the various bike lane designs noted above, depending on street widths, existence of medians, etc.

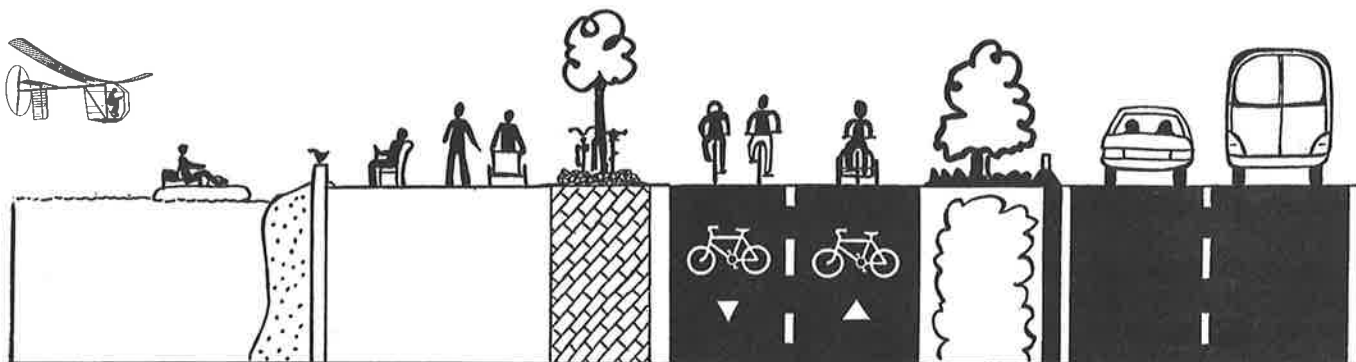
This system would probably entail over 500 miles of bike lanes — perhaps 175 miles in Manhattan and 75-100 in each of the other boroughs. With input from the bicycling community, the borough presidents and other knowledgeable groups, the network could be phased in over the next 5-10 years.



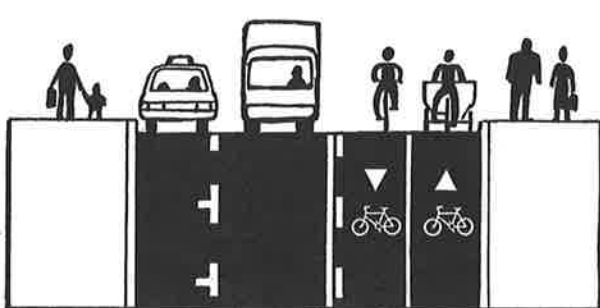
**One-way Avenue, front view.** Left to right: sidewalk; raised curbside bike lane (formerly on-street car parking); bus lane; three mixed vehicle lanes; loading lane; two-way bike lane; sidewalk.



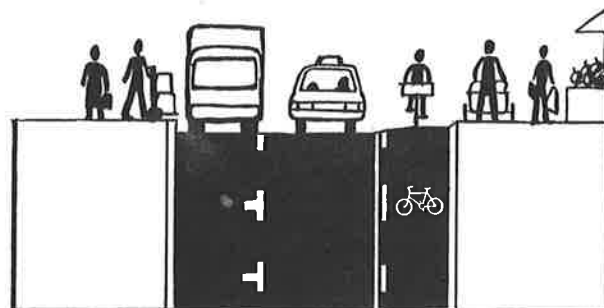
**Two-way Avenue or Street with median divider.** Left to right: sidewalk with bus shelter; bus lane; mixed vehicle lane; bike lane; median divider with bike parking. Right side mirrors left in opposite direction.



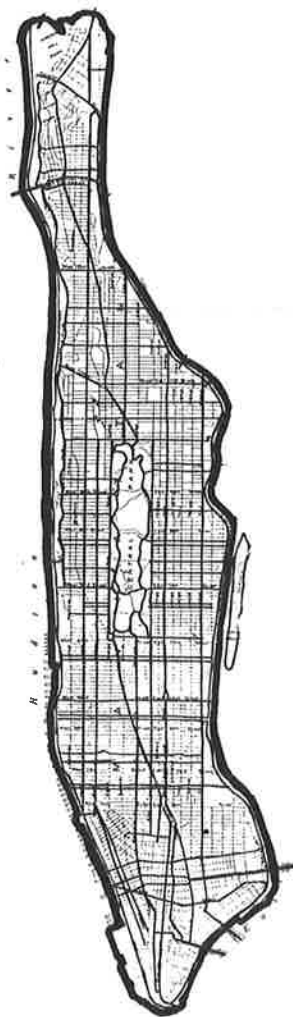
**Greenway or Waterfront bike route.** On-shore, left to right: walkway, landscaped divider, bike lanes, divider, roadway.



**Bicycle-Friendly Cross Street.** Left to right: sidewalk; parking lane; mixed vehicle lane; two-way bike lane; wide sidewalk.



**Pedestrian-Friendly Cross Street.** Left to right: wide sidewalk; parking lane; mixed vehicle lane; bike lane; wide sidewalk.



Manhattan

## Manhattan

### Uptown Avenues

- Centre St./Lafayette St./Park Ave. From Brooklyn Bridge to Harlem River Esplanade Bikeway @ 135th St.
- Church St./6th Ave. (now in place, but substandard, on 6th Ave.) From Brooklyn Bridge to Central Park
- Adam Clayton Powell Jr. Blvd. From Central Park to Harlem River Esplanade Bikeway and 155th St./Jerome Ave. Bridge
- Orchard St./1st Ave. (in place, but substandard, north of 75th St.) From Manhattan Bridge to Harlem River Esplanade Bikeway, Triborough Bridge and Willis Ave. Bridge
- 10th Ave./Amsterdam Ave. From West Side Esplanade Bikeway @ West 12th St. to Highbridge Park and Dyckman St.

### Downtown Avenues

- St. Nicholas Ave. From 169th St. to Central Park
- Adam Clayton Powell Jr. Blvd. From Harlem River Esplanade Bikeway and 155th St./Jerome Ave. Bridge, to Central Park
- Park Ave. (switches to Broadway south of Union Sq.) From Harlem River Esplanade Bikeway @ 135th St., to Brooklyn Bridge and Staten Island Ferry
- Broadway/5th Ave. (now in place, but substandard) From Central Park to Union Sq. (meet Park Ave bike lane) and Washington Square Park
- 9th Ave. From West 65th St. (and Broadway bike lane) to 14th St. (and West Side Esplanade Bikeway)

### Crosstown Streets

- Dyckman St. (2-way) Connecting West Side Esplanade Bikeway in Inwood Park to Amsterdam Ave. bike lane and Harlem River Esplanade Bikeway

- East 90th St. (east-bound) Connecting Central Park to 1st Ave bike lane. Alternatively, could be made a test site for a bike-friendly traffic calming treatment (see next section below)
- Houston St. (2-way) Connecting East River Park to West Side Esplanade Bikeway
- Delancey St. (2-way) Connecting Williamsburg Bridge to Bowery
- Kenmare St. (west-bound) Connecting Delancey St. to Lafayette St.
- Canal St. (2-way) Will require City to reroute much crosstown truck traffic now using Canal as highway

*Paired one-way crosstown streets in these areas in Manhattan should have bike lanes installed or receive bicycle-friendly traffic calming treatment:*

- 120's or high 110's (above 116th St.) between St. Nicholas Ave. and the East or Harlem River
- Three to four pairs of cross streets on the Upper East and West Sides, corresponding to Central Park loop drive entrances and exits (including East 90th St., see above)
- Between 55th and 45th Streets, river to river
- Between 42nd and 34th Streets, river to river (unless 42nd St. transitway becomes car-free, in which case bike lanes in each direction should be installed)
- In the high 20's, river to river
- Between 14th and 20th Streets, river to river

## Brooklyn

- Widen and make fully continuous the Prospect Park-Brooklyn Bridge bike lane.
- Establish link between the Manhattan Bridge and lower Flatbush.
- Widen the Hicks St. bike lane and extend it south into Carroll Gardens, Red Hook and Borough Park — neighborhoods not

served by current greenway plans.

- Extend arterial routes from the Williamsburg Bridge to Greenpoint, linking with the planned Humboldt /McGuinness Blvd. bike lane toward Bushwick, Bedford-Stuyvesant and downtown Brooklyn.

### Queens

Arterial routes are needed to serve the Queensboro and Triborough Bridges. A two-way bike lane for Queens Boulevard — perhaps utilizing its ample service roads — deserves high priority. A quickly-implemented bike lane treatment could evolve later into a fully developed greenway design.

Service Roads along the Long Island Expressway should also be dedicated quickly, followed by feeder routes from Middle Village, Rego Park and Forest Hills (with links to the Brooklyn-Queens Greenway).

### Bronx

Of the five boroughs, the Bronx will be the most fully served by the proposed New York City greenway system. A two-way bike lane on the Grand Concourse would fill a major gap in the system; it should be co-ordinated with new design features to reduce the rate of pedestrian deaths, which numbered 18 on the Concourse in 1991-92.<sup>33</sup>

### Staten Island

Staten Island will also be well-served by planned greenways, but it needs direct bicycle links as well. Key bike lane priorities include links from the central part of the Island to the Staten Island Ferry and the Verrazano Narrows Bridge (once bicycle access has been provided over the Verrazano).



Bronx



Brooklyn/Queens

### Side Streets and Residential Areas — The Need for Traffic Calming

Placing bicycle lanes on main thoroughfares will require explicitly reassigning space from automotive to bicycle use. More subtle, but no less far-reaching, measures should be taken on lower-volume crosstown and other residential streets. “Traffic calming,” a variety of physical and legal traffic-control techniques developed in Europe, is applicable to a wide range of New York street and neighborhood conditions.<sup>34</sup>

Traffic calming starts with the belief that a street is valuable public space and should be shared by all users. Conditions should be made optimal for walking and playing — motorists are regarded as visitors or guests.<sup>35</sup> The principle is not that of a pedestrian mall; cars need not be banned, but “should be admitted on residents’ terms, slowly and without superior rights.”<sup>36</sup>

To discourage congestion and speeding and make streets safer and accessible to people, a number of traffic calming techniques should be tried in NYC neighborhoods. Driving speeds and behavior can be calmed not only with traffic signals or signs but with design features —



Staten Island

**A street is valuable public space and should be shared by all users.**



benches, trees, landscaping, curving roadways, special paving material and varying road widths. Speeding can be inhibited by increasing turns and reducing motorists' sight lines. Motor vehicle through-traffic is discouraged, so that drivers entering an area are predominantly residents and visitors with a stake in the safety and ambience of the neighborhood.

New York City is in urgent need of traffic calming. Although less than half of the residents of an average city block own and operate motor vehicles,<sup>37</sup> parked and moving cars take up most neighborhood open space. During the day and on some evenings, Manhattan and some outer-borough side streets can be as gridlocked as avenues. Car-clogged side streets can be particularly difficult for cycling, as double parking and competition by cars for the one moving-traffic lane crowd out safe passage. When side streets aren't jammed, cars race down their lengths at avenue or even highway



MICHAEL REPLOGLE

**Feeder route to Dutch railway station. Creating street space for modest-speed cycling allows access to shopping and transit.**

speeds, attempting to cut through and avoid the traffic waiting on the avenues. Needless to say, these conditions do not enhance the neighborhood or promote the well-being of residents.

As a reinforcement, regulations can be matched to design elements. German traffic calming schemes are almost all within Tempo 30 zones — areas with a speed limit of 30 km/hr, or 18 mph. (The New York City street speed limit is far higher, 30 mph, is undifferentiated between avenues and side streets, and is rarely enforced.) Dutch traffic regulations change at the

boundaries of traffic-calmed areas, where signs herald different speed limits and street design.

Empirical data show that motorists in traffic-calmed areas drive much more slowly, with less braking and accelerating. One study found a 60% drop in traffic injuries on traffic-calmed streets, and a 50% drop in the cost of personal injuries and vehicle damage.<sup>38</sup> A study of vehicular accidents in Hamburg, Germany found that the percentage of accidents resulting in death was almost three times as high — 70% vs. 25% — for vehicle speeds of 40 mph vs. 25 mph. Even where accidents occur, injuries are far less severe at slower vehicle speeds.<sup>39</sup> In Japan, reduced cyclist fatality rates since 1970 are largely attributable to tighter speed limits along with greater provision of bicycle traffic facilities.<sup>40</sup>

### ***Bicycles and Traffic Calming: Special Considerations***

A traffic calming strategy for side streets and other residential areas has broad advantages over the approach of dedicated bike lanes. Most importantly, street users are not segregated, so that narrow roadways need not be physically divided into even narrower, unsatisfactory strips. Rather, auto traffic is slowed to a pace less threatening to other potential road users. The entire community — not only cyclists — benefits from reconfiguring streets to reassert the rights of non-motorists. Traffic calming measures may even work to moderate the pace of New York City cyclists, who would no longer have to push as fast as space allows to survive in the current culture of speed.

Traffic calming measures for New York City will need to be designed with cyclists in mind. Common European features like strips of cobble surfaces can jar cyclists and be slippery when wet. Narrowing devices like “traffic throttles” can also force dangerous proximity of cars and bicycles, unless a channel for cyclists is cut through the throttle (see illustration).<sup>41</sup> Traffic-calmed streets in Germany require cyclists to use separate bike lanes, a rule some cyclists here would find onerous. Danish and Dutch traffic planners reason differently that the lower motor vehicle speeds resulting

from traffic calming schemes allow cyclists to cope more safely with cars, making separate lanes unnecessary.<sup>42</sup>

### **Redesigned Streets: Consequences for Delivery Vehicles and Taxis**

Bicycle lanes and traffic calming zones will affect curbside traffic patterns, especially by delivery vehicles and taxis. Although many goods are delivered to businesses and shops in off-street loading docks, others are handled at curbside. The majority of these could be done with hand-trucks, obviating the need for vehicles to park directly at the building. In cases where proximity is required, special nighttime or early morning hours when trucks may use bike lane space could be established.

Taxis constantly invade Manhattan's few bicycle lanes, often darting across several lanes of traffic and cutting off cyclists to pick up or drop off fares. This practice will undercut curbside bicycle lanes unless the City resolutely enforces traffic laws and keeps bicycle lanes clear of motor vehicles.

In high-congestion areas, the City can ban taxi cruising and require passengers and drivers to use fixed cab stands, as proposed 20 years ago as part of the city's short-lived Transportation Control Plan to comply with federal clean air standards.<sup>43</sup>

Finally, bicycle lanes need to be maintained to the standards outlined in Chapter 6, Road Surfaces. Indeed, they should be accorded priority over motor vehicle routes because of bicycles' sensitivity to surface conditions. As the AASHTO guide has noted, "Neglected maintenance will render bicycle facilities unrideable, and the facilities will become a liability to the state or community."<sup>44</sup>

## **Chapter 4 Recommendations**

### **Legislative**

#### **City Council**

Pass Council Member Charles Millard's bill to increase penalties for parking in bicycle lanes, and see

that the NYPD and DoT strenuously enforce such laws.

### **Agencies**

#### **NYC Departments of Transportation and Police**

Enforce the integrity of bike lanes with ticketing and towing patrols.

#### **NYC Department of Transportation**

Create a comprehensive (500-mile) on-street bicycle lane network throughout New York City by implementing the following detailed 3-phase program:

#### **PHASE I (immediate-1 year) - Existing bike lanes**

- Upgrade existing lanes to AASHTO width standards: 5-foot width for bike lanes adjacent to motor vehicle parking lanes.
- Paint bike lanes a different color than surrounding pavement; the paint should be mixed with a texture-giving aggregate.
- Paint lines delineating bike lanes several inches wider than regular lane stripes; indicate continuity of bike lanes through intersections with dashed lines.
- Mark lanes at frequent intervals with bicycle-profile stencils denoting their function; replace diamond markings.
- Install directional signs on streets with bicycle lanes, as well as on surrounding streets directing cyclists to lanes.
- Connect Midtown bike lanes to entrances and exits of Central Park Loop Drive; connect Central Park to existing 1st Ave. bike lane via East 90th St.
- Specify needed outer borough on-street bike lanes in tandem with Greenway planning process.

#### **PHASE II (1-3 years)**

- Resolve design and political issues, begin construction of Lafayette St. bike lane between Spring and 14th Streets.
- Identify avenues where paint-only lanes (5-foot or wider) are appropriate, including left-side median bike lanes; implement.
- Identify avenues where Lafayette St.-type or Copenhagen-style bike lanes appropriate; begin design and community outreach.
- Begin design and outreach for Grand Concourse and Queens Boulevard bike lanes.





- Begin work on policy to eliminate taxi cruising in Manhattan.
- Establish pilot traffic calming projects on Manhattan cross-town streets and residential streets in other boroughs.
- Experiment with 15 mph speed limits on selected side and residential streets.
- Experiment with auxiliary features such as bicycle waiting areas at stop lights.

### PHASE III (3-6 years)

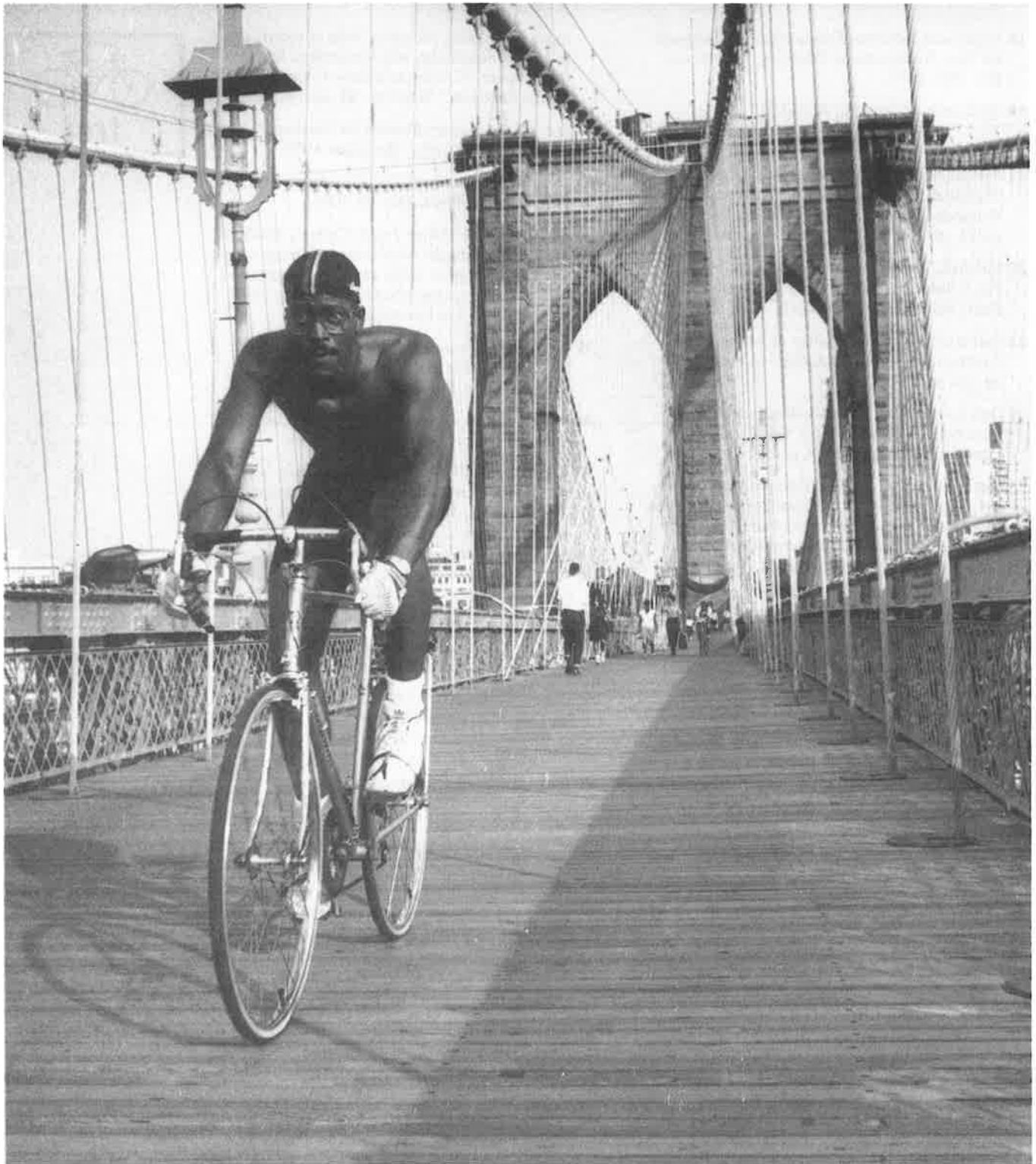
- Ban taxi cruising in Manhattan.
- Implement all lanes listed above not yet in place; emphasize links to greenway system.
- In conjunction with community boards and neighborhood groups, begin widespread traffic calming treatments of residential and retail streets; reduce speed limits on many smaller and residential streets to 15 mph.

### Chapter 4 Notes

- 1 NYC Dept. of Transportation, *Improving Manhattan Traffic and Air Quality Conditions: Effectiveness of Bicycle Programs*, Sept. 1990, p. 2.
- 2 In the 1992 Transportation Alternatives midtown traffic survey discussed in Chapter 2, a mere 4% of the bicyclists counted were women. On less frenzied downtown streets surveyed at the same time, 12% of bicyclists were women. Yet according to the Bicycle Federation of America, women account for 55% of Americans who say they have ridden a bike in the past year.
- 3 *Bicycling's* 2nd Annual Harris Poll on Bike Commuting, May 18, 1992, reported that of the 46% of adult Americans who rode a bicycle in the previous year, 53% "would sometimes commute to work by bicycle if there were safe, separate designated bike paths to use." The product of 46% and 53% is 24%, or approximately one-quarter. Zero interest in bike commuting was assumed among non-cyclists — a conservatism.
- 4 In T.A.'s 1988 midtown traffic survey, bicycle volumes averaged 204 per hour on 6th Avenue, or 37% greater than the 148/hr average for 5th, Madison and Park Avenues. For 1989, the 180/hr volume on 6th Avenue exceeded by 35% the 132/hr average for Madison, 5th, 7th and 8th Avenues.
- 5 NYC Dept. of Transportation "New York City Bikeways" (2 pp.), May 1991.
- 6 NYC Dept. of Transportation, *Traffic Fatalities in New York City*, 1991, July 1992, p. iii. Hagstrom Map Co. counts 6,400 miles. NYC lane-miles total 19,324 (18,242 lane-miles of streets, 1,082 of arterial highways), per NYC Dept. of Transportation, *Write-of-Way*, Jan. 1993.
- 7 "New York City Bikeways" inventory, op. cit.
- 8 Telecom with Arthur Ross, Madison Dept. of Transportation, Dec. 22, 1992.
- 9 See Appendix B for bicycle volumes recorded in traffic counts by Transportation Alternatives, 1988-1992. The DoT's demand-based attitude to bike facilities contradicts the U.S. historical pattern of providing infrastructure for automobiles in lockstep with the car's development into the dominant form of transportation.
- 10 German national transportation policy changed in 1982 to recognize that bicycle facilities such as lanes should be driven by supply rather than by demand. In other words, creating bikeways would elicit cycling. See Hans Fechtel, "German Guidelines for Cycle Facilities and How They Should be Changed," *Velo City '89 Papers*, Copenhagen, 1990, p. 170.
- 11 See John Forester, *Effective Cycling*, MIT Press, 1985. A sharp exchange between Forester and Transportation Alternatives over bicycle promotion philosophies appeared in *Bicycle USA* in 1990 (January, June-July and October issues).
- 12 1988 data show that there are 42 bicycles for every 100 people in the United States, yet only a tiny fraction of these bikes are used for daily transportation. Marcia Lowe, *The Bicycle: Vehicle for a Small Planet*, Worldwatch Institute, Washington, DC 1989, p. 11.
- 13 *Copenhagen and Cyclists*, Copenhagen City Engineers Department, Copenhagen, 1989, p. 2. Cited in Rowell and Fergusson, op. cit., p. 10.
- 14 Delft: "The Delft Cycle Plan." Dirk ten Grotenhuis, Delft Planning Office, *Proceedings, Velo City '87* (Groningen). Netherlands Centre for Research and Contract Standardization in Civil and Traffic Engineering, p. 231. See also Jan Hartman, "The Delft Bicycle Network" in *The Greening of Urban Transport: Planning for Walking and Cycling in Western Cities*, Rodney Tolley, ed., Belhaven Press, London, 1990. **Groningen:** "Cycling Policy in the City of Groningen," W. Huyink, Traffic Dept. of Groningen, *Proceedings, Velo City '87*, p. 220.
- 15 "Cities for Cyclists" Brochure, European Cyclists' Federation, Bremen, 1991, p. 6.
- 16 *Alternative Transportation Network*, Sept. 1990, Vol. 1, #2, Littleton, Colorado.
- 17 Stuart Goldsmith, *Reasons Why Bicycling and Walking Are Not Being Used More Extensively As Travel Modes*, FHWA, Washington, DC, 1992, p. 47.

- 18 *Urban and Suburban Transportation*, Campaign for New Transportation Priorities, Washington, DC, 1992, p. 12.
- 19 Goldsmith, op. cit., pp. 40 and 57.
- 20 Ibid., p. 7.
- 21 Fechtel, op. cit., p. 170. Also N.O. Jorgensen, "Facilities for Safety With Emphasis on Safety Problems at Intersections," *Velo City '89 Papers*, op. cit., p. 194.
- 22 "Gridlock Weary, Some Turn to Pedal Power," *The Urban Edge*, Vol. 14, No. 2, The World Bank, Washington, DC, March, 1990.
- 23 Barbara Preston, "The Safety of Walking and Cycling in Different Countries," in Tolley, ed., op. cit., pp. 49-52.
- 24 Dirk Grotenhuis, "Safer Cycling in Delft After Realizing the Bicycle Plan," *Velo City '89 Papers*, Copenhagen, 1989, p. 198.
- 25 Dankmar Alrutz, "Typical Patterns of Accidents Involving Bicycles and Recommendations for the Safe Design of Bicycle Traffic Facilities," *Proceedings*, Velo City '81, Federal Ministry of Transport, Transport Policy Dept., Bonn, 1981, pp. 242-243.
- 26 *Pro Bike News*, Vol. 10, No. 11, Nov. 1990, p. 4.
- 27 The phrase is from American architect and urban planner Andres Duany. See Anne Hansen, "A Love Affair That's Really a Forced Marriage," *Toronto Globe & Mail*, May 18, 1992.
- 28 *Guide for the Development of Bicycle Facilities*, Task Force on Geometric Design, American Association of State Highway and Transportation Officials (AASHTO), Washington, DC, 1991, p. 9.
- 29 AASHTO, op. cit., pp 17-18. See also New York State Dept. of Transportation, "Revision No. 18 to Highway Design Manual," Dec. 16, 1986, pp. 18.37-18.39.
- 30 "Reviewing the 1981 AASHTO Guide," *Bicycle Forum* #26, Bikecentennial, Missoula, Montana, March 1991, p. 10.
- 31 The relationship of central-city parking spaces to automobile dependence has been well-established by transportation experts. See especially Newman and Kenworthy, *Cities and Automobile Dependence: An International Sourcebook* Gower Technical, Brookfield, VT, 1989, Chapter 5. NYC's central business district has twice as much car parking per square mile as central areas in Tokyo, Stockholm, and Amsterdam. See also, M. Hoppner, "Cycling as a Basic Contribution to Traffic Restraint," *Velo City '81*, op. cit., p. 236.
- 32 See "Major Surgery Planned for Manhattan Arteries," *City Cyclist*, May/June, 1990.
- 33 "New Promises About Traffic for Concourse," *The New York Times*, Dec. 16, 1992.
- 34 See *Greenwich Village Traffic Calming Study*, a 1992 Transportation Alternatives planning document which applies traffic calming concepts and designs to the neighborhoods comprising Community Board 2 in Lower Manhattan.
- 35 Wolfgang Zuckerman, *End of the Road: the World Car Crisis and How We Can Solve It*, Chelsea Green, Post Mills, VT, 1991, p. 102.
- 36 Rodney Tolley, *Calming Traffic in Residential Areas*, Bref Press, London, 1990, p. 19.
- 37 According to 1990 U.S. Census statistics assembled by the New York Metropolitan Transportation Council, 56% of NYC households have no motor vehicles (*Council Contact*, Vol. 9, No. 3, Jan. 1993). Non-car owning households by borough are: Manhattan, 78%; Bronx, 61%; Brooklyn, 57%; Queens, 37%; Staten Island, 18%.
- 38 H.H. Keller, "Traffic Calming Policies in Germany," *Living and Moving in Cities*, Cetur, Paris, 1990. Cited in Zuckerman, op. cit., p. 107.
- 39 Dieter Seifried, *Gute Argumente: Verkehr*, Munich, C.H. Beck, 1991.
- 40 Ibid., p. 61.
- 41 Johanna Cleary, *Cyclists and Traffic Calming*, *Cyclists' Touring Club*, Godalming, England, 1991.
- 42 Devon County Council. *Traffic Calming Guidelines*. Cited in *CTC Cycle Digest*, Summer, 1991. Cyclists' Touring Club, Godalming, England. The "Slow Streets" program in Berkeley, California — a pioneer traffic-calming project in the U.S. — embraces the shared-use concept. See Ecocity Conference 1990, Urban Ecology, Inc., 1990, p. 46.
- 43 *NYC Metropolitan Area Air Quality Implementation Plan, Transportation Controls*, NY State Dept. of Environmental Conservation, April 1973.
- 44 AASHTO, op. cit., p. 41.





JOHN HOWELL

**New York's finest bridge bicycle path, the Brooklyn Bridge promenade.**



## Chapter 5

# Bridges

### A City of Bridges

New York, a city of skyscrapers and neighborhoods, is also a city defined by water — rivers, creeks, narrows, a harbor and a sound. Thus, its bridges are a critical part of its transportation network. Bicycle and pedestrian paths on bridges are one of the few elements of city infrastructure put in place specifically for non-motorized transportation.

Indeed, the **Brooklyn Bridge** was built to carry pedestrians, along with horses, carriages and carts. Turn-of-the-century crossings such as the **Williamsburg** and **Queensboro** were built to carry rapid-transit vehicles as well as non-motorized travelers. Until the middle of this century, pedestrian paths were considered an essential bridge feature, while bikes simply joined the vehicular traffic stream on the roadways.

As motor traffic escalated, however, bicycles were shunted over to the pedestrian paths, even as bridge authorities began removing the paths to make way for additional cars. Both the **Whitestone Bridge** (Queens-Bronx) and the **Outerbridge Crossing** (Staten Island-New Jersey), two bridges now open only to motor traffic, once had bike-pedestrian paths. Bridges built more recently, like the **Verrazano** (Brooklyn-Staten Island) and the **Throgs Neck** (Queens-Bronx), were built with no provision at all for nonmotorized crossing (a bike-pedestrian path was designed but not installed on the Verrazano). And on bridges that nominally permit cycling, such as the Brooklyn, Queensboro and **George Washington**, cyclists have had to expend tremendous effort to win or even maintain a modicum of safe and continuous access.

The result is unsatisfactory bridge access that discourages bicycle use. Of 141 respondents to the 1992 *City Cyclist* survey who live outside of Manhattan and do not commute by bicycle, 25, or 18 percent, cited bridge problems as a reason they don't commute by bike.

### Status of NYC Bridges

Neither the city agencies nor the two public authorities charged with maintaining specific bridges have an official policy on bike-pedestrian paths (although DoT's Bureau of Bridges is supposed to devise a bike action plan as part of DoT's bicycle policy). Because bridge designers and maintenance workers generally view the bridges from the motorist's perspective, they tend not to be attuned to the needs of cyclists or pedestrians unless those needs are forcefully pointed out. As a result, many of the improvements put in place over the past decade are the direct result of suggestions and pressure from Transportation Alternatives.

The following section discusses the current status of cyclist and pedestrian access to the city's major bridges, and proposed improvements.

***"If you can't cross bridges, nothing else matters."*** —  
**Peter Lagerwey,**  
**Seattle Bicycle Coordinator.**



**One of Transportation Alternatives' weekly demonstrations demanding 24-hour bike and pedestrian access to the Queensboro Bridge, 1990.**

DOUG GOODMAN

## New York City Bridges

	Fully Ramped	Well Lit	Well Swept	Paving Quality	Adequate Width
Brooklyn	👍	👍	👍	👍	~
George Washington	👍	👍	👍	👍	~
Triborough	👎	👎	👎	~	👎
Bayonne	👎	👍	👍	👍	~
Goethals	👍	👍	👎	👎	👎
Marine Pkwy.	👍	~	👍	👍	👎
Queensboro	👍	👎	👍	👎	👍
Williamsburg	👎	👎	👎	👎	👍
Henry Hudson	👎	~	~	~	👎
North Channel	👍	~	👍	👍	👎
Veterans Mem.	👍	~	👍	👍	👎

Not currently bikeable: Whitestone, Verrazano, Throgs Neck, Outerbridge, Manhattan.

### Bikeable Bridges in Good Condition

#### Brooklyn (under NYC DoT jurisdiction)

The continuous bike-pedestrian path on the upper deck of this venerable span may be the finest in the city. It offers separation from mo-

Off-ramp, Brooklyn Bridge promenade.



JEFF PRANT

tor traffic, a smooth ride over the East River and glorious views of Manhattan, downtown Brooklyn and the harbor. The path underwent considerable rework during the 1980s, including replacement of staircases with a continuous ramp (1980-81), and widening of the path at the Manhattan side subway entrance (1992).

Two problems remain, however. At the Manhattan end, cyclists and pedestrians must mingle at a narrow, busy traffic median; signs direct cyclists to dismount, which is unrealistic and counterproductive, since a person walking a bike takes up more room than a mounted rider. The State rejected an alternative design proposed by Transportation Alternatives and instead plans simply to keep up the "Bicyclists Dismount" signs. Moreover, in busy periods the sheer volume of two-way human traffic — sometimes approaching 200 bicyclists and many more pedestrians per hour — can create hazards. Ultimately, some expansion of bike-ped capacity may be needed if the full potential of nonmotorized Brooklyn-Manhattan commuting is to be realized.

### **George Washington (Port Authority of New York / New Jersey)**

This Hudson River bridge is a link from Manhattan's Riverside Drive — a prime cycling route — to the Palisades and other points in northern New Jersey and upstate New York. After a 3-year battle led by Transportation Alternatives, cycling was made legal on the ramped south pedestrian path in 1990; cyclists no longer need to navigate the 170-odd stairs



on the bridge's north path. To provide better access from Riverside Drive, the Port Authority should reconstruct the narrow and neglected ramp to the bridge from Riverside Drive.

#### **Usable Bridges With Stairway Obstacles**

Although the following bridges are open to cyclists, stairs impose a serious obstacle for riders who have trouble hoisting a bike, particularly those burdened with equipment — child carriers, heavy saddlebags, trailers. Replacing stairs with ramps would also reduce incidence of muggings while serving the needs of the disabled and elderly.

### **Triborough (Triborough Bridge & Tunnel Authority, or TBTA)**

This key three-part bridge links Manhattan, Queens and the Bronx via Randall's Island. Unfortunately, TBTA regulations, in effect on the Triborough and all other Authority spans, require cyclists to walk the entire 2-mile passage (although this rule is rarely enforced). Although the TBTA recently installed direction signs for cyclists on Randall's Island and im-

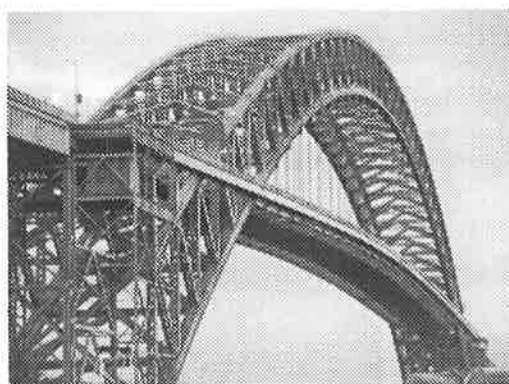


proved the lighting, the path itself is still poorly maintained. Debris on the ramps makes braking hazardous and flat tires more frequent; dirt, garbage and glass accumulate in the ramp switchbacks at Randall's Island. Stairs at the Queens entrance/exit and at each of the bridge's towers are not only inconvenient, but dangerous for descending cyclists unfamiliar with the bridge.

### **Bayonne (Port Authority)**

The bike/pedestrian path is wide and in good condition on the main part of this span across the Arthur Kill between Staten Island and New Jersey. A ramp should be installed at the New Jersey end to replace a long flight of stairs. The Staten Island end is narrow, with barely enough

**Replacing bridge stairs with ramps would reduce muggings while serving the disabled and elderly.**



room for a single cyclist; it also lacks curb cuts and is poorly signed. Moreover, the Staten Island approach is poorly identified. Signs are needed around the toll plaza and in the neighborhood to direct cyclists and walkers to the path entrance.

### Bikeable With Difficulty

These bridges have ramps, but other features make cycling unpleasant and/or unsafe.

#### Goethals (Port Authority)

Few people are aware that this Staten Island-New Jersey crossing has a bike path on the north side. Indeed, signs on the Jersey side say that cyclists and pedestrians are prohibited on the bridge roadway. Electrical boxes, pipes and signposts narrow the usable space on the pedestrian path, and neither end has curb cuts. The Port Authority should adopt a capital project to rectify current problems in conjunction



with replacing the path's concrete deck, which the Authority says it must undertake within 5 years. A simple step would be to move electrical conduit and boxes to the outboard side of the pathway's railing. More complex would be expanding the bridge's structure to provide the framework for a wider path.

#### Marine Parkway (TBTA)

This bridge linking southeast Brooklyn with the Rockaways within Gateway National Recreation area reopened in May 1991, after an eight-month repair during which cyclists and pedestrians were barred from crossing. Signs state that bikes must be walked across the bridge, presumably because the path is narrow and often busy with pedestrians and people fishing. Still, as noted above, cyclists require less width when they ride than when they walk — a fact generally ignored by traffic officials; the presence of cyclists on this bridge creates no noticeable conflict. TBTA should lift its *de jure* ban and instead install signs recommend-



ing caution and courtesy — especially in light of additional cycling traffic to be generated by the planned Rockaway on-street bikeway loop.

#### Queensboro, or 59th Street Bridge (DoT)

In 1979, cyclists and pedestrians were granted exclusive use of this bridge's South Outer Roadway — a metal-mesh lane running along the outer edge of the bridge, separated from other traffic lanes by a network of cables. But whenever major construction work is done on other parts of the bridge, the city diverts motor-vehicle traffic onto the roadway and closes it to bikes and pedestrians. Currently, this regime is in force weekday evenings from 3 to 7 pm. However, the DoT recently revealed plans to close the South Outer Roadway entirely for several years in the mid-1990s, as part of ongoing reconstruction of the Queensboro.

During these times, the City provides a convoy service — a slow-moving escort car that proceeds behind the cyclists, keeping motor traffic safely behind. Although the service runs at nominal 15-20 minute intervals, it frequently deviates from this schedule, frustrating Queens-Manhattan commuters, who, like other cyclists, expect to at least control their own schedule in return for risking life and limb by bike-riding. Some cyclists risk serious accident by riding on the roadway rather than waiting; others give up bike-commuting entirely.

According to the 1992 T.A. survey, half of Queens residents who work in Manhattan don't bike-commute, and of these, slightly over half said that Queensboro Bridge access was a problem.<sup>1</sup> Yet the appropriation of the lane makes little sense; the one additional motor-ve-

hicle lane hardly makes traffic flow more smoothly, since cars back up anyway at the Queens end. (See discussion of the "QB6" in Chapter 18, Air Pollution.)

In addition, the cables that close off the outer roadway from the inner can easily be opened, which motorists sometimes do in order to move between the two paths. This poses a serious threat to cyclists and pedestrians using the outer road at any time, particularly at night.

The DoT has promised a paved, dedicated bike lane for the Queensboro Bridge when the current construction is completed, now scheduled for 1998; until then, the surface remains slippery and dangerous when wet, especially at the frequent expansion joints. Lighting is inadequate and poorly maintained, despite constant monitoring and notification of outages by Transportation Alternatives.



Moreover, bridge access at the Queens end is nightmarish; no signs lead to the outer roadway, and the only way to reach the bridge from the north is to cross a complex network of traffic lanes and then ride against traffic for several hundred feet.

### **Williamsburg (DoT)**

This long-neglected bridge between the Lower East Side of Manhattan and Greenpoint in Brooklyn closed temporarily to motor traffic in April 1988. The bike and pedestrian promenade was closed from June 1991 to March 1992, with a new deck installed by the city only after intense pressure brought by Williamsburg community groups and Transportation Alternatives.

The neighborhood mobilization, combined with increased movement by the NYC DoT away from its old nickel-and-dime approach to bicycle and pedestrian concerns, has borne fruit in the reconstruction plans for the Williamsburg Bridge. Where the original rebuilding



plans (scheduled for the late 1990s) called for a single, narrow walkway for shared bicycle/pedestrian use, revised plans indicate that the DoT will seek to rehabilitate both old promenades, one for exclusive pedestrian use and the other designed for cycling. Meanwhile, to combat the perennial problem of glass and other debris, DoT should install recycling/garbage cans and institute a regular schedule for sweeping the deck. Lighting and solar-powered police boxes would improve security, an especially urgent consideration in light of muggings of over a dozen pedestrians and cyclists in a 2-month period in the 1992-93 winter.

### **Henry Hudson (TBTA)**

The two bike-pedestrian paths on this bridge over the Harlem River between Manhattan and the Bronx are a microcosm of the checkered state of the bicycling infrastructure in New York City. The upper level has a wide bike-pedestrian path, but it is made impassable by a TBTA office building that straddles the path. The lower level is bikeable, with a recently resurfaced path, although stairs and the narrow pathway make bike access more of a challenge than necessary.

As part of a pending reconstruction of the office building, TBTA has allocated funds to rebuild the Henry Hudson's upper walkway. In addition, the Department of City Planning is



considering use of the upper path for the Hudson River Valley Greenway. However, because of concern over mountain bikes entering environmentally sensitive areas of Inwood Park, north of the bridge, the City Department of Parks & Recreation is considering restricting bicycle access in the area around the bridge (notwithstanding the fact that a major highway already bisects the park).

***A bike-pedestrian path on the Verrazano would offer nonmotorized travelers a dramatic experience of New York Harbor.***

#### **Not Currently Bikeable**

##### **Whitestone (TBTA)**

Because the Whitestone no longer has a path, cyclists must either find other means of transport or ride 13 miles out of their way to the Triborough Bridge. The Transit Authority's Q44 bus, which crosses the bridge at frequent intervals, should be equipped with bike racks to transport bicycles across. Another option is the QBx1, run 24 hours a day by Queens Surface Corp. (See Chapter 9, Bicycles and Transit, for discussion of bikes on buses.)



##### **Verrazano (TBTA)**

Cyclists and pedestrians have access to this bridge only twice a year, during the 5-Boro Bike Tour and the NYC Marathon. Otherwise, to travel between Brooklyn and Staten Island, cyclists and pedestrians must detour up to 12 miles to the Staten Island Ferry.

A bike-pedestrian path on the Verrazano would offer nonmotorized travelers a dramatic experience of New York Harbor and also make a powerful statement about the region's support of personal transportation alternatives to the auto. A path would also permit an intriguing coastal route from downtown Manhattan to South Brooklyn, via the Staten Island Ferry



and Bay Street. New York-area transportation planner Steve Faust estimated in 1976 that a bike-pedestrian path could be installed by attaching prefabricated decking to the trusses of the main span, for a cost that translates to \$9-10 million in 1992 dollars.<sup>2</sup>

A recent NYC Dept. of City Planning report identified a Verrazano bike-pedestrian link as a desirable goal for waterfront planning, and Brooklyn and Staten Island community newspapers have taken up the call. As of this writing, the TBTA has not responded to a query from Transportation Alternatives regarding the Dept. of City Planning recommendation. Pending a permanent bridge path, the Transit Authority should install bike racks on its S7 bus which traverses the Verrazano.

### Throgs Neck (TBTA)

There is no access for cyclists or pedestrians. To cross Long Island Sound a cyclist must de-



tour up to 15 miles to the Triborough Bridge (a trip that would be shortened greatly if the Whitestone Bridge admitted bikes). No buses cross the bridge, and the TBTA has no plans to provide bike access.

### Outerbridge Crossing (Port Authority)

Since this bridge's cyclist-pedestrian path was torn out, bicyclists traveling between Staten Island and New Jersey have been forced to ride up to 25 miles out of their way. There are no regularly scheduled buses over the bridge. The



Port Authority should initiate a shuttle service or at least a "share a ride" area, where drivers could pick up and drop off both cyclists and pedestrians; such a policy operates unofficially in San Francisco, where drivers rendezvous with passengers to qualify for the speedy car-pool lane of the Oakland Bay Bridge.

### Manhattan (DoT)

The City DoT has plans to remake the bike-pedestrian path on the Bridge's west side, linking Flatbush Avenue and Canal Street. While the bridge could be bike-accessible by the mid-1990s, traffic safety elements in the current rehabilitation scheme are still cause for concern. First, since the pathway is only 10 feet wide, heavy bike and pedestrian use could create user conflicts; the DoT should explore options for opening a second path on the eastern side if the path proves popular.

Second, the plan may force cyclists and walkers to face dangerous motor traffic when entering or exiting the path. On the Brooklyn side,



no signaling provisions have been made for pedestrians and cyclists who will have to cross a wide, busy street to enter or exit the bridge. Similarly, drivers in Manhattan heading up-town along the Bowery may turn onto the bridge without having to stop, making bike and foot approaches to the bridge more complicated and potentially dangerous. The DoT needs to sit down with cyclist and pedestrian advocates to resolve these issues.

### Small and Midsized Bridges

Most midsized bridges have metal-mesh surfaces. Even on mesh decks filled with concrete, the mesh often pops through, making for a frightening, wobbly ride. This could be mitigated by filling in the mesh with enough concrete to form a solid three- to four-foot-wide pathway. Or, a non-skid epoxy grit surface can be installed, similar to that laid down on the

Brooklyn Bridge roadway in the late 1980s, with epoxy glue holding a rough but rideable and drainable carbide surface. The relatively lightweight epoxy is particularly suited to movable bridges.

### Security and Lighting

Security is a constant worry on bridges that separate cyclists and pedestrians from motor vehicles, since thieves can find quiet places to wait and act unseen. In addition, the narrow sidepaths on city bridges render the cyclist easy prey. Police are lax in patrolling bridges, claiming that the bridges are among the safest part of their beats. But thefts do occur, leaving potentially injured victims stranded. Even occasional patrols by bike- or scooter-using police officers would let thieves know that cyclists on bridges are not an easy mark.

Police call boxes are not always installed or maintained. Neither the **Williamsburg** nor **Queensboro Bridges** has call boxes, and those on the **Brooklyn Bridge** work only sporadically (if one is off the hook, no others function). Solar-powered cellular call boxes have proven reliable on area highways and should be installed on all nonmotorized bridge lanes. These boxes automatically dial 911, and the operator who answers then calls the precincts on both ends of the bridge, sealing off the criminal's escape routes.

Because bridge jurisdiction is split between the two boroughs at either end, there is a diffusion of responsibility when theft does occur. Police procedures should be coordinated to ensure that a direct call to a precinct on one side causes a call to the opposite side as well, or each bridge should be placed specifically in a single precinct.

More fundamentally, inadequate lighting on bridge pathways is a major deterrent to nighttime return commutes, particularly in fall and winter. While some, like the Brooklyn and George Washington bridges, are well-lit, other heavily-traveled spans are chronically under- or unlit, especially the Queensboro and the Williamsburg. Good lighting must be made an

integral component of any bridge pathway, just as it is on any urban roadway; otherwise, the path will be only partially functional.

## Chapter 5 Recommendations

### Agencies

#### NYC Dept. of Transportation, Port Authority, Triborough Bridge & Tunnel Authority

Replace unrealistic "Bicyclists Dismount" signs at bridge entry-ways and exits with "Go Slow" signs.

DoT and TBTA should work together to establish an explicit, written city-wide policy recognizing the importance of guaranteed, safe, continuous, convenient bicyclist and pedestrian access to all bridges, and including the following:

- As bridges are rebuilt, create bicycle-pedestrian access where it is not now provided, and convert any stairs on bicycle-pedestrian paths to ramps. Ensure that bicycle-pedestrian access continues during all bridge reconstruction.
- Install or rehabilitate cyclist-pedestrian paths on bridges that originally included them in the design or as built: Manhattan, Whitestone, Outerbridge, Verrazano.
- As an interim step, NYC Transit Authority should install front-mounted bicycle racks on buses whose route passes over the bridge (applies especially to Verrazano-Narrows and Whitestone Bridges).

Install signs within a 5-block radius of entrances to bridges directing cyclist and pedestrian traffic to the bridge path.

Assign inspectors on bicycles to conduct regular inspections of all bridge bike-pedestrian paths for structural integrity, physical safety, signage, sweeping, etc.

To reduce the hazard from expansion joints that run parallel to the cyclist's direction, install beveled steel plates or permanent rubber coverings over the joints.

#### NYC Fire Department

Maintain existing emergency telephones on bridges; install phones on bridge paths that lack phones.

***Lighting is as integral to bridge pathways as it is to urban roadways.***

**Chapter 5 Notes**

- 1 Of 839 respondents to the T.A. survey, 80 live in Queens and 47 work in Manhattan. Of the latter, 24 commute by bicycle and 22 do not (one answer was indeterminate), and 13 cited Queensboro Bridge access as a deterrent.
- 2 "The Bicycle/Pedestrian Path for the Verrazano Bridge: A Demand and Feasibility Study," Metropolitan Association of Urban Designers and Environmental Planners, *Proceedings of the Seminar on the Planning, Design and Implementation of Bicycle and Pedestrian Facilities*, Palo Alto, 1977. University of California, Institute of Transportation Studies, Berkeley, CA, 1978.



**Triborough Bridge bike path. Garbage and debris impede cycling and walking on NY-area bridges.**

DAN CONVISSOR



**Temporary steel plates, a permanent feature on many streets and a constant hazard to cyclists.**

NICK PLAITAKIS



## Chapter 6

# Road Surfaces

### A Bumpy Ride

New York City streets, often a patchwork of potholes, ruts, grooves, metal plates, sewer grates, wooden beams and hummocks, make for an uncomfortable ride for motorists. But they can be dangerous, even life-threatening for cyclists. New York City bicyclists face an additional array of ground-level hazards that hardly faze drivers — seas of broken glass; pavement made slick and greasy from oil, rain and street cleaning; and berms of lumpy pavement left over from sloppy construction jobs. These hazards are often worst along the curb-side lanes, where most cyclists ride.

Not surprisingly, respondents to the T.A. survey cited “better street surfaces” second most often out of 18 potential improvements to the NYC cycling environment — second only to “more government and media support for bicycling.” Of 839 respondents, 523, or 62 percent, said better street surfaces were “very important.” Only 23 respondents — less than 3 percent — rated street surface improvements as “not at all important.”

### Pressures on the Street

Streets in the city are subject to enormous stress. The city’s lifelines run directly underneath — subways; water and gas mains; power, phone and cable TV lines; and, in Manhattan, steam pipes. Since little of New York City is served by rail freight, very heavy trucks roll right into Manhattan. Traffic pounds the surface while escaped steam and rumbling subways create pressure and vibration from beneath.

### Opening the Pavement

For a time in the late 1980s, cyclists benefitted from stepped-up repaving and pothole repair. However, street-surface conditions generally

are as hazardous and unpleasant as ever. Sixth Avenue, midtown’s most central and heavily used uptown route, with midday bike traffic close to 200 bicycles per hour, has been nearly impassable since mid-1990.<sup>1</sup> Although Madison and Eighth Avenues have finally been repaired after years of almost unrideable conditions, other city streets have suffered a veritable epidemic of huge, long-lasting holes — probably the result of recent municipal belt-tightening.

**Problem:** Many surface problems come from the constant surgery performed on streets by utility companies. Before pavement is ripped up for utility work, it is sawed to make a two-inch-wide cut. When made parallel with the street or avenue, the two-inch cuts are wide enough to catch bike wheels. Workers often fill the cuts with dirt, but the fill generally sinks to a level 1-2 inches below the road surface. Filled or not, the grooves are a hazard, particularly when heavy traffic leaves no room for cyclists to maneuver around them; even if the groove doesn’t actually grab a wheel, it can prevent the constant steering adjustments cyclists need to make to maintain balance.

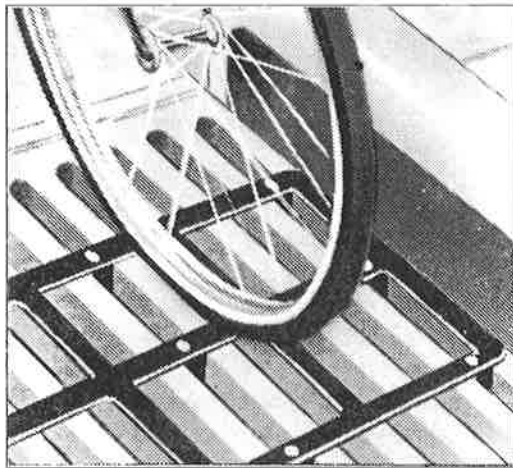
**Solution:** There are two ways to alleviate this problem: cuts wider than a sawblade can be separated from the flow of traffic with barriers, or the cuts can be filled with two inches of asphalt. More generally, appropriate road pricing policies and provision of rail freight will help preserve smooth surfaces by reducing the constant pounding from heavy trucks.

### Temporary Covers

**Problem:** Steel plates or less-common wooden planks covering in-progress utility work are a constant feature of New York’s street surfaces. Yet regulations governing their placement go largely unenforced. Wooden beams invariably have gaps between them, since the asphalt used to fill them is driven through the cracks after a



**Bicycle-safe sewer grate covers. Simple solutions exist for most street hazards.**



SAFE-T-GRATE

few days. Steel plates also often have narrow gaps that can tip bicyclists or even grab a wheel. Even well-placed plates may shift position under the constant pummeling of heavy trucks and buses, opening dangerous gaps.

The steel plates themselves are an extraordinary hazard. About an inch thick, the plates have sharp, squared edges that rarely lie flat against the street. As a result, cyclists often have to negotiate what amounts to a small, slippery curb — a tricky feat, especially for novice riders. The sharp edge can damage rims, puncture tires, jar the cyclist's wrists or even throw the cyclist from the bike. Asphalt can be feathered around the edges to create a more gradual incline, but this is not always done sufficiently on all sides — when it is done at all. The steel plates are also extremely slippery when wet; although the city DoT Traffic Rules and Regulations specify that plates must have a non-skid steel surface, this statute has never been enforced.

**Solution:** Careful placement of plates, and frequent covering with asphalt, should be made mandatory. Moreover, the city and its contractors should buy only plates with beveled edges; these not only afford a smoother ride, but are also less subject to movement on the street.<sup>2</sup> According to one supplier of steel plates,<sup>3</sup> plates can be easily and inexpensively cut with a beveled edge; as an alternative, the DoT or other major street surgeons such as Con Edison can create the bevel themselves with a blow-

torch. A durable asphalt border should be required around unbeveled plates.

All plates should have a caustic surface to reduce skidding. Quickway and other companies have devised workable coating methods, consisting of layers of epoxy and sand, that can last for several years. The DoT in fact uses such a coating on the metal surfaces on the newly rebuilt Williamsburg Bridge bike-pedestrian path, as does the Transit Authority on station platforms. Fiberglass plates with a non-skid surface are another option. But because fiberglass is less rigid than steel, these plates are available only in sizes up to about four feet by six feet, or half the surface area of many steel plates now in use, and must also be tacked down. Still, several plates could be used along a lengthwise cut, and they would be easier for contractors to install.

### **Protecting Against Steam Damage**

**Problem:** Much good work done on Manhattan street surfaces is undermined by heat from Con Edison's underground steam pipes, arising primarily from leaks. The heat can raise the asphalt's temperature to the melting point, leading to waves and virtual dunes on the street surface. These waves appear most often around valves and manhole covers. This continual warping of the pavement forces the city to repair the same stretches of pavement again and again. Some patches last as little as four months. Many of the valves and covers are surrounded by one-square-foot heat-resistant concrete pads. Unfortunately, despite oversight by DoT and Con Ed, contractors do not always install pads large enough to stop warping of the asphalt near the edges.

**Solution:** City regulations require utility companies to maintain the pavement 12 inches around manhole covers. To avoid both warping and constant repairs, the radius should be expanded to three feet. Where streets are warped by submerged steam pipes in areas not near manholes or valves, Con Ed should be required to resurface the area with concrete. Similarly, bus lanes should be surrounded by a concrete border, to prevent the weight of the bus from causing the asphalt to "migrate" into dunes or waves.

**The City and its contractors should buy only steel plates with beveled edges.**

### Catch-Basin Covers

**Problem:** Another trap for bicycle wheels is parallel-bar sewer grates. Many have openings just wide enough to catch and ruin a rim and throw a cyclist from the bike. Cyclists who swerve into traffic to avoid the grates risk collisions with motor vehicles.

**Solution:** A federal law banning the parallel grates has been in effect for a decade, and many municipalities have made the switch to safer designs. Even New York State has its own standard for bike-safe grates, which are met by bike-safe grates manufactured by several companies.

Nevertheless, the city's Department of Environmental Protection (DEP), which has jurisdiction over the gratings, has languished, claiming that bike-safe grates lack other important water-draining qualities. Until several years ago, DEP still occasionally installed unsafe grates, or else installed safe grates backwards.<sup>4</sup> Moreover, the city still has thousands of old unsafe grates, presenting a serious hazard to bicyclists. Despite a policy change stating that all procured and replaced grates will be bike-safe, which was affirmed personally by DEP Commissioner Appleton to the Bicycle Advisory Committee in 1990, no systematic replacement program appears to be in place.

## Chapter 6 Recommendations

### Agencies

#### NYC Dept. of Transportation

Closely monitor and enforce the directives for utility company street cuts listed directly below.

Employ non-skid surface on all traffic-lane lines.

Install wide concrete borders around bus lanes to prevent "pavement-migration" due to buses' heavy axle-loads.

#### NYC Dept. of Environmental Protection

Replace parallel bar sewer grates with bike-safe grates on all streets undergoing reconstruction.

#### Private Sector

#### Utility Companies with permits to perform street cuts

Bring all street cuts flush to adjacent surface.

Mark all open street cuts with barriers, or cover with two inches of asphalt on top of dirt from the gouge.

Cease use of "wheel-swallowing" wooden beams parallel to cyclist's direction as a temporary street surface (exempting perpendicularly placed beams).

Use only steel plates with non-skid surface; use only steel plates with beveled edges or built up on all sides with asphalt (which must be replaced and renewed frequently).

Around steam manhole covers, maintain concrete pad of at least a 3-foot radius from the edge of the cover.

Install concrete above submerged steam pipes to prevent humping of street surface (applies to Consolidated Edison Co.).

## Chapter 6 Notes

- 1 In 5 hours of traffic counts on 6th Avenue between 34th and 48th Streets in 1988-90, Transportation Alternatives recorded 933 bicycles, an average of 187 per hour. In 1992, however, the rate fell to 114/hour, no doubt reflecting the avenue's appalling surface conditions as well as the removal of the bicycle lane. See Appendix 2.
- 2 Telecom with Ellen Fletcher, Palo Alto cycling activist and former City Council member, March 1992.
- 3 Telecom with Alan Pavlick, Quickway Iron Co., Sullivan County, NY, 914-794-1900, March 1992.
- 4 One grate design has very narrow (bike-wheel safe) slots on the side furthest from the curb, but wider ones next to the curb to facilitate drainage. These are often installed backwards in New York, with the wider slots away from the curb.



JOHN HOWELL

**Shore Parkway bike path rounds New York harbor from Bay Ridge to Coney Island.**



## Chapter 7

# Greenways

### Urban Oases

The New York region is as densely urban as any in the country, but it also offers precious open spaces — parks, waterfronts, botanical gardens, reservoirs and forests. Park advocates, cyclists, walkers and other open-space lovers dream of linking these oases via networks of recreational spaces known as *greenways*.

The term greenway can refer to a dozen different kinds of natural, adapted or newly formed routes — nature trails, tree-lined paths alongside highways, strip parks, lightly trafficked city streets, abandoned railroad rights-of-way and riverfront bulkheads.<sup>1</sup>

Locally, an interagency city-state planning group set up to exploit ISTEA funds available for bicycle and pedestrian projects has mapped an ambitious 400-mile bikeway network across the five boroughs. The greenway plan, if realized, will install a genuine bicycling infrastructure in the outer boroughs and along Manhattan waterfronts. The greenway plan is the first attempt to plan for bicycles in New York City on a significant scale for decades, and deserves the support of elected officials at all levels of government.

Making greenway networks a reality will require partnership between planners and advocates, on the one hand, and public officials controlling purse strings on the other. Local elected officials, particularly city council members and borough presidents, have to be reminded that greenways can multiply the value and variety of open space in the region at very low cost in public resources; under ISTEA, bike and pedestrian projects may be paid for using a 20/80 local/federal matching formula. What's more, by offering fresh air, recreation, quiet and sheer visual relief, this enhanced open space can increase property values for both residential and commercial uses along the

route. Greenways also can save or generate money by reducing infrastructure and energy costs, improving air quality and public health, and boosting tourism.<sup>2</sup>

### Paths for People

Perhaps the best way to understand greenways is as a system of paths, lanes and streets just as varied and extensive as the one motorists have at their disposal, only designed strictly for human-powered transport — strolling, cycling, jogging, roller-blading, cross-country skiing, birdwatching and so on. Greenways take up a tiny fraction of the land that motorways require, at a fraction of the purchase and maintenance cost. They are largely free from the congestion, smells and noise that make city streets so unpalatable.

In New York City, where so few people have cars,<sup>3</sup> greenways can serve a large segment of the populace — certainly a larger constituency than uses expensive public facilities like tennis courts and golf courses. Greenways run through poor neighborhoods and rich ones alike, democratically bringing peace, quiet and recreation within the reach of everyone. In addition, greenways reduce motor traffic by offering locally the kind of recreational facilities people are used to driving long distances to get to. They provide the missing link craved by New Yorkers — a free and easy route out of urban stress and into nature.

### The Greenway Movement

In the 1970s, the growing popularity of bicycling led cyclists, park planners and landscape architects to start improving old trails and creating new ones. A national network of bicycle routes has been growing ever since. In New York, advocacy groups including the Neighborhood Open Space Coalition, the Consumer

***Greenways are a free and easy route out of urban stress and into nature.***

Farmer Foundation, Public Space for Public Life, and Transportation Alternatives, along with the City Planning, Transportation and Parks Departments and Borough Presidents' offices, have mapped out a series of greenways that traverse every area landscape, from skyscraper canyon to terminal moraine. It is this network that City and State planners are now actively transforming into official policy and — in some cases — bicycling infrastructure.

This local network will eventually hook up with planned regional and national routes. Greenway planners are working on an East Coast Greenway connecting Washington, DC to New York City and Boston, and another route linking New York City to Montreal. Greenways could be created along the Merritt Parkway corridor all the way to Hartford, and along the Erie Canal leading to Buffalo. The New York State legislature has voted to develop a greenway route tracing paths on both sides of the Hudson River, from Battery Park to Troy, NY, near Albany.

### History

Greenways are actually a century-old idea; in many cases, new greenways are being re-created out of old ones that were paved over or allowed to fall to ruin as motor traffic gained a stranglehold on land-use planning. Had these pathways been maintained all along, much of the network would be in place now.

Each of the five boroughs has park paths and waterfront esplanades that have long been used by cyclists and pedestrians. The oldest green-

way in the U.S. is **Ocean Parkway** in Brooklyn, designed by Olmsted and Vaux and opened in 1895. The Ocean Parkway greenway is a wide, paved, tree-lined path with a simple low rail separating bicycle and pedestrian traffic. Though it runs alongside a six-lane highway, the greenway path is separated from motor traffic by a strip of greenery.

Also extant are many of the attractive bicycle paths that long-time parks commissioner Robert Moses built alongside his highways. Traces of this 50-year-old system of paths can be found along the **Belt Parkway** in Brooklyn, the **Bronx River** and **Hutchinson River Parkways** in the Bronx and Westchester, the **Cross Island Parkway** in Queens and the **Wantagh Parkway** on Long Island. Cyclists and hikers often stumble across crumbling remains alongside other highways around the region, most notably the old Vanderbilt Parkway in eastern Queens (see below).

### New Opportunities

Opportunities for greenways abound throughout the New York area. Abandoned canal tow-paths, harborfronts and railroad rights-of-way lend themselves perfectly to conversion to greenways. For example, an 11-mile stretch of defunct rail line running along Staten Island's north shore could form a vital link in several north-south regional greenway networks. Even the Reagan Administration, not always the nation's staunchest defender of open space, expressed enthusiasm for greenways: The 1987 report of the President's Commission on Americans' Outdoors proclaimed, "We can link our nation together with threads of green that everywhere grant us access to the natural world."

### A Model Greenway

The nearly completed **Brooklyn/Queens Greenway**, spearheaded by the Neighborhood Open Space Coalition (NOSC), is being watched as a model for future greenways. The "BQG" runs for 40 miles from the Atlantic Ocean in Brooklyn to Long Island Sound in

**Ocean Parkway bike path, 1896. The city widened the path after 10,000 cyclists jammed the opening celebration in 1895.**



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Queens, passing through 13 parks, two botanical gardens, the New York Aquarium, the Brooklyn Museum, two environmental education centers, three lakes, a reservoir, and the site of two World's Fairs.

Much of the BQG route is ready made. Indeed, its genius is its linkage of existing green corridors. The Brooklyn stretch includes the Ocean Parkway bike path, the Coney Island boardwalk, Prospect Park and Eastern Parkway. In Cunningham Park in Queens, the greenway traverses the long-forgotten Long Island Motor Parkway built in the 1920s by William K. Vanderbilt as access to his Nassau County estate. These sections, with their waterfront views, trees, and clean air, form an ideal walk or ride.

But key sections of the BQG route are missing or unsuitable, such as a 1-mile stretch of the Interboro Parkway in Queens. NOSC is working with the state DoT to design an elevated path to permit greenway users to bypass the dangerous stretch of highway. While the cost of this tiny link is high — an estimated \$3.5 million in 1988 dollars — that is still only a fraction of the per-mile cost of a similar length of highway.<sup>4</sup> More important, its value in linking the full 40 miles of greenway would be enormous.

### Making Greenways

The most important steps for financing and constructing greenways are for city and other agencies to map out greenways and include them as part of major capital projects. Such a process has been quickly and effectively institutionalized by the Bicycle Advisory Committee, Public Space for Public Life, the Metropolitan Greenway Committee, and the New York Regional ISTEA Task Force chaired by the NY State Parks Office. This approach also minimizes costs, since greenways are often just finishing touches in more extensive engineering projects. Moreover, as noted earlier, several sections of ISTEA permit direct federal funding of bike and pedestrian projects, while other federal money is often available when greenway construction is included as part of highway or mass-transit projects.



DAVID PERRY

**Vanderbilt Parkway bicycle path in Cunningham Park, part of the 40-mile Brooklyn/Queens Greenway.**

For example, the city has stated a goal of a continuous pedestrian path around the entire circumference of Manhattan. While repaving South Street north of the Seaport in 1990, the DoT also painted a bike path and a jogging lane, for almost no additional cost, in response to a request by Transportation Alternative's Greenways Committee. Although the path, like other painted bike lanes in Manhattan, is frequently invaded by cars, the *right-of-way* is in place and can easily be upgraded the next time the road requires major work. Indeed, with the East River bulkhead needing extensive rebuilding, a first-class bike-pedestrian greenway facility could be installed within a few years.

As discussed below, the Bronx has developed an ambitious borough-wide greenways plan, under the leadership of a borough greenways office established several years ago by Borough President Fernando Ferrer. An important first step for other boroughs to create extensive, interconnected greenways systems would be for each borough to set up comparable borough greenways offices.

**The Brooklyn/Queens Greenway is a model for future greenways.**

### Greenway Corridors

#### New York State

In 1989, the state legislature passed the **Hudson Valley Greenway Act** authorizing the planning of a 150-mile greenway from Battery Park to Troy. To pay for the planning, the

NY State Route 6, south of the Bear Mountain Bridge. The Hudson Valley Greenway Act authorizes a 150-mile bicycle-pedestrian path from Battery Park to Troy.



DOUG GOODMAN

**The Bronx has developed an ambitious borough-wide greenways plan.**

Greenway Council initially recommended a hotel tax of 20¢ per \$100 room, applied in each of the counties along the route. But New York City objected, reasoning that its contribution — an estimated \$287,000 a year — would be disproportionately high for a project that would largely benefit upstate residents.

As an alternative, the Dinkins administration suggested that the money it is spending to produce a comprehensive citywide waterfront plan be counted as its contribution. The legislature responded by removing New York City from the greenway, and the situation is still unresolved.

#### **Bronx and Westchester**

The Bronx Borough President's office and the Department of City Planning, with the assistance of the Consumer Farmer Foundation, NOSC and local community organizations, are planning an 11-route **Bronx Greenway System** through all 12 Bronx community boards. A South Bronx route could connect-existing parks and link the North Bronx system, Manhattan, Randall's Island, and the Brooklyn/Queens Greenway. The Bronx River Restoration is developing a path from the mouth of the river to the Westchester border. Part of the route already exists as the unmarked **Bronx River Bikepath**.

At right, Van Cortlandt Park, Bronx. The Bronx Borough President's office is pushing for an ambitious borough-wide greenway system.

In place since 1979, the **North Bronx bikeway** is marred by lack of signs, lack of pedestrian-cyclist separation, poor intersections with roads, and highway guardrails and other obstacles. This route can be fixed inexpensively and expanded into a greenway system by marking and maintaining the park routes through which it runs.

From Westchester to the Whitestone Bridge, a deteriorating path along the Hutchinson River Parkway has received priority for construction funds from city and state greenway planners. This path is a key link in the proposed **East Coast Greenway** through Boston, New York City and Washington, DC.

#### **Manhattan**

The newly established Hudson River Park Conservancy has stated that one of its first acts will be to create interim bicycle and pedestrian ways along Manhattan's West Side from Battery Park to 59th Street. Meanwhile, T.A. and greenway advocates are working to solve bike access problems in Inwood, Fort Tryon and Riverside Parks. A bikeway system should be able to link the Henry Hudson Bridge, the Hudson River waterfront, the George Washington Bridge and the planned Bronx Greenway system. Although some City Parks officials seem hesitant on the subject of continuous bicycle access along the Hudson River in upper Manhattan, reports by both the Department of City Planning and the Manhattan Borough President's office call for a continuous Manhattan waterfront greenway.

The Manhattan Borough President's office and others are pursuing a continuous **East River path** from the Battery to the Bronx. This



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route, first proposed in the Lindsay administration, would form part of the East Coast Greenway. A footbridge will be needed to cross the FDR Drive north of the U.N. complex. Parks Commissioner Gotbaum toured the route in September 1990, but as yet the city has made no firm plans.

### **Brooklyn and Queens**

In addition to the Brooklyn/Queens Greenway, a number of actual and potential greenways need public and official attention. A seven-mile **cross-Brooklyn Rail Corridor** (the Long Island Rail Road Bay Ridge freight branch) could become a rail-and-trail route connecting the Shore Bikepath in Bay Ridge with the BQG at Ocean Parkway and in Highland Park.

The **Shore Parkway bikepath**, once the gem of Robert Moses' system of bike-pedestrian paths, marked its 50th anniversary in 1991 in disrepair. An initiative to restore the bikeway is underway, involving the city Parks and Transportation departments, federal park authorities and the Brooklyn Borough President's office.

A **Queens/East River Greenway** could be extended by restoring Moses' **Flushing Bay Path** and including bicycle facilities on McGuinness Boulevard in Brooklyn. A first step would be a DoT plan to divert motor traffic from Vernon Boulevard in Queens when possible and add a designated bikelane there and on McGuinness. A rail-trail conversion of the LIRR's abandoned Jamaica Bay branch could connect the Brooklyn/Queens Greenway at Forest Park to the Jamaica Wildlife Refuge and Shore Parkway path, creating a **Rockaway/Gateway Greenway**.

### **Staten Island**

The abandoned **Staten Island Rail Road** (SIRR), being considered for trail conversion, would be a link in the East Coast Greenway as well as a cultural and commuter bike route for Staten Island. Greenways advocates are working to develop a loop route connecting the SIRR path with Staten Island's Greenbelt park system.

A Staten Island **South Shore Greenway** can be created by adding a path and greenery between the FDR Boardwalk and Father Capodanno Boulevard, including a new right-of-way south of the Great Kills part of Gateway National Park, preferably along the beach.

### **New Jersey**

Two parallel greenway proposals, a **Hudson River Esplanade** and a **Palisades Greenway**, would run a few blocks apart from Palisades to Liberty State Parks. In 1988 the Regional Plan Association proposed a meandering bicycle parkway along the Palisades, which would link the Hudson River Greenway and the East Coast Greenway at the Bayonne Bridge.

A **Bergen Arches Greenway** could be one of the most beautiful urban parks on the East Coast. The route — an abandoned rail corridor through the Palisades — is now a green canyon rich with wildlife. The corridor should be preserved and connected across the Meadowlands

**Abandoned canal towpaths, harborfronts and railroad rights-of-way lend themselves perfectly to conversion to greenways.**

**River Road, nestled under the Palisades, is one of the NY area's prized cycling routes.**



DOUG GOODMAN



through Newark to the **Patriot's Path Greenway** now underway to the west. The proposed **Hackensack River Greenway** would also connect to this path.

## Chapter 7 Recommendations

### Agencies

#### Mayor's Office

Complete negotiations with the New York State Greenway Council concerning the hotel tax mandated by the Hudson Valley Greenway Act, to enable the City to join the other municipalities that are participating in creating a Hudson Valley Greenway system.

#### NYC Borough Presidents

Establish advisory committees modeled after Bronx Borough President's greenway advisory group to assist in greenway exploration, route development and design, and to recommend effective use of discretionary funds to match federal grants.

#### NYC and NYS Departments of Transportation

Construct the 1-mile elevated path over the Interboro Parkway to complete the Brooklyn-Queens Greenway.

#### NYC Departments of Transportation and Parks

Work together to target street renovation projects with tree-planting programs along mapped greenway corridors.

#### NYC Departments of Transportation, Parks and City Planning

Produce a New York City bicyclist map, showing greenways, bicycle paths and routes, low-traffic streets, and points of interest, to be sold at cost through normal City tourist and publications offices and via the private sector.

To ensure maximum construction and maintenance of greenway routes, at minimum cost, incorporate the greenway and bicycle route recommendations mapped out by the Metropolitan Greenway Committee, Public Space for Public Life, and the Bicycle Advisory Committee (BAC) into the city's capital project process. Describe route parameters and flag them on the NYC OMB CAPIS computer system.

In conjunction with NY State agencies, secure federal funds available for greenways that are part of highway or mass transit projects or are fundable under the Intermodal Surface Transportation Efficiency Act of 1991.

Adopt as formal policy the Manhattan Borough President's 1992 Comprehensive Manhattan Waterfront Plan.

### NY State Dept. of Transportation

Establish statewide public/private task-force modeled on NYC Metro greenways group to oversee distribution of ISTEA enhancement funds. Counties should be represented on the basis of population.

Remove offices from the East River bicycle-pedestrian path at 91st Street (and thereby cure the violation of Section 4(f) of the (U.S.) Dept. of Transportation Act of 1966, (49U.S.C. 1653), that DoT committed by taking parklands where there was a feasible and prudent alternative).

## Chapter 7 Notes

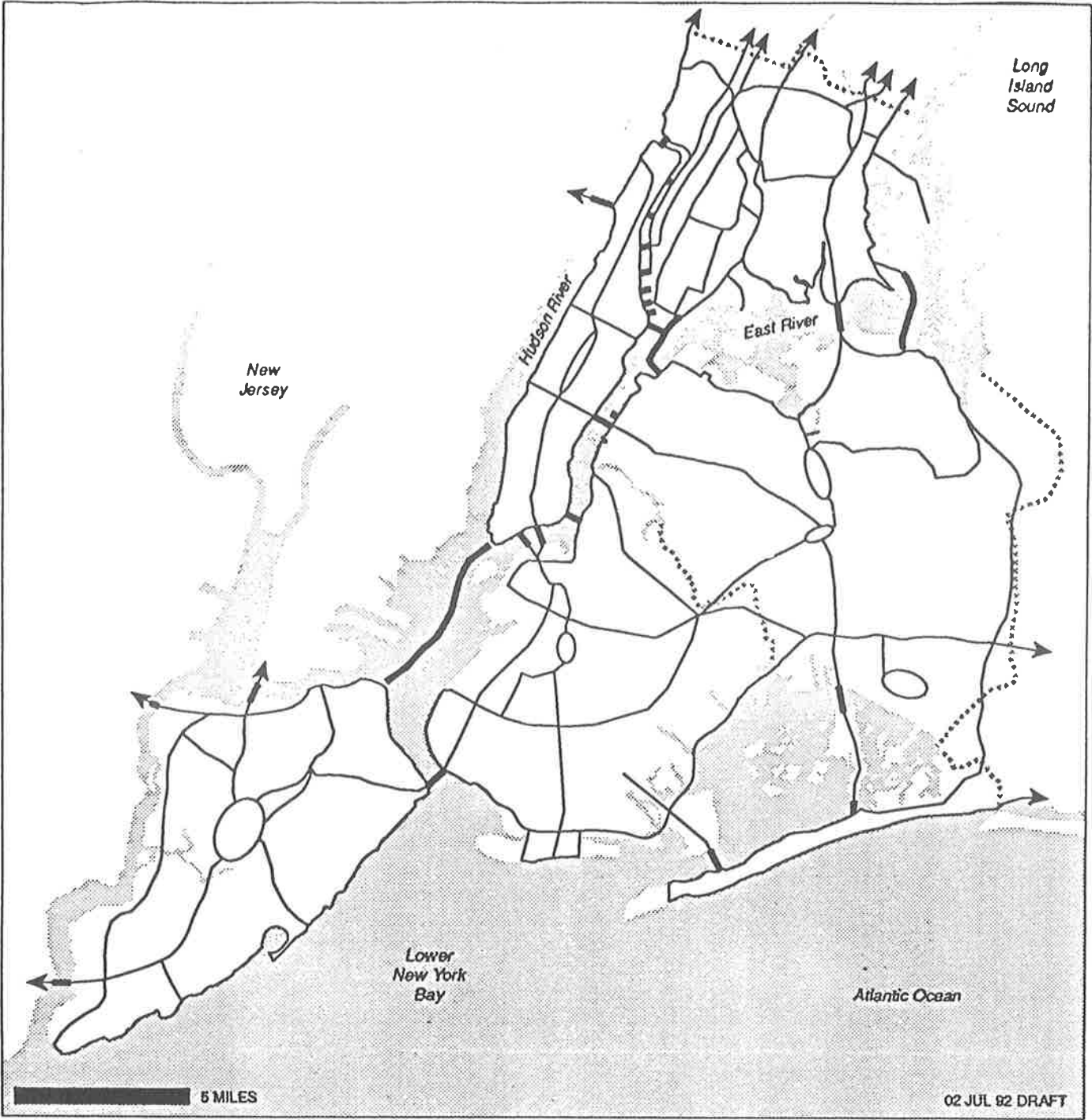
- 1 In *Greenways for America* (Johns Hopkins University Press, Baltimore, MD, 1990), Charles Little defines greenways as follows: 1. A linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridge-line, or overland along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route. 2. Any natural or landscaped course for pedestrian or bicycle passage. 3. An open-space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas. 4. Locally, certain strip or linear parks designated as a parkway or greenbelt.
- 2 See Tom Fox, *Urban Open Space — An Investment That Pays*, Neighborhood Open Space Coalition, New York, 1990, for a wide-ranging review of studies documenting the economic value of urban parks, greenbelts, waterfronts and other open spaces, from Olmsted's time to the present.
- 3 Motor vehicle ownership in New York City is only a little over one-third the national average rate. See Chapter 10, Reducing Motor Traffic.
- 4 Highway construction in New York City typically costs a minimum of \$5 million per lane-mile and frequently far more, especially where heavy trucks must be accommodated. The Interboro bikeway overpass probably would have cost well under \$3.5 million if it had been built in conjunction with highway widening. ISTEA funding may be available in any event.

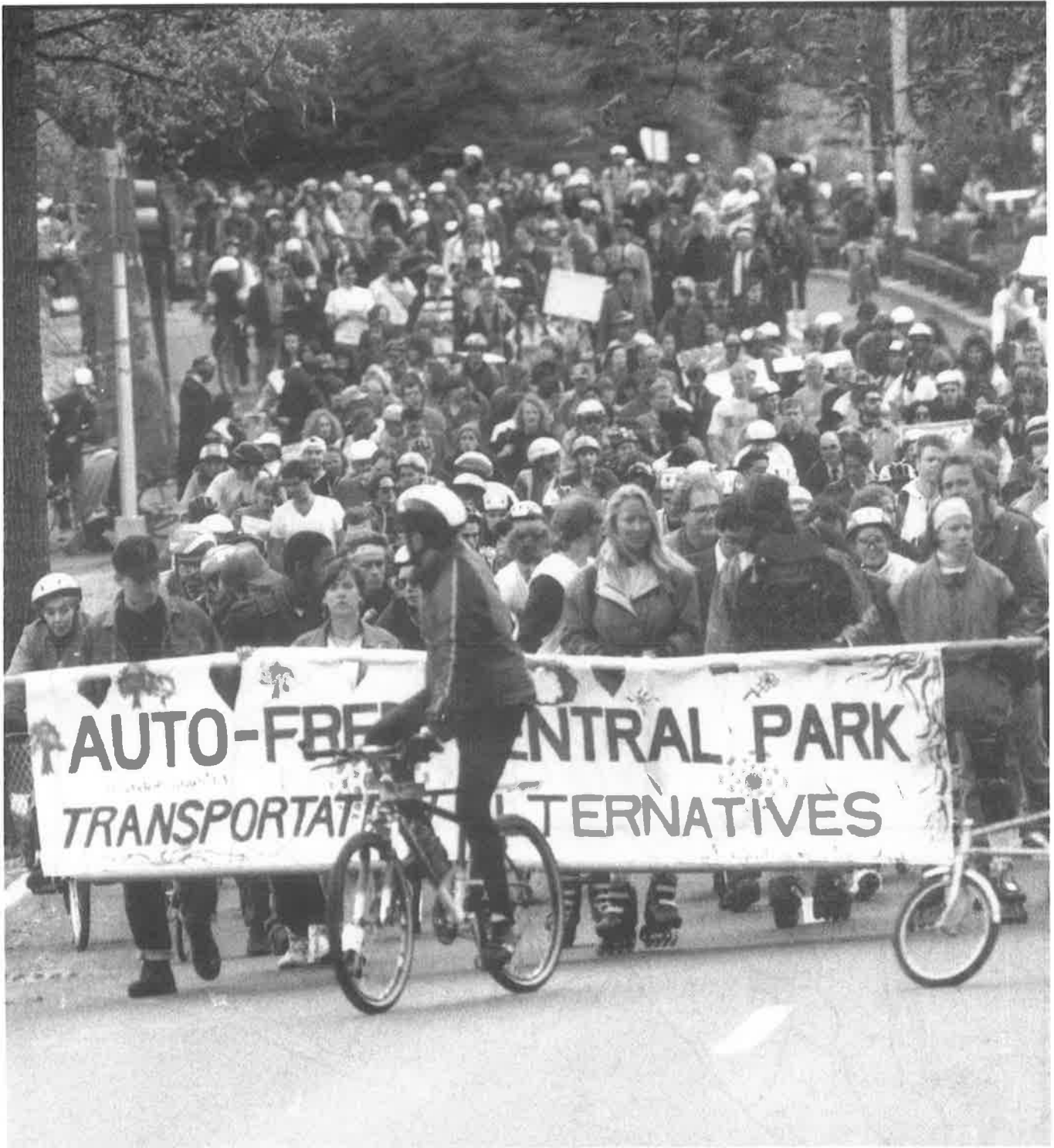
# Greenway System for New York City

- Greenway

Bridge or Ferry
- Regional Connection

Borough Boundary





GEORGE T. NELSON

**Earth Week, April 1991. Over 400 New Yorkers demonstrated to ban motor vehicles in Central Park.**



## Chapter 8

# Parks

### Cars in Parks

Parks are sacred places for New Yorkers. Yet cars are the sacred cows of New York City, and not only is a third of the city's surface area set aside for their exclusive or primary use, they are even allowed to roam freely within many city parks. Their presence on the park drives — particularly in the revered and heavily used Central Park — is sanctioned mainly in the belief that opening these few extra thoroughfares to city traffic eases gridlock on the surrounding city streets. But bicyclists and other park users are crowded out of the space that could most easily be set aside for them.

Cars are permitted in our parks not because it's necessary, but because we live in a culture in which driving is considered an inalienable personal right rather than a privilege that can be abused. Any movement that challenges the turf of autos triggers stiff resistance in many forms, from bureaucratic hurdles to counter-lobbying by automotive and business groups, threats by individual motorists and even foot-dragging by some environmentalists.

### Cars Out of Parks

Transportation Alternatives began campaigning in 1989 to close the Central Park loop drive to motor traffic. In 1990, T.A. began working to close Brooklyn's Prospect Park to cars as well. To those who use the city's parks for walking, running, cycling, skating and other forms of active recreation, as well as for those who go to parks to experience nature in the city, the advantages of a car-free atmosphere — chiefly respite from speeding, polluting automobiles — are compelling. Parks without cars are not a luxury, but an essential antidote to the crowding and pollution of the surrounding city.

For many New Yorkers, the parks are the only place to exercise and play — the only sanctuary.

When the Central Park carriage drive is filled to capacity with cars — as it is every rush hour — the fragrance of trees and grass is overpowered by the smell of exhaust; the sounds of birds and wind in the trees are drowned out; cycling and jogging in the park become uncomfortably like cycling or jogging on city streets, and just as unsafe.

### Background

Invoking precedent can pose problems when discussing the original intent of Central and Prospect Parks' designers, Calvert Vaux and Frederick Law Olmsted. When both great parks were constructed in the second half of the 19th century, neither the automobile nor the modern bicycle had been invented. However, the parks were clearly designed to be, first and foremost, a retreat, a place for walks and quiet contemplation.

"The Park is a ground appropriated and arranged for the enjoyment of all the classes that inhabit a great city," wrote Frederick Law Olmsted Sr. "The design has been so to plan and arrange it that the visitor may immediately on entering be led ... to divest himself of the thoughts and reflections that attend upon city business life, and to give himself up to an hour of undisturbed recreation."<sup>1</sup> As Jerome B. Kauff wrote in 1979 in the *Report and*

**Parks without cars are not a luxury, but an essential antidote to the crowding and pollution of the surrounding city.**

**Interstate highway? No, Prospect Park during rush hour.**



JOHN HOWELL

**The park drives were specifically designed for recreational use, not as major highways for commuter traffic to and from the central business district. — Report and Recommendations of the Advisory Committee on Central Park Drive Closings, 1979**

**Central Park loop drive. Extending the ban on cars to weekdays could ease weekend crowding among cyclists, skaters and strollers.**

*Recommendations of the Advisory Committee on Central Park Drive Closings* (which curiously concluded that cars should be allowed to continue using the drives), “The Park drives were specifically designed for recreational use, not as major arterial highways for commuter traffic to and from the central business district.”

Around the turn of the century, years after Central Park was completed, the then-gravel carriage drives were paved, new entrances cut through the Park’s southern end, and the Park gradually opened to motor traffic. By the mid-1960s, according to Kauff, auto commuters, the taxi industry and midtown and downtown businesses took these extra north-south routes for granted.

#### **The First Auto-Free Parks Movement**

It was also during this period that park users first voiced objection to motor vehicles on the loop drives. In 1966, the Parks Department responded by barring cars from the drives during summer weekend hours. In 1967, a volunteer bike patrol was put in place to help keep cycle traffic flowing in one direction, repair flat tires and offer simple first aid.<sup>2</sup> For the next decade, different parks commissioners experimented with closing hours, sometimes extending them to longer periods of the day and year, sometimes cutting them back.



GEORGE T. NELSON

#### **The Current Debate**

Organizing by Transportation Alternatives is drawing political attention to the idea of eliminating automobile traffic from Central Park. In October 1991, the City Department of Transportation released a preliminary study of current traffic patterns and what the agency saw as the likely effects of six other traffic scenarios. In the meantime, the office of Manhattan Borough President Ruth Messinger released its own report in favor of auto-reduction, *The Benefits and Traffic Consequences of an Auto-Free Central Park*.<sup>3</sup>

The debate could be decided on philosophical grounds alone: does the city ultimately place more value on the sanctity of its parks — and, by extension, on the quality of life of its inhabitants — or on the convenience of its drivers? But New York is a city driven by politics, not philosophy. Running through the DoT’s Central Park study is a bias against auto reduction, with no fundamental examination of the impact an auto-free Central Park would have on traffic patterns, the environment and safety.

#### **Traffic Patterns**

It’s not at all clear that an auto-free Central Park would, in the long run, exacerbate traffic jams in the surrounding areas. New York City has at least two good precedents that show traffic can remain unaffected or actually decline when routes are closed. When Washington Square was closed to auto traffic in the early 1960s, and again when the West Side Highway collapsed in 1973, after brief periods of readjustment, there were no discernible increases in traffic in adjacent areas.

Motor traffic is elastic; the construction of new roadways or extra vehicle capacity promotes additional car trips; when routes are eliminated, drivers find alternate routes, or — better yet — find alternate modes of transport.<sup>4</sup> In the case of the Central Park drives, “downstream” gridlock in midtown might actually be alleviated by eliminating a route into the area.

Further, the loop drive is not a vital auto route. Less than 3% of vehicles entering midtown Manhattan from the north use the park. Virtual-

ly all of these vehicles carry discretionary traffic — private cars, taxis and limousines; closing the park to cars would not directly affect vital commercial loads. In theory at least, all the motorists using Central (and Prospect) Park for commuting purposes could be easily accommodated on public transport with a mere two or three additional subway trains a day.

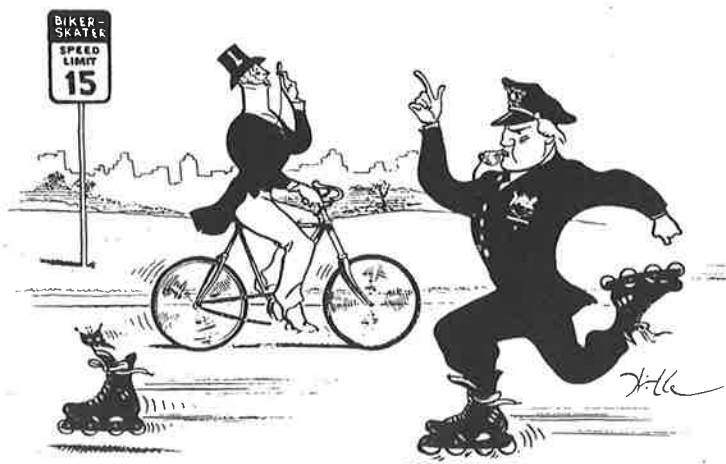
### The Environment

The City DoT has stated repeatedly that it seeks to discourage auto use while promoting mass transit and human-powered travel. Banning cars from Central Park would be one low-cost way to begin carrying out this policy. Eventually, U.S. cities will lose the political luxury of ignoring gross violations of federal clean-air standards; auto-free residential and commercial zones will probably have to be established throughout New York City. By banning cars in the Park now, the city would be taking a crucial first step in the right direction — both a real and a symbolic one.

New York could become a model for others to follow, rather than the environmental laughing-stock it is now. Central Park is already a model nationwide — when its summer hours policy began, other park administrators around the country followed suit; similarly, Transportation Alternatives' Auto-Free Central Park campaign has sparked similar citizens' initiatives in Toronto, San Francisco, Philadelphia and Washington, D.C.

### Safety

Finally, banning cars from Central Park would make the city safer. When the original Greensward plan was developed in the 19th century, Vaux and Olmsted created a series of pedestrian tunnels under the loop drive to ensure that pedestrians wouldn't have to encounter carriages on the drive above. In the late 20th century, the park's trees cast longer shadows, the shrubbery is thicker, and those tunnels are forbidding places. On the drive itself, more recreational users are vying for the limited space.



MICHAEL WITTE/THE NEW YORKER

### The 15-Mile-Per-Hour Cycling Speed Limit

In August 1991, the Parks Department instituted a 15 mph speed limit for bicycles in Central Park. Transportation Alternatives acknowledges the discomfort caused by cyclists who train and race at high speeds on the park drives, but believes that any mandatory speed limit should also apply to motor vehicles, which move faster and cause greater danger to other park users.

As a more comprehensive solution, Transportation Alternatives suggests the following steps (adapted from *City Cyclist*, July/August 1991):

Replace the bicycle speed limit with the following policies:

- Cars off loop roadway and out of the Park at all times, permanently.
- Fast traffic (e.g., cyclists) *always* yields to slower traffic (e.g., pedestrians).
- Stripe the roadway with *recommended* lanes for faster, slower and novice skaters, cyclists and joggers.
- Designate one hour each morning and each evening as recommended time for bike racing and training.
- No speed limits.
- Failing a car ban, or prior to a car ban, any speed limit on cyclists shall also apply to motor vehicles.
- Self-education and regulation by user groups, including "cross-education" among cyclists, skaters and joggers.
- Evaluation of the above steps after three months.
- If problems persist, consider *restricting* bike racing and training to designated hours; also consider requiring strict adherence to traffic lights by all road users, perhaps aided through "upstream signalization" giving fast cyclists and skaters time to slow down safely.

Fast bicycles and the 15 mph speed limit imposed on them since late 1991 have made headlines, but few have talked about the far greater danger posed by automobiles (which take up the majority of the recreational space and have no such speed limit imposed on them). Without cars, there would be room for cyclists, skaters, joggers and walkers to arrive at a voluntary lane system geared to varying speeds and styles.

A survey by the New York Road Runners Club shows how desperate park users are to have a more user-friendly place to work out: 22% of recreational users said that if cars were banned they would begin using the park during the morning rush hour and 44% during the evening rush hour.<sup>5</sup> With use concentrated during certain hours, limited off-hour times might be set aside for bicycle racers to train. Without the current confusion of changing auto-free hours, a set of permanent, clearly posted signs could be established to let all park users know what to expect, and when to expect it.

**Kissena Park bike track in eastern Queens has deteriorated since the national cycling championships were held there in 1964. New York City, home of Olympic and world-class cyclists Nelson Vails and Mike McCarthy, deserves a first-class velodrome.**

### Other Parks

Wherever possible, other city parks should move in the direction of limiting auto traffic (Forest Park in Queens is another auto-reduction candidate). But this should be done with alternatives in mind. In Central and Prospect

Parks, provisions can be made for regular jitney bus service for those who have trouble negotiating the parks on foot. Planners should keep in mind that a huge segment of the population is intrigued by the prospect of taking up cycling, but unconverted. To encourage them and to allay their fears, bike rental shops should be encouraged, and well-marked greenways should increasingly be given priority over park roadways.

In **Flushing Meadow Park** in Queens, a new loop modeled after the Central Park carriage drive should be developed around the two lakes and on the perimeter of the main part of the park; this could be done at low cost by linking existing pathways there. The Parks Department's proposed **Jamaica Bay** circumferential pathway in **Gateway National Park** should be constructed. New cycling facilities, such as a bicycle racing track or BMX course, should be considered in plans to develop the **Floyd Bennett** portion of Gateway. **Fort Tilden** already has in place a good pathway system; all it needs to become a major cycling destination is secure bicycle parking near the beach. Where possible, areas of ecological importance, like the **Jamaica Bay Wildlife Refuge** and the **Audubon Buffer/the Bay Project**, should include bicycle access.

## Chapter 8 Recommendations

### Agencies

#### NYC Dept. of Transportation

Refrain from severing or destroying — whether temporarily or permanently — any existing bicycle path or walkway as part of any highway rehabilitation-modernization or expansions project.

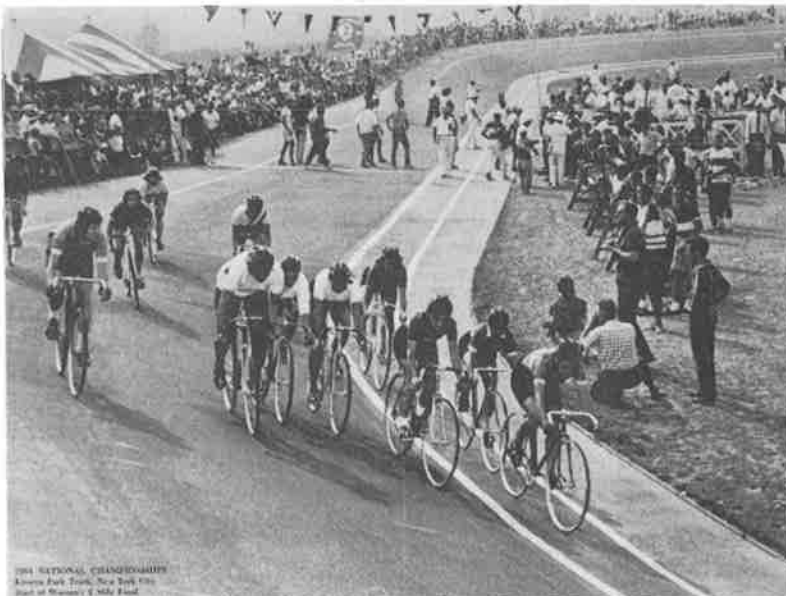
#### NYC Departments of Transportation and Parks

Replace the Central Park bicycle speed limit with the set of measures shown in sidebar on previous page.

Ban automobiles from all other city parks, including, but not limited to, Prospect and Forest Parks.

Elevate priority for maintaining and improving existing bicycle paths, e.g., Shore Parkway bike path.

Create a new cycling loop in Flushing Meadow Park



AL HATOS/AMERICAN CYCLING NEWSLETTER

around the two lakes and the perimeter of the main part of the park.

Whenever possible, establish bicycle access to nature preserves such as the Jamaica Wildlife Refuge and the Audubon Buffer/Bay Project.

Upgrade bicycle facilities in Gateway National Park by creating a circumferential cycling path in Jamaica Bay, a velodrome (bicycle racing track) and BMX course in Floyd Bennett Field, and installing secure bicycle parking facilities near the beach in Fort Tilden.

See Chapter 7, Greenways, for further recommendations for creating specific bicycle paths and routes in or between city parks.

### NYC Parks Department

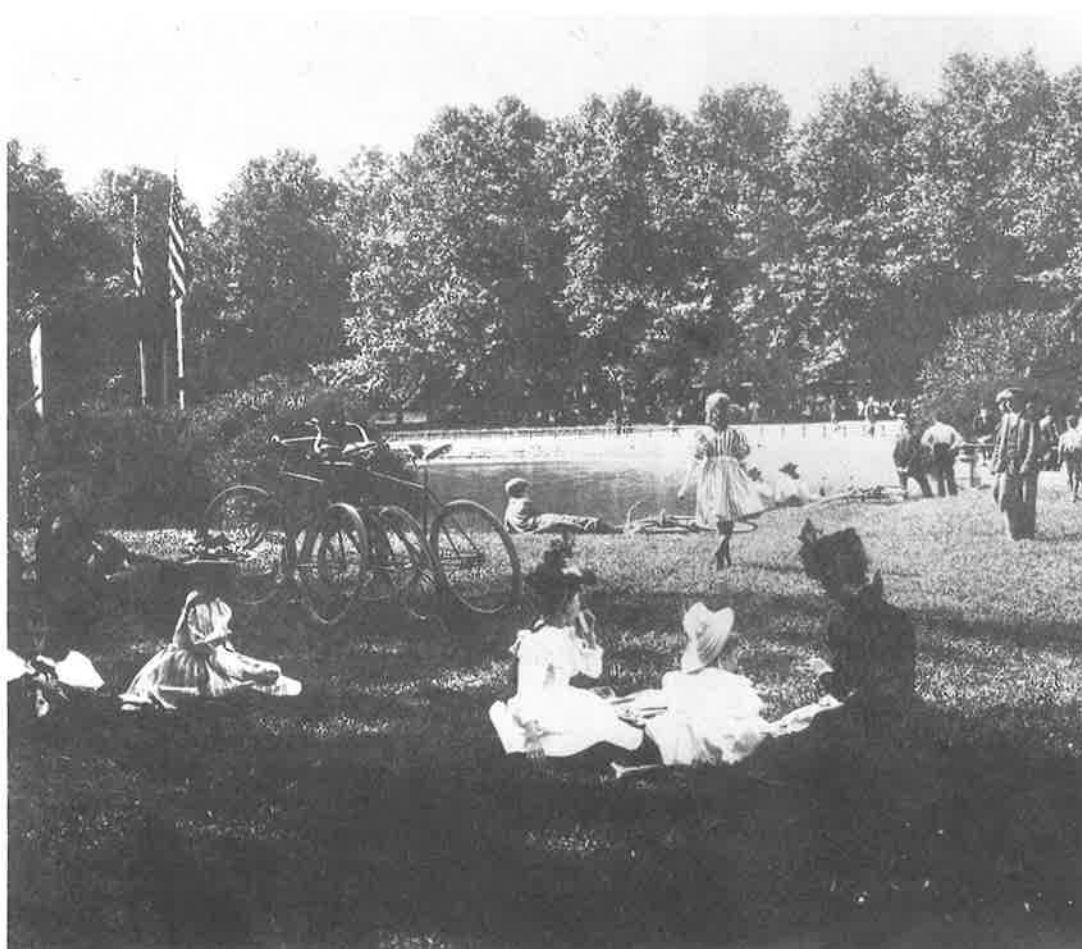
Set up jitney bus service in Central and Prospect Parks to make them accessible to those who can't easily walk or ride.

### Legislative

Require that bicycle rental shops in the vicinity of major parks clearly display and distribute park-user guidelines to people renting bicycles and roller-blades.

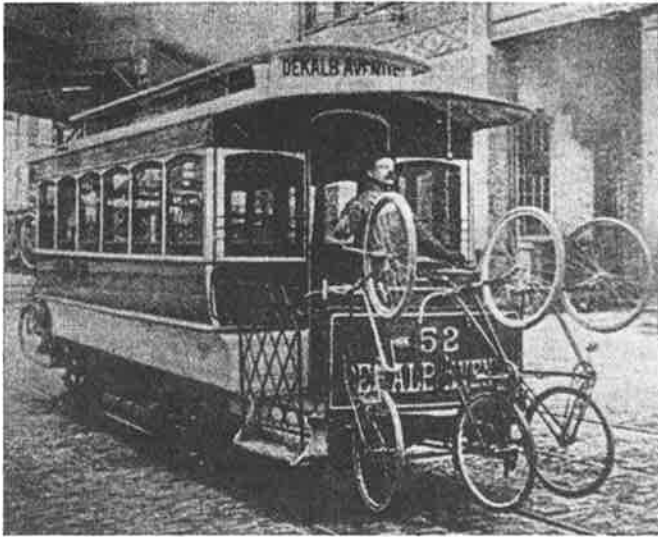
### Chapter 8 Notes

- 1 Frederick Law Olmsted Jr. and Theodora Kimball, eds., *Forty Years of Landscape Architecture: Central Park*, MIT Press, 1928, p. 518.
- 2 "Bicycling Hours," Parks Department press release, Aug. 31, 1967.
- 3 William Warner and Gale Kaufman, principal authors, August 1991.
- 4 Jeffrey Kenworthy and Peter Newman, *Cities and Automobile Dependence: A Sourcebook*, Gower Technical, Brookfield, VT, 1989, p. 53 and pp. 142-165.
- 5 *The Westsider*, Nov. 4-20, 1991.



Central Park,  
a century ago.

COURTESY, NEIGHBORHOOD OPEN SPACE COALITION



BICYCLE FEDERATION



DAVID PERRY



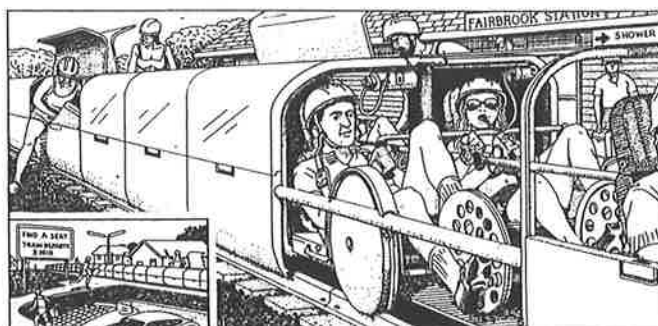
MICHAEL REPLOGLE



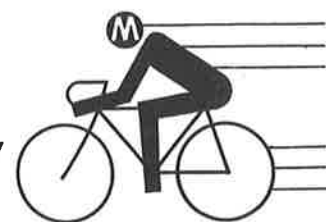
NEW YORK WORLD



ANNE HANSEN



**Integrating Bicycles and Transit.** Clockwise from top left: bikes on Brooklyn trolley, 1890's; bike-bus shuttle used by NYC DoT and Port Authority in 1980's during interruptions in bridge access; Staten Island Ferry, 1890's; bicycle lockers at train station, Amsterdam; Long Island Rail Road's Cyc-n-ride permit; futuristic Pedal Train by Steven Johnson; cyclist boards transit bus, California.





## Chapter 9

# Bicycles and Transit

### Bicycles and Mass Transit

Bicycling and mass transit are both antidotes to the congestion and pollution caused by automobile use. But for many travelers, neither form of transport alone can compete with the auto's combination of range, flexibility and convenience. However, if bikes and transit work as a team, they make a formidable alternative to the car — just as flexible and convenient; cheaper, more relaxing and often faster; and without the automobile's environmental damage.

Transportation Alternatives' 1992 *City Cyclist* survey found strong support for improving bicycle-transit links. Access to subways was deemed "very important" by 56% of respondents and "somewhat important" by 31%; only 8% considered it unimportant (the remaining 5% of respondents did not express an opinion). Linkage to commuter rail lines also scored high; access to Metro-North trains was considered very important or somewhat important by 69%, the same score registered for access to the Long Island Rail Road. Only one-fifth of respondents rated access to either line as unimportant.

Although some of the region's transit providers provide a modicum of bicycle parking facilities and on-board access, these provisions are limited and remain largely unknown except to hardcore cyclists. A comprehensive system of bike-transit links, based on best current practice in the U.S. and overseas, and even in the New York region, could cost-effectively displace a significant percentage of car trips. This will require far more interjurisdictional and inter-agency cooperation than is evident today.<sup>1</sup>

### Rail-Station Bicycle Parking

The first key in improving bike-transit connections is to upgrade bicycle parking facilities at

rail, bus and ferry stations. The greatest opportunities are at the region's commuter rail stations, where driving to stations is producing a raft of problems: twice-daily traffic jams and overflowing parking lots that spill onto local streets. Virtually lost in debates over expanding station parking and access roads is the bicycle, which a recent report prepared for the Commission of the European Communities called "the ideal means of transport to be combined with the train system."<sup>2</sup>

Because bicycles take up so little space to ride and park, the Commission noted, they "make possible the access of a large number of passengers to a train-terminal without damaging the local urban environment."<sup>3</sup> As the New York region struggles with Clean Air Act mandates and constraints on both public expenditures and land, bike-and-ride programs should be seized upon as among the most cost-effective transportation improvements.

Most New York-area rail commuters, even those who live a few miles from transit lines, drive to their station. Others eschew the train or bus altogether, reasoning that as long as they have to drive to the station, they may as well drive all the way to work. With secure, conve-

***If bikes and transit work as a team, they make a formidable alternative to the car.***

**Grand Central Station. Thousands of area cyclists ride Metro-North and Long Island R.R. off-peak trains.**



DOUG GOODMAN

Commuter train station, Bonn, Germany.



CORA ROELOFS

***“Bicycles make possible the access of a large number of passengers to a train terminal without damaging the local urban environment”.***  
— Commission on European Communities

nient bicycle parking, however, both kinds of commuters can consider leaving the car at home. The trip to the station changes from expensive drudgery to economical, efficient morning exercise, and a once-impractical rail commute becomes suddenly worthwhile.

The air pollution benefits are especially acute when rail commuters stop driving to their train and cycle instead. As transportation consultant Michael Replogle notes, “Automobile park-and-ride trips involve cold-start vehicle operation, with associated pollution emission and fuel use rates several times higher than the average for all automobile travel.”<sup>4</sup> And while not every bike-and-ride commute involves a former driver, many such trips do. In California, between one-third and two-third of train station users of bicycle lockers formerly drove alone to their destination.<sup>5</sup>

#### Europe and Japan

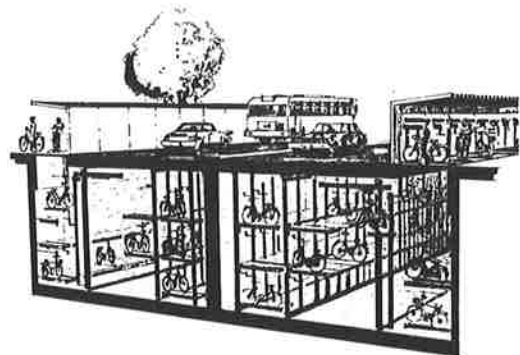
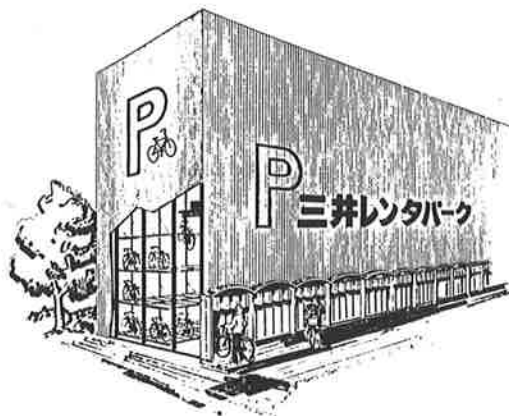
In Japan and many European countries, bike-and-ride is a major — in some cities the pre-

dominant —commuting mode. The use of bicycles as a “feeder” mode to transit, with convenient bicycle access to transit stops, helps railways in those countries compete with automobiles and maintain a high share of overall trips.

In Japan, an estimated 3 million bicycles are parked daily at rail stations, five times the volume in 1975, and several times greater than the number of commuter cars.<sup>6</sup> The share of Dutch rail passengers who cycle to stations ranges from 23% in the four largest cities, to 42% at inter-regional stations and 44% for local stations.<sup>7</sup> Moreover, between 5% and 12% of Netherlands rail passengers use another bicycle parked at the second station to reach their destination — a “ride-park-and-ride” combination that is particularly unsuited for automobiles, since it would require the expense of keeping a second car at the station. About 25 to 30 percent of passengers arriving at commuter rail stations in Denmark use a bicycle at the home end, as do 2-5% of passengers at the workplace end.<sup>8</sup> European bike-and-ride commuting generally has grown in the 1980s and early 1990s, especially in Germany, where investment in facilities began later than in Denmark or the Netherlands.<sup>9</sup>

In Japan, increased cycling to train stations in the 1970s led to national and local laws requiring parking facilities near rail stops, beginning in 1973. By the early 1980s, over a dozen Japanese companies were specializing in manufacturing and installing bicycle storage facilities. These ranged from simple racks set in pavement to high-rise and underground automated garages. The average bicycle parking facility at Japanese rail stations hold more than 275 bicycles, and there are 55 bicycle parking garages holding over 2,000 bicycles each —

Japanese train stations and office centers have constructed above- and below-ground automated bicycle garages.



JAPAN BICYCLE PROMOTION INSTITUTE

accounting for 6 percent of nationwide total parking.<sup>10</sup> Facilities are owned and managed by both private- and public-sector groups, including railroad companies. Most stations offer paid parking near the station and free facilities a little farther off.

European rail station bike parking was also driven by demand. With long traditions of cycle use, bike-rail transportation continued during the post-war period, despite a decline in overall cycling. In the early 1960s, as bike thefts began rising, pressure from bicycle commuters led to more station parking facilities.

In the Netherlands, the national government reinforced this trend by explicitly recognizing the environmental harms of auto dependence and the desirability of promoting alternatives (see box). Secure bike parking at stations increased markedly in the mid-1970s, spurred by energy policy shifts which led to rail station redesign, improved bicycle access by the Dutch National Railway, and strong federal support for bicycle facility development. The new facilities encouraged further growth in bike-and-ride commuting. Development of bike-and-ride in Denmark and West Germany followed a similar pattern, although with less federal support in Germany.<sup>11</sup>

### Parking Capital Costs (per space)

#### Bicycles

Racks	\$100
Lockers	\$500
Automated Garages	\$1,000

#### Automobiles

Surface Parking	\$3,500-\$5,000
Structured Parking	\$12,000-\$18,000

Costs are for construction and engineering only (land is excluded) and are for typical urban area rather than New York City. Replogle and Parcells, *Linking Bicycle/Pedestrian Facilities with Transit*, Sept. 1992, p. 3 (see endnote 1).

### Rail Station Bike Parking in the Netherlands

Bicycle parking is available at every Dutch railway station, and far outranks car parking. In this country of 12.5 million people, Dutch National Railway alone maintains almost 200,000 bicycle parking spaces, and private operators maintain thousands more. Stations typically provide one bicycle space for every 2-3 daily boardings: train stations with over 5,000 boardings per day average 2,000 guarded bicycle parking spaces (with check tags), vs. only 200-250 spaces for autos. Stations with two to five thousand daily boardings average 800 guarded bike spaces, as well as 400 unguarded spaces on roofs or in the open.

Bicycle repair and rental services are also widely available at train stations, and lockers are provided at smaller stations where it might be too costly to hire guards. Increasingly, Dutch rail stations are installing new guarded bicycle parking garages under the stations to maintain close proximity and conserve land. According to the Dutch National Railway, even expensive underground bicycle parking costs less than one-tenth as much per space as car parking. Bike parking charges, around 75¢ per day, cover 40% of operating costs.

(Replogle and Parcells, *op. cit.*)

### United States and New York

In the New York region, growth in bike-and-ride commuting will require commitments by transportation and transit agencies to construct and publicize bike parking facilities. New facilities and educational campaigns will have to address factors currently impeding cycling to stations, including concerns about bicycle theft and safe passage from home to station and back again.

A 1980 survey of New Jersey rail commuters found that 47% of respondents would consider cycling from home to train stations if facilities were improved.<sup>12</sup> In a 1992 survey by the Town of Oyster Bay (Nassau County), 418 of 1724 respondents (24%) said they would cycle rather than drive to the Long Island Rail Road station if it had theft-proof bike lockers.<sup>13</sup>

To fulfill this potential, parking facilities should be complemented by feeder bicycle lanes and paths. Indeed, the New Jersey survey found that safer cycling on roads leading to stations was an important concern along with se-

## MTA Car Parking — Full Speed Ahead Despite High Costs

Metro-North has budgeted \$22 million to install 3,000 new car parking spaces at its stations in 1993, a cost of over \$7,000 per space. Although similar data for the Long Island Rail Road weren't available, the pace of car parking construction appears similar to Metro-North's. In addition to a new 725-car garage in Huntington, the LIRR was scheduled to complete four other car lots in 1992; 10 other new lots are being negotiated with communities, and another 19 are being studied.

Of the Huntington project's \$10 million cost, \$6.2 million is to be paid by the LIRR and the MTA, with the rest coming from the NY State DoT and the Town of Huntington. Similarly, a recently completed \$518,000 addition to the Freeport station lot was financed 75% by the LIRR and 25% by State DoT. With the new Huntington garage, the 4,400 daily commuters now have 3,385 car parking spaces, or 77 per 100 train commuters — vs. 5-10 per 100 in the Netherlands. According to State Senator Norman J. Levy, powerful chair of the Senate Transportation Committee, "A parking space for a commuter is just as necessary as a train ticket."

"LIRR Adds Parking Spots As Ridership Keeps Slipping," *The New York Times*, Nov. 29, 1992, Section 13.

**At least a dozen bicycles can be parked in the space required for one motor vehicle.**

cure bike parking.<sup>14</sup> A good model is the recently completed Minuteman rail-trail that links some Boston suburbs with the Massachusetts Bay Transportation Authority's Alewife subway terminal.<sup>15</sup>

### Bicycle Parking Costs

At least a dozen bicycles can be parked in the space required for one motor vehicle. According to Replogle and Parcells, ground-level bicycle storage requires 6-12 square feet per space, compared to 330 square feet of land needed to park an automobile. Not only does this space advantage permit large-scale bike parking to be sited in congested areas around rail stations and in other traffic-sensitive areas, as noted by both Replogle and the Commission of the European Communities;<sup>16</sup> it also contributes to making bike parking far cheaper to provide than car parking.

Excluding land, it costs roughly \$100 per space to create bicycle parking with attractive, user-

friendly racks such as Ribbon Racks, and around \$500 with lockers. Car parking is at least 10 times as expensive (see table). For example, Metro-North has earmarked \$22 million for 3,000 new car parking spaces at its stations in 1993, a cost over \$7,000 per space.<sup>17</sup> A new 725-car garage at the LIRR Huntington station will cost \$10 million, or \$13,800 per space.<sup>18</sup>

Similarly, station bicycle parking cost far less than other options for reducing transportation-related emissions. A 1980 study estimated the following costs of emission-reduction strategies for the City of Chicago (costs are expressed in terms of the approximate 1980-era expenditures to reduce auto use to eliminate a ton of hydrocarbon emissions).

- secure bike parking at rail stations would abate hydrocarbons for \$300 per ton;
- commuter rail car-pool matching: \$3,900 per ton;
- express park-and-ride service: \$96,000 per ton;
- feeder bus services to rail stations: \$215,000 per ton.<sup>19</sup>

Even with the additional cost of feeder bike-ways, bike-and-ride programs are clearly the most cost-effective investment for reducing auto use and vehicular pollution.

### Station Parking Conditions in the New York Area

In the U.S., bicycle theft rates are about twice as high as Germany's and five times higher than Japan's.<sup>20</sup> In the New York City area, with additional problems of vandalism and transit operators' ignorance of bicycle feeder potential (or their unwillingness to accommodate it), most public places, including transit stations, are unsafe for storing bicycles. Bicycle commuters fare better in some suburbs, where many commuter rail stations have a cadre of regular bicycle users; still, stations with bike racks are a minority.

New Jersey Transit appears to be the leader in

bike parking among NY-area transit providers; it claims to have at least a thousand bike parking spaces at 46 stations. As of late 1992, NJ Transit was equipping its 20 North Jersey Coast Line stations with several hundred more parking slots, and was seeking a \$238,000 federal grant to install additional racks as well as 100 bike lockers. And, in a NY-area first, NJ Transit is installing ten bicycle lockers at its park-and-ride bus stop in Oldbridge.

At the same time, continued reliance on single-occupancy automobiles, even for short trips like commutes to train stations, is squeezing auto parking at suburban stations, creating new areas of auto congestion and air pollution and spurring expansion of costly, sprawling park-and-ride lots. Waiting lists for train-station parking spaces exceed 500 names in some suburban towns,<sup>21</sup> and 15,000 additional car parking spaces will be needed to accommodate demand in New Jersey by the mid-1990s, according to one estimate.<sup>22</sup>

In contrast, an aggressive region-wide program to expand bike-and-ride facilities, coupled with safe feeder routes, would enable transit agencies and regional planners to forego expensive park-and-ride expansion (see box). This would help contain the overall cost of suburban transit service while maintaining the character and environment of the communities.

### Ride-and-Bike

In some suburban pockets, including several Westchester towns, bikes are used by "reverse commuters" who travel from homes in the city to workplaces in suburban office parks that are poorly served by mass transit. Some of these commuters leave a bicycle locked at the destination train station overnight and ride it from the station to the office. An estimated 40% of Silicon Valley bicycle lockers are used by such reverse bicycle commuters.<sup>23</sup>

Many Japanese stations have automated rental ports at destination stops. There are also thriving bike-rental shops in or next to train stations throughout Europe. The European Cyclists' Federation counted over 1,000 railway stations

offering bicycle rental in eight countries. Switzerland, in particular, has bike rental available at 250 stations; all bicycles are less than a year old, and several different types of bikes are available, including a "family package" of two adult "city bikes" and one children's bike.<sup>24</sup> Services such as these increase the flexibility of transit and expand transit markets.

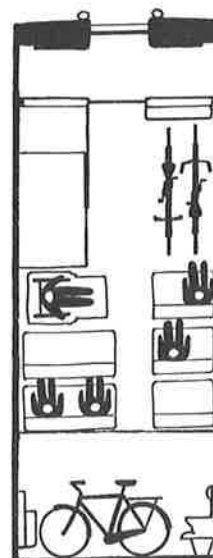
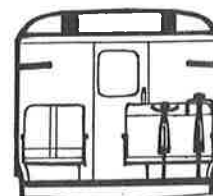
### Bicycles on Transit Vehicles

Bicycle access to the transit vehicles themselves, though subject to space limitations, gives commuters and other travelers a way to get to transit from their homes and then to the workplace or other destination, using the transit line for the long haul. Such programs also enable transit operators to expand off-peak markets. Bike access to transit vehicles also allows cyclists to bypass obstacles such as bridges and tunnels reserved for motor vehicles.

In many European countries, bicycles are permitted on trains as a matter of course; in France, passengers pay a nominal fee to drop off the bicycle at the station, where it is put on a special freight car for retrieval at the end of the journey. Berlin's commuter rail lines allow up to 48 bikes per 8-car train.<sup>25</sup> In North America, bicycles are permitted on railways, subways, or trolleys in the San Francisco area (BART), San Diego, San Jose, Los Angeles, Atlanta, Miami, Washington DC, Boston, Philadelphia, Montreal and Toronto.<sup>26</sup> In California, a new bi-level "California Car," mandated and funded by Proposition 116 and providing bicycle storage on the lower level, will be used on state-sponsored Amtrak and local commuter rail lines.<sup>27</sup>

### NY-Area Commuter Trains

Several major metro-area mass transit operators already support some bicycle access. They have satisfactorily resolved their own questions about train-boarding and debarkation with bicycles, as well as liability issues. The Long Island Rail Road (LIRR), Metro-North Commuter Railroad, and Port Authority Trans-Hudson Railroad (PATH) all allow bicycles on off-peak trains, provided the cyclist has a spe-



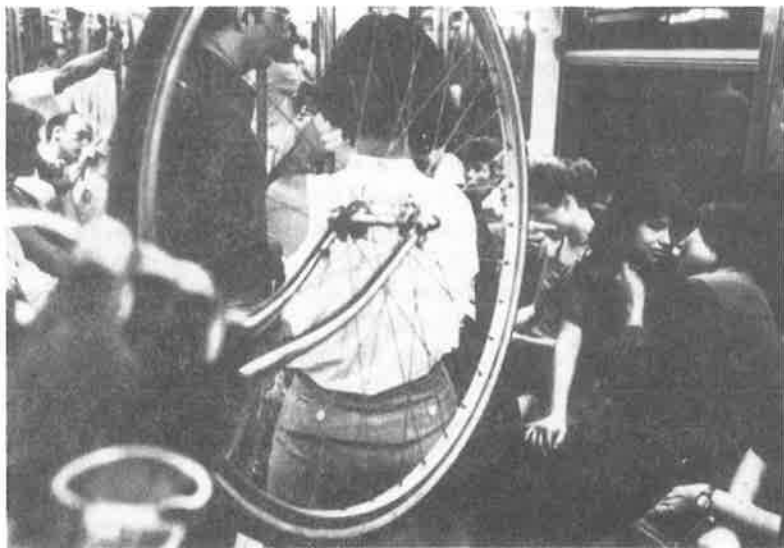
Handicapped seating doubles as bike storage on NJ Transit.

## How Trains Can Handle "Bulky Objects"

As access for the disabled becomes a requirement in mass-transit facilities, transportation planners should take steps to increase transit's utility for all users by accommodating travelers with bulky objects. Design changes for wheelchair access should also work for cyclists, as well as for parents with strollers, travelers taking heavy luggage to terminals, shoppers with large parcels, etc.

A good example is the cars on PATH that have removed a bench seat opposite the conductor's cab at the ends of each car (a loss of only four seats per car). A wall sticker identifies the area as reserved for wheelchairs or bicycles. The open space by the wall lets passengers with bulky objects use the train easily and safely.

Some transit operators balk at removing seats that could hold passengers during rush hour. But based on recommendations of subway riders, the Transit Authority has designed its new cars with fewer seats and more standing and circulating room. During non-rush hours, more kinds of travelers can use the transit line, thus increasing ridership and reducing auto trips. At any rate, every retrofit of a rail car or bus for wheelchair users requires seat removal, and transit operators don't object because wheelchair access is a condition attached to federal mass-transit grants.



MICHAEL SPANO/NYC TRANSIT AUTHORITY

**NYC Subway, #1 train.** cial permit. (LIRR and Metro-North charge a one-time \$5 fee; PATH permits are free.)

Nevertheless, even off-peak access to these trains is sometimes restricted. All three railroads limit bicycles to a maximum of four at any one time on a train, although in 1992 Metro-North greatly expanded bicycle access to se-

lected weekend trains. PATH has Saturday restrictions that inhibit New Jersey bicyclists who want to enter Manhattan; LIRR prohibits bikes on many summer trains. In addition, Metro-North and LIRR both reserve the right to refuse cyclists if the train is crowded or if for any reason the train crew decides that bikes would jeopardize passenger safety. (Metro-North personnel frequently waive restrictions, however, an indication of the railroad's strong commitment to encouraging bicycle access.)

Requiring that cyclists carry permits also makes it difficult if not impossible for tourists, casual cyclists, or riders caught in an emergency to use the train. In Europe, signs in transit vehicles and near stations, rather than permits, suffice to communicate rules of operation to bicyclists.<sup>28</sup>

New Jersey Transit (NJT) traditionally refused bicycles, citing tight entryways and aisles on its train cars. In 1990, however, NJT experimented with bicycle access via reservation on its lightly-traveled Atlantic City line, and in 1992 the railroad responded to a Transportation Alternatives initiative by starting a pilot "Bike Aboard" program on its North Jersey Coast Line, permitting two bikes on off-peak trains (and folding bikes on all trains). A bill mandating all-hours rail access to NJT for folding bikes passed the legislature and was signed by Gov. Florio in December 1992, but another bill calling for off-peak access for full-sized bikes is bottled up in the State Assembly Transportation Committee.

### New York City Transit Authority

Most people who bring a bicycle into the subway, negotiating the stairs and the turnstile, have a good reason to be doing so — the cyclist has a flat tire, has encountered a sudden storm, needs a detour around a high-crime area, or lives far from the nearest station.

The New York City Transit Authority traditionally has followed a vague and confusing policy regarding bicycles in the subway system — neither permitting nor prohibiting bikes, but subjecting cyclists to possible eviction or even

summons under its “bulky items” rule. This largely laissez-faire policy frequently breaks down, both in permitting bicycles aboard crowded trains, and, at the other extreme, in occasionally ejecting or ticketing cyclists during off-peak periods. A clear policy spelling out cyclists’ rights would dispel confusion and help protect both cyclists and other passengers.

After years of prodding by cyclists, the Transit Authority in late 1992 appeared to be moving to liberalize policy somewhat. The new policy will state: bringing a bike into the subway is not illegal; but creating a hazard for other passengers is. To help cyclists understand the difference, the Transit Authority is preparing a Bicycle Safety Flyer detailing safety rules pertaining to bikes in the subway and explaining how not to violate them.

### Bus Access

Buses that carry bikes are operating in Phoenix, Tucson, Dallas, San Diego, Santa Barbara, Portland (OR), Eugene, Seattle, and Montreal, and on a half-dozen county systems in California as well as in smaller cities and towns in California and other states. Racks are typically front-mounted and can carry two bikes apiece, which are secured and removed by the cyclist.

Phoenix’s program is the most extensive. A demonstration program, initiated in early 1991 and financed with a \$20,000 grant from the Arizona Department of Transportation (ADOT), ran on 45 buses on 3 routes and attracted over 1,000 boardings per month. In 1992, the program was extended to all city routes (350 buses), with \$100,000 in funding from ADOT and the Federal Transit Administration.<sup>29</sup> The racks cost approximately \$300 installed; Phoenix uses the same kind of buses as New York City, and has offered New York the blueprint for its successful rack design.

New York City buses could carry bicycles on routes that cross bike-inaccessible tunnels and bridges, such as the Verrazano and Whitestone, and whenever other bridges are out of service, as the Williamsburg was between June 1991



MICHAEL REPLOGLE

and February 1992. In 1991, the Transit Authority failed to act on a proposal by Transportation Alternatives to install bicycle racks on the M109 route between Williamsburg in Brooklyn and Delancey Street, as a trial of bikes on buses during reconstruction of the Williamsburg Bridge bike path.<sup>30</sup>

### Ferries

The Staten Island Ferry is a model for linked bicycle-transit in New York, providing a reliable and lovely ride at no extra charge to the cyclist. The Hoboken-Battery Park Ferry allows bikes on board at all times; the Weehawken-Midtown ferry charges \$1 for bicycles off-peak and bars bikes during rush hours. In early 1993, Transportation Alternatives was attempting to convince city and state officials to make bicycle access an explicit criterion in awarding contracts to operators of proposed new ferry routes connecting Manhattan to New Jersey, Long Island and the Hudson Valley.<sup>31</sup>

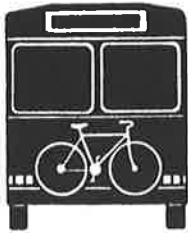


JON ORCUTT

**Seattle has allowed bikes on buses since 1980. The NYC Transit Authority uses the same buses as Phoenix, which recently converted its 350 buses to carry bikes.**

**All 350 municipal buses in Phoenix have front-mounted racks to carry bicycles.**

**TNT Hydrolines, docked at Bay Ridge Avenue pier — an example of bike-carrying ferry service being revived in NYC.**



## Chapter 9 Recommendations

### Agencies

#### NYC DoT, NYS DoT, applicable County/Municipal Departments of Public Works

Monitor and oversee public authority implementation of policies itemized below, particularly those concerning bicycle parking at stations.

Create *bicycle-access routes* — bike paths or bicycle-friendly roads — to suburban train stations and major outer-borough subway stations. Implementation to include signage, roadway design, and maintenance (e.g., bicycle-safe sewer grates, repairs and street surfaces).

Install front-mounted bicycle racks on buses, where bus routes include tunnels or bridges without bicycle paths, such as the Verrazano-Narrows, Whitestone and Throgs Neck Bridges. To minimize inconvenience to other passengers, bicycles shall be carried only between the first stops on either side of the tunnel or bridge.

Direct providers of any new ferry service to accommodate bicycles.

### Public Authorities

#### Metropolitan Transportation Authority (including operating agencies New York City Transit Authority, Metro-North Commuter Railroad, Long Island Rail Road), NJ Transit, Amtrak, etc.

In conjunction with NYMTC (New York Metropolitan Transportation Council), conduct a region-wide study of the environmental and transportation benefits of implementing an aggressive bike-and-ride program.

Establish policy permitting bicycles on all off-peak commuter rail and subway trains, except where operator demonstrates that bicycles constitute a hazard or may otherwise interfere with safe and effective operation.

Permit bicycles on peak trains in non-peak direction, with the proviso that cyclists not board or alight at Grand Central Terminal or Penn Station in Manhattan and Newark. (This would allow intra-suburban bicycle commuting to scattered office parks, and also provide access to 125th St. in Harlem.)

Make bicycle permits available for purchase at major stations, including the LIRR's Penn Station ticket facilities.

Establish policy permitting folding bicycles on all trains at all times.

(Subways only): Permit cyclists to enter the subway via clerk-activated "security gate" (after depositing

token) rather than lifting bicycle over turnstile.

Institute formal program with advance notice and written response, by which cycling groups may obtain train access for large numbers of bicycles.

Adopt new procurement policies so that commuter rail and subway cars may accommodate bicycles and other bulky objects, i.e., by creating a dedicated space on each car (which can be occupied by standees in crowded conditions). On existing cars, convert several seats at one end of each car to folding seats or remove altogether, and designate as area for bicycles and other bulky objects. (This will also improve circulation and provide wheelchair space.)

Ensure that station development programs make provisions for safe bicycle entry, exit and parking.

Provide bicycle parking at all stations, designed with awareness of theft problem (i.e., racks must be sturdy, provide shelter, and permit bicycle frame to be secured at more than one point; where possible, place racks in view of station personnel).

Install bicycle lockers which commuters and other regular users can lease on annual, quarterly or monthly basis. Create guarded bicycle check rooms and bicycle parking garages at appropriate stations where substantial demand exists for bike-and-ride.

Alter appropriations policies restricting allocation of parking funds to automobiles.

Publicize bicycle parking facilities as part of a campaign to encourage bicycle commutation to stations.

Conduct surveys to gauge interest in commuter biking to train stations.

Publish requests for proposals for pilot bike rental programs and guarded bicycle parking garages at busy NYC and suburban stations, to be operated by bicycle stores or other businesses.

## Chapter 9 Notes

- 1 Michael Replogle and Harriet Parcells, *Linking Bicycle/Pedestrian Facilities with Transit*, prepared for U.S. Federal Highway Administration, Sept. 1992, p. 31.
- 2 European Cyclists' Federation, *Bikes and Trains: Provisions for Bicycles Made by the Railways of Western Europe*, Copenhagen, Nov. 1992, p. 6.
- 3 Ibid.
- 4 Replogle and Parcells, op. cit., p. 3.
- 5 Ibid., p. 4, which puts the range at 30%-68%.
- 6 Ibid., pp. 68-69. Bicycles parked at railway stations on typical November weekdays totaled 2,888,000 in 1987, vs. 1,273,000 in 1977 and less than half that number in 1975.

7 Ibid., p. 56. Figures are for 1987.

8 Ibid., p. 63.

9 Michael Replogle, *Bicycles and Public Transportation: New Links to Suburban Transit Markets*, the Bicycle Federation, Washington DC, 1983, p. 1. Also, telecom with Michael Replogle, Feb. 4, 1992.

10 Replogle and Parcels, op. cit., pp. 68-69. Bicycle parking capacity was 2,382,000 in 1987. On a typical weekday, 2,089,000 bicycles are parked in lots or garages, for a usage rate of 88%; another 799,000 bicycles are parked "improperly," for a total of 2,888,000 parked bicycles.

11 Ibid., pp. 67-88.

12 William Feldman, *The Use of the Bicycle as a Collector Mode for Commuter Rail Trips*, New Jersey Department of Transportation, 1980.

13 "LIRR Adds Parking Spots As Ridership Keeps Slipping," *The New York Times*, Nov. 29, 1992, Section 13. See also "Results of Town of Oyster Bay LIRIC Transportation Survey (Nov results)," Nov. 1992, provided by Town of Oyster Bay.

14 Feldman, op. cit. p. 25.

15 *Boston Cyclist*, Boston Area Bicycle Coalition. Sept/Oct 1991.

16 Replogle and Parcels, op. cit., p. 3.

17 See letter from Transportation Alternatives to MTA Chairman Peter Stangl, Nov. 9, 1992, regarding car parking projects included in the MTA's Transportation Improvement Plan. Seven projects therein will provide 1,543 spaces for \$10.95 million, or \$7,097 per space. An additional \$10.7 million is earmarked for three other projects providing an unspecified number of car spaces.

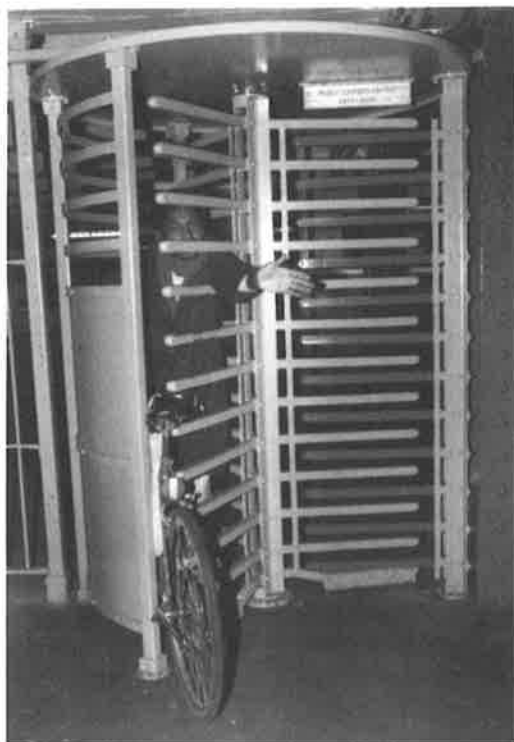
18 *The New York Times*, Nov. 29, 1992, op. cit.

19 Chicago Area Transportation Study, *Air Quality Evaluation of Selected Transportation Improvements*, March 1980, p. 2.

20 Walter Grabe and Joachim Utech, "The Importance of the Bicycle in Local Public Passenger Transport: Facts and Experience from Selected Countries," *UITP Revue*, March 1984, International Commission on Traffic and Urban Planning.

21 "LIRR Nightmare: Impounded Cars at a Journey's End," *The New York Times*, Feb. 12, 1992.

22 "Railroad Boom Brings a Parking Crunch," *The New York Times*, May 9, 1988.



23 Replogle and Parcels, op. cit., pp. 4 and 82.

24 European Cyclists' Federation, *Bikes and Trains: Provisions for Bicycles Made by the Railways of Western Europe*, op. cit., pp. 26, 90 and 91.

25 Presentation by Tilman Bracher, Allgemeiner Deutscher Fahrrad-Club, at Velo City 1991 Conference, Milan, Italy, Nov. 1991.

26 *Caltrain Bicycle-on-Train Feasibility Study*, California Department of Transportation, San Francisco, 1987. p. 4. For Philadelphia, "SEPTA to Start Bike on Rail Program," *Cyclegram*, Bicycle Coalition of the Delaware Valley, July/August, 1991.

27 Replogle and Parcels, op. cit., p. 46.

28 Replogle and Parcels, op. cit., p. 45.

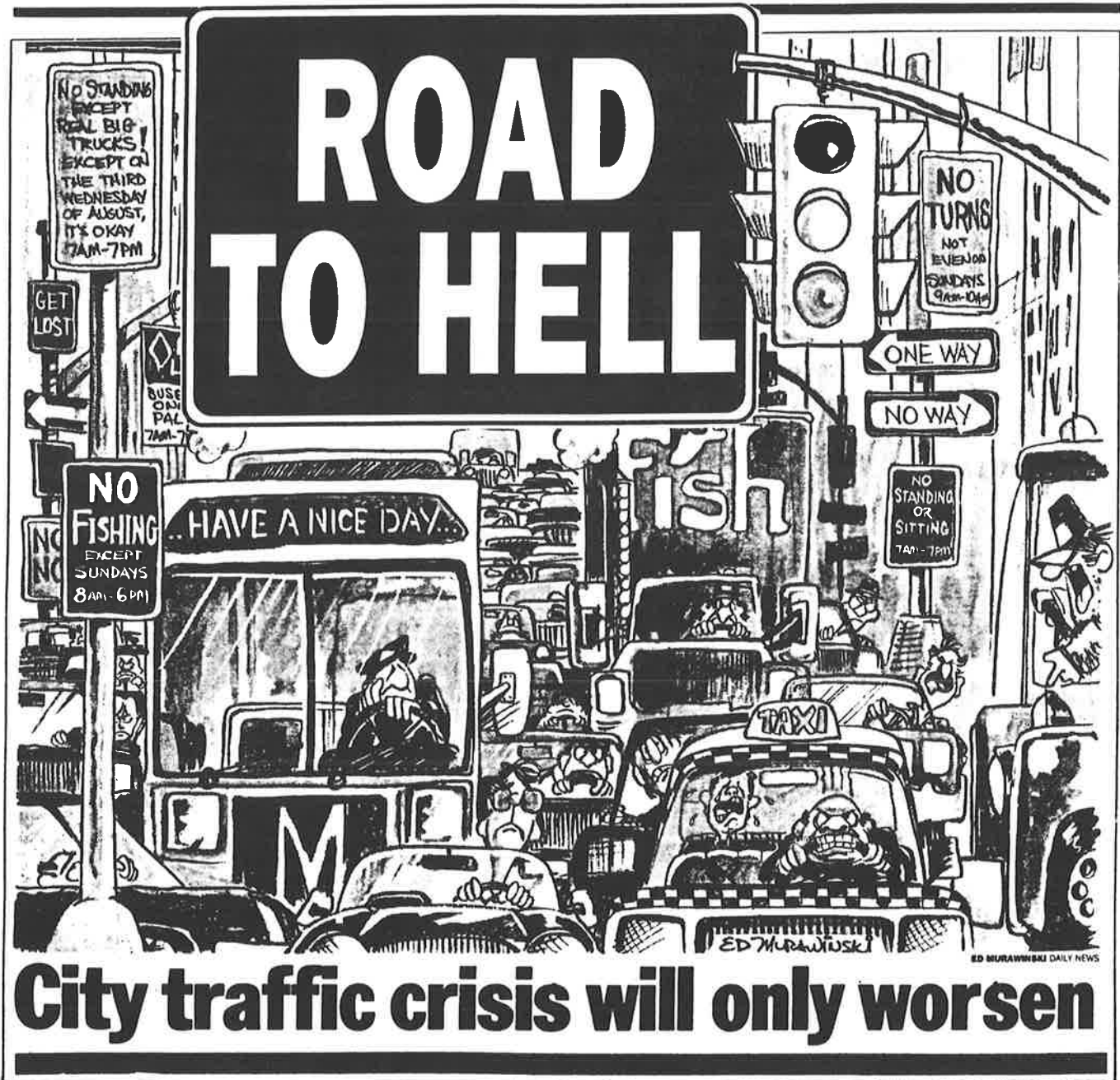
29 "Encouraging Cycle — Use of bike racks on buses impresses Phoenix officials," *Phoenix Gazette*, July 8, 1991. *Pro Bike News*, Nov. 1992, Bicycle Federation of America, pp. 4-5.

30 The Transportation Alternatives proposal included engineering drawings of bus-mounted bicycle racks provided by transit officials operating bikes-on-buses programs in Phoenix and other cities.

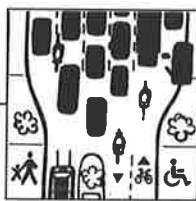
31 See *City Cyclist*, Jan/Feb 1993, pp. 4 and 14 (letter from William Ellis).

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## Chapter 10

# Reducing Traffic

### A Failed Traffic Policy

For virtually the entire century, traffic policy in New York City has been to move motor vehicles faster by giving them more room in which to move. If cars, trucks and buses can move more swiftly, the theory goes, gridlock will be relieved, pollution will decrease and the streets will be safer.

This policy has not worked in the past and it is clearly not working now. One glance at almost any Manhattan avenue or area highway reveals a stark truth: despite — or because of — decades of accommodating motor vehicles, New York City traffic is as noxious, congested and unsafe as ever (see Chapter 18, Air Pollution). Cars may be somewhat more fuel-efficient and less polluting than a decade or two ago, but the ever-increasing number of vehicle miles traveled (VMT) has canceled out progress in engine efficiency.

A 1988 Department of Transportation study of traffic flow on New York City's East River bridges illustrates the inefficiency of cars in city traffic: the bridges transport far fewer people by car than they did in their early years, when they were primarily mass-transit and pedestrian routes.<sup>1</sup>

### The Toll Traffic Takes

Though it's difficult to quantify, current levels of motor traffic in New York City take a huge psychic toll on the population. According to a *New York Times* poll cited in a report by the Manhattan Borough President's office, traffic congestion is the second biggest reason (after crime) that New Yorkers leave the city.<sup>2</sup>

When people talk of New York as a hostile environment, a prime component of that hostility is conditions on the street — the horns and sirens that work constantly on people's nerves;

the anger and aggression that spill from cars when motorists can't reach their destinations because they're competing with too many other motorists; the windows that have to remain sealed against dirt and noise; the sense that all but the hardiest tree is doomed to an early death; the fear of traffic that leads parents to keep their children barricaded indoors; the thousands of abandoned cars that scar parks and neighborhoods.

Though some New Yorkers manage to inure themselves to this daily onslaught, they should not have to. New York's traffic conditions are based on a premise that has gone unquestioned for too long: that automobiles deserve greater, or even exclusive, accommodation than other means of transport — more even than walking, a fundamental human activity.

Perhaps more than any other single step, reducing auto traffic would ignite a fundamental change in bicycling in New York City, luring new cyclists onto the streets by the thousands and alleviating anxiety and danger for those who already ride. In the 1992 *City Cyclist* survey, 508 of 839 respondents (61%) rated "fewer cars on the streets" as "very important"; out of 18 possible improvements in the NYC bicycling environment, only "more support from government, media" and "better street surfaces" ranked higher. Moreover, another 251 (30%) said fewer cars was "somewhat important," leaving only 42 (5%) who said fewer cars was "not at all important." (Thirty-eight, or 4% of survey respondents, omitted this category.) Similarly, when non-cyclists are asked what it would take to induce them to ride a bike in New York City, the most oft-heard response is, "Get rid of the cars."

### A Real Traffic Solution

There is only one way to improve traffic in New York City. As much as city politicians and

**More than any other step, reducing auto traffic would spark cycling in New York City.**

**Motorists receive enormous subsidies from general tax revenues as well as from their fellow citizens who bear the brunt of car and truck noise, fumes, aggression and bodily harm.**

transportation officials, anxious to please their small but powerful driving constituencies, try to pretend otherwise, *the only solution to traffic congestion is to reduce the number of motor vehicles using the streets.*

In 1990, Transportation Alternatives' Auto-Free New York Committee published a 4-year, 15-point plan aimed at an achievable reduction in auto traffic by 20% in Manhattan and 5% citywide. The plan would also drastically improve metropolitan transit service while creating a network of auto-free streets. (The plan is summarized in Appendix C.)

Such a plan would constitute a long-overdue shift in policy and would have far-reaching positive effects on the city. Cyclists, who suffer the effects of exhaust and congestion most directly, would of course benefit. But so would everyone else who lives or does business in the city, whether they are primarily pedestrians or mass-transit users or children looking for a place to play. Commercial vehicle operators would gain as well, saving time now spent stalled in traffic.

#### Benefits of Reduced Motor Traffic

First of all, a reduction in motor traffic would improve New York's air quality, which now ranks third worst in the U.S., better only than Los Angeles' and Houston's. Cleaner air would have the obvious effect of making the city a

better place in which to breathe, and reducing the death toll from asthma, emphysema, lung cancer and other respiratory diseases.

Cleaner air would also create positive ripple effects, such as prolonging the life of the city's street trees, now dying at a rate of some 15,000 a year.<sup>3</sup> This would in turn enable trees to perform their function of cleaning the air and cooling the city. With fewer fumes and less noise at night, apartment dwellers could open their windows, reducing pollution from electricity generation to power air conditioners. Cleaner air (along with a reduction in traffic-related vibration and pounding) would also slow the decay of building facades and monuments.

A reduction in the volume of motor traffic would also reduce traffic accidents, in turn reducing the city's hospital and insurance costs and its daily traffic-related tragedies. Presently, approximately 250 motorists and their passengers, along with 350 pedestrians and 15 to 20 cyclists, are killed in motor vehicle crashes each year. In 1991, according to New York City Police Department Traffic Division statistics, motor vehicle injuries totaled 100,578 to motorists and passengers, 15,406 to pedestrians, and 3,625 to cyclists.

Finally, a reduction in motor traffic would create an enormous economic dividend that could be spread equitably through the populace. The infrastructure the city feels obligated to create largely for the use of drivers has vast fiscal and environmental costs. Automobile drivers are used to thinking that they subsidize mass transit, when in fact motorists receive enormous subsidies from general tax revenues as well as from their fellow citizens who bear the brunt of car and truck noise, fumes, aggression and bodily harm.

Car and truck drivers currently pay only a portion of the total costs associated with their driving, such as road and bridge building and maintenance, signals and lighting, law enforcement and security, rescue, motor-vehicle administration, traffic management, and tax breaks for work-related parking and auto use. In a municipal budget chronically stretched beyond its means, the automobile infrastructure is

**Washington Square Park, April 1992, after a car killed 5 and injured dozens.**



JON ORCUTT

one great untapped source of savings. Transportation planner Brian Ketcham and economist Charles Komanoff place the annual governmental subsidy to New York City motorists at close to \$800 million. The larger public subsidy, measured as the economic and environmental harm borne by non-drivers from motorists' exhaust, crashes and so forth, is an order of magnitude larger. (See Chapter 1, *Integrating NYC's Bicycle Policy*, under *Economic and Social Costs of Motor Vehicles*, for full discussion with citations.)

Conversely, with less motor traffic monopolizing public space and services, the city would soon find itself with a budget that wouldn't have to shortchange its mass-transit users. Again, a ripple effect could occur: with more money available to make mass transit pleasant, efficient and reliable (and likely cheaper), car trips would lose some of their appeal. With land freed up by removing some motor traffic lanes from service, some streets could be converted to pedestrian malls, others to community gardens, still others to corridors for light-rail lines. (Some avenues are even wide enough for tennis courts, one anti-auto idea that could capture the imagination of the Dinkins administration.)

For the city to effect this shift in policy, its leaders must examine their deep-seated assumptions about motor traffic. Per-capita vehicle registration in New York City is scarcely more than one-third the U.S. average.<sup>4</sup> Yet city officials, accustomed to viewing New York behind the windshield of their official cars, operate under the assumption that cars deserve more funding and accommodation than other forms of transportation — walking, bicycling and mass transit.

### A City Made for Biking

This ordering of priorities mirrors an entrenched nationwide policy, but that doesn't make it valid or sustainable. Dense, crowded New York City cannot continue to support the motor vehicles that now flood its streets. Luckily, the city has better alternatives to offer: the country's finest and most extensive mass-transit network, a density and tradition that en-

courage walking, and a landscape ideally suited to bicycling.



## Chapter 10 Recommendations

(Also see recommendations concerning street space, vehicle use, and vehicle operation under Chapter 3, *Cyclists and City Streets*; Chapter 4, *Street Design*; Chapter 15, *Freight Cycles*; Chapter 16, *Governmental Cycling*; and Chapter 18, *Air Pollution*.)

### Agencies

#### NYC Dept. of Transportation

Implement the Transportation Alternatives/Auto-Free NY 4-Year Plan (see Appendix C).

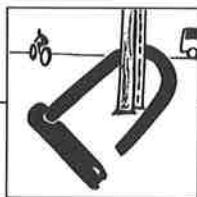
## Chapter 10 Notes

- 1 According to *Spanning the 21st Century*, a 1988 study by Transportation Commissioner Ross Sandler and Deputy Commissioner Sam Schwartz, the Brooklyn Bridge carried 426,000 people daily during its peak year in 1907, when four tracks were dedicated to mass transit; now, with no mass-transit lines, the bridge carries an average of 178,000 people daily. Likewise, the Manhattan Bridge carried 703,000 people per day in its peak year of 1939 but carries only 360,000 people now. The Queensboro Bridge went from 326,000 people per day in its peak year, 1940, to 248,000 today.
- 2 *Strategic Policy Statement*, Office of Manhattan Borough President Ruth Messinger, Nov. 1990, p. 69.
- 3 "A Silent Budget Victim: New York's Trees," by Anne Raver, *The New York Times*, Aug. 27, 1991.
- 4 1990 data are: U.S., 191.7 million vehicles, 250.3 million people (one vehicle per 1.31 people); NYC, 2.055 million vehicles, 7.323 million people (one vehicle per 3.56 people). Brian Ketcham, Konheim & Ketcham, Brooklyn, NY, telecom, March 1992.



**World Financial Center, Manhattan.**

JOHN HOWELL



## Chapter 11

# Bicycle Theft

### A Major Deterrent to Cycling

Bicycle theft is one of the most daunting difficulties confronting New York City bicyclists. Countless cyclists have “retired” from bicycling after losing their first — or third or sixth — bicycle to street theft.

Bicycles are lightweight, simple to operate and inherently mobile — hence, easy to steal. With an abundance of eager buyers (many of whom are themselves victims of bicycle theft), and with little intervention by the police, a market for stolen bikes and bike parts thrives in New York City. As a result, long-term cycling in New York City seems to promise eventual loss of one’s bike. In the 1992 *City Cyclist* survey, the 839 respondents reported a total of 860 bicycles stolen in New York City, an average of 1.03 thefts per cyclist.

During the 1980s, an average of 8,300 bicycles were reported stolen to the New York City Police Department each year.<sup>1</sup> By all accounts, the actual rate of bike thefts in New York is far higher. In the *City Cyclist* survey, theft victims reported their stolen bikes to the police only one-quarter of the time. This may overstate the extent of theft reporting, since survey respondents are probably more likely to go to the police than the average cyclist. One bike store owner who is also a long-time cycling activist has inferred from conversations with thousands of customers that only 1 in 10 bike thefts in New York City is reported. Even assuming the true reporting rate is 1 in 5, and assigning a \$250 value per bike, the implied 40,000–45,000 bike thefts per year are costing their owners around \$10 million annually.

### Arms Race

New York City cyclists and bike thieves are locked in a virtual arms race. Rigid U-shaped locks — the urban bike-lock mainstay since the

early 1970s — have been ineffective in the city since the mid-1980s, when thieves developed several methods of levering them open. In 1988, the inventor of the classic “Kryptonite” U-lock, KBL Corp. of Boston, canceled its guarantee against bicycle theft for locks purchased in New York City.

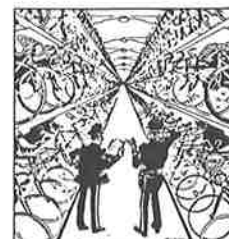
A light-duty version of the Cobra-links motorcycle lock was widely used in the late 1980s until thieves discovered its vulnerabilities. Many messengers and cycle commuters now use burdensome case-hardened chains and padlocks, often in conjunction with U-locks (on the theory that thieves are more likely to bypass a bike secured with two different devices). Indeed, as many respondents to the *City Cyclist* survey use two or more locks as use only one.

Still, the adage that best describes bicycle security on New York City streets is “Don’t lock it, don’t lose it.” While this may be fine for racing or recreational riding it is an obvious impediment to commuting and other utilitarian cycling.

### Police Apathy

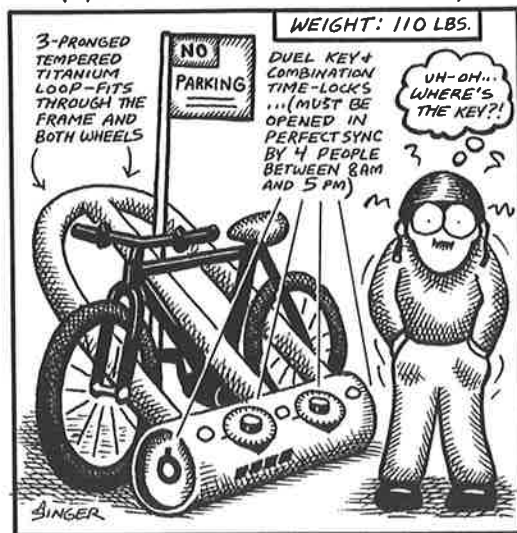
Like much “petty” crime in New York City, bike theft is an extremely low Police Department priority. The police approach bike theft strictly on a response-to-call basis. Patrol officers admit a hesitance to act, even if they witness a bicycle being stolen, unless the owner of the bicycle is present or actually makes the complaint.

Officers argue that the law constrains them from detaining people selling used bikes on the street. Consequently, bikes stolen in New York City are transported and “fenced” quickly, effectively and with impunity. Over half of the *City Cyclist* survey respondents reported that police were “not at all supportive” when they were victimized by bicycle theft. Indeed, bicy-



## THE ULTIMATE BIKE LOCK

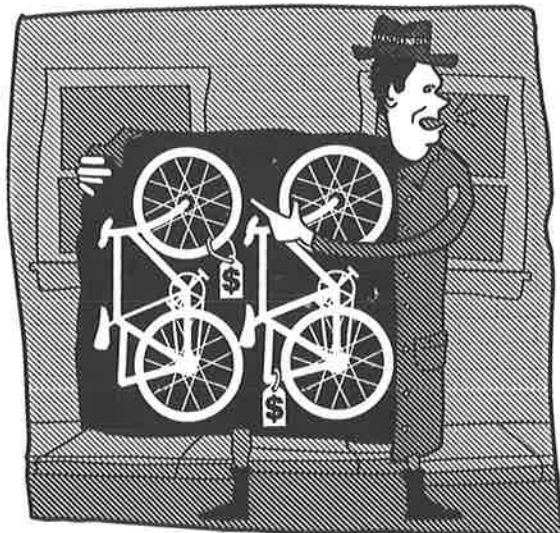
(CARRYING CART SOLD SEPERATELY)



ANDY SINGER

cle recovery rates during the 1980s averaged only 2.2% — one in 45.<sup>2</sup>

The lone deterrence effort mounted by police is a voluntary bike registration program. This allows cyclists to engrave an ID number on a bicycle's frame at the neighborhood precinct, providing proof of ownership in the event of theft. Increased publicity for this program by the NYPD, along with an official police sticker placed on registered bikes, might increase participation and deter theft.



KYLE SKRINAK

In addition, police targeting of known stolen bike resale spots, particularly in the East Village, might help dry up fencing outlets and make theft less attractive. Police-on-bikes patrols would also sensitize police to bicycle theft and possibly increase bike-theft-related arrests (see Chapter 16, Governmental Cycling).

## Chapter 11 Recommendations

### Agencies

#### NY Police Department

Commissioner should issue directive to precinct commanders raising priority of reducing bicycle theft and improving recovery rates; precincts to be rated on percentage of recovery to theft, with safeguards to ensure that cyclists aren't discouraged from reporting theft.

Actively combat bicycle theft; target known stolen bike resale spots, e.g., East Village.

Publicize the Police Department's bicycle registration program and expand hours when cyclists can enroll at station house. Allow bicycle stores to provide this service. Place an official, durable police sticker on each registered bike.

### Private Sector

#### Directed to Businesses in General, especially Business Associations which can act as catalysts

Request building managers, store owners, and other guardians of property to be more understanding of need for commuters, shoppers, etc. to bring bicycles inside premises, where possible, and to permit cyclists to lock up outside buildings and shops (see discussion under Indoor Parking, Chapter 13).

Encourage member businesses to install outdoor bike racks as part of an aggressive public campaign to reduce traffic congestion and air pollution (see Chapter 18, Air Pollution).

### Legislative

Increase penalty for bike theft to put it on par with car theft.

## Chapter 11 Notes

- 1 New York City DoT, *New York City Bicycle Statistics*, 1991, Table 7.
- 2 New York City DoT, *New York City Bicycle Statistics*, 1991, Table 8. The recovery rate for stolen bicycles in the T.A. survey was marginally higher, 4.0% (34 recovered out of 860 thefts).



MICHAEL FANDAL



CHARLES KOMANOFF

**From street clutter to trash cans to street trash. Secure parking would help cycling while improving the city's esthetics.**

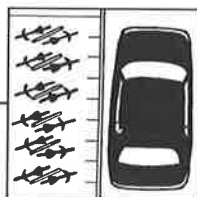


WENDY HAMMOND



JON ORCUTT

**Parked delivery bikes, Avenue of the Americas, Greenwich Village.**



## Chapter 12

# On-Street Parking

### The Need for Bicycle Parking Facilities

In the 1990 New York City DoT survey of Manhattan office workers discussed in Chapter 1, 80% of those willing to commute by bicycle called secure bicycle parking a critical issue. A dozen years earlier, a study commissioned by the NYC DoT also reported that lack of adequate bicycle parking facilities was a major obstacle to increased bicycle use.<sup>1</sup> Similarly, in the 1992 *City Cyclist* survey, 55% of respondents (462 of 839) said that better outdoor bike parking was “very important,” although only a small fraction of these made it their highest priority. (See Chapter 13 for survey results regarding indoor bicycle access.)

For models, New York can turn to dozens of cities and countries that have developed safe and successful parking systems. In locales with comprehensive programs of bicycle encouragement, a wide variety of bicycle parking facilities have been constructed or upgraded in tandem with bicycle-conscious street designs and bike access to bridges and mass transit.

In Japan, a boom in bike use beginning in the 1970s led many municipalities to construct large, high-tech bicycle parking sites as an antidote to “bicycle pollution” — masses of bikes crammed haphazardly next to train stations and in urban centers. In the early 1980s, Groningen, Netherlands, as part of its comprehensive bicycle transportation policy, installed 1,400 outdoor bike parking spaces throughout the town. Later, six guarded facilities, each with room for up to 1,600 bikes, were built in central destination areas. The indoor parking facility at the central rail station holds 3,000 bikes. In addition, a guarded bicycle shed was opened in part of Town Hall, in the town center.<sup>2</sup>

In Bologna, Italy, the rail station offers free bike parking outdoors and indoor parking for a nominal fee. The Toronto City Cycling Committee — part of the municipal government —

has installed 1,700 bike parking spaces on Toronto streets since 1983 (see Chapter 1). Closer to home, the City of Chicago’s first bicycle-related ISTEA grant provides \$750,000 to create bicycle parking sites throughout the city. As many as 1,500 racks may be installed by the spring of 1993, and the cycling community is assisting the Chicago DoT in selecting sites and hardware.<sup>3</sup>

As in Japan 15-20 years ago, increased bicycle use in New York City has led to parking problems here. Signposts, parking meters and even trash cans are saturated with locked bicycles in some areas. Unlike Japan, however, authorities here have not moved to provide bike parking facilities. Citing a perceived incompatibility of parked bikes and aesthetics, some building managers have even prohibited bike parking in their environs, rather than installing racks to channel bike parking to appropriate sites. Though a few such prohibitions have been overturned by the bicycling community,<sup>4</sup> the parking bans are an all too predictable measure in the absence of a clear official policy to promote and facilitate bicycling.

### Different Types of Bicycle Parking

Different types of bicyclists require different types of bicycle parking facilities. Those commuting to all-day workplaces generally require indoor parking or bicycle lockers, or at least supervised outdoor bicycle racks. Retail, entertainment and business destinations frequented by visitors, shoppers and messengers are best served by well-made, well-situated outdoor racks, located in busy public places where thieves cannot work unobserved. Messenger reception centers at large buildings, preferably located in view of outdoor parking, can also counter theft by minimizing cycle couriers’ drop-off time.

For certain kinds of residential buildings in



**City government needs to streamline the approval process for property owners installing bicycle parking.**

New York City — small apartment houses, walk-ups and tenements with narrow hallways — outdoor bike parking facilities, in covered areas where possible, are sometimes in order. Any available space, such as a rear courtyard, can become a bike parking facility with the addition of a simple railing.



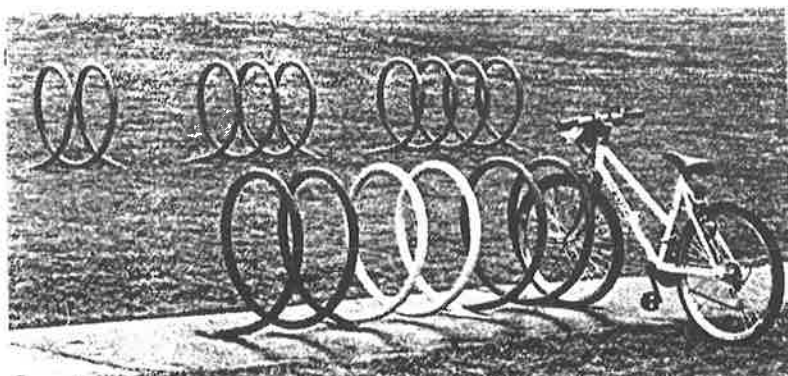
**Bicycle Racks.** Top to bottom: building railing; hitch rack, developed by Bicycle Parking Foundation; ring rack, used in Toronto; sheltered rack; ribbon racks at NYU; spiral rack. Except in bottom photo, all racks shown allow cyclist to secure frame as well as wheels.

### Bicycle Racks

Bicycle rack design has evolved noticeably in response to changes in both bicycle design and security needs. Older, flimsier rack designs, such as the still-prevalent schoolyard “dishrack,” harken to less crime-ridden days, when a light chain through the front wheel was sufficient defense against theft. Today, with easily removed “quick-release” bicycle wheels and seats, and the emergence of bicycle “chop-shops” with teams of parts-strippers, the need is for racks that provide multiple locking



JON ORCUTT



DOBRA DESIGN

points, including the bike frame and both wheels.

Many of the newer rack designs are based on ordinary horizontal railings, which fit this bill nicely. The **Hitch 2** and **Bike Rail** employ a horizontal bar with vertical supports for additional locking points. The **Ribbon Rack**, while less railing-like, also provides numerous locking points; its stylish look has made it popular with architects and building owners who have installed dozens in prestigious locations such as Rockefeller Center, Lincoln Center and New York University.

All three designs are sturdy, virtually impossible to dismantle, and manufactured in the U.S. They are also relatively inexpensive, with installed costs per parking space of approximately \$75. Hitch 2, Bike Rail and Ribbon Racks can easily be bolted to the sidewalk or set in concrete.

While all-day bicycle commuting requires bike parking indoors, outdoor parking is often both convenient and appropriate for messengers, shoppers and others making brief visits to buildings. Cyclists leaving bikes outdoors need not negotiate lobbies, elevators and hallways, nor provoke the ire of obstinate building managers.

Workable long-term outdoor bike parking in New York City requires cyclist education as to what types of locks will hold up under street conditions, including the vital information that U-locks used alone are insufficient to prevent theft. Moreover, the bike racks themselves should be placed within view of building security personnel or the cyclist her/himself. This need not entail additional personnel, if guards can be instructed to keep an eye on bike racks and to thwart theft attempts as part of their job. For buildings that don't maintain a security force, such as restaurants and small stores, racks should be situated in front of windows so they may be viewed by the cyclist or other patrons or employees.

City government also needs to streamline the official approval process by which property owners install bicycle parking. Rules for em-

placing bicycle racks on New York City sidewalks are unclear. The NYC DoT has not produced a simple step-by-step guide to the approval process, despite repeated requests to the agency's bicycle coordinator from the cycling community. A Park Slope environment-friendly product store which sought to install an outdoor bike rack in 1992 endured a bureaucratic goose-chase before deciding to establish the parking site without authorization. While it is unlikely that the City will request the removal of self-installed racks, inability to easily discover official guidelines and receive stamps of approval will discourage many private businesses from investing in bike parking facilities.

## Chapter 12 Recommendations

### Agencies

#### NYC Dept. of Transportation

Streamline and publish the "sidewalk furniture" approval process for bike rack installers.

Stop issuing summonses and/or reduce fines for violating regulations governing installation of bike racks.

Finance and manage large-scale installation of bike racks, especially in the Manhattan Central Business District (below 60th Street), downtown Brooklyn, and busy borough retail areas such as Flushing and Fordham Road. Racks should include "Bike Parking" decals to exploit their positive symbolism.

Co-ordinate bike parking with traffic-calming measures; for example, install permanent bike parking sites at neckdowns (extensions of sidewalk into what is normally street space).

### Public Authorities

#### Metropolitan Transportation Authority

Install bicycle lockers and/or racks at all subway and commuter rail stations and ferry terminals (see Chapter 9, Bicycles and Transit).

### Private Sector

Invite businesses to install outdoor bike racks as part of an aggressive public campaign to reduce traffic congestion and air pollution (see Chapter 18, Air Pollution).

Use standardized bicycle symbols directing cyclists to bike-parking sites, to maximize the racks' effectiveness and heighten public awareness.



## Chapter 12 Notes

- 1 *Manhattan Commuter Bicycle System Study*, New York City Dept. of Transportation (prepared by Edwards & Kelcey in association with Transportation Alternatives), 1978, pp. iii and 11.
- 2 Velo City '87 Proceedings, "Cycling Policy in the City of Groningen." See also *Groningen: An Integrated Approach in Town Planning and Transport Policy*, Gerrit van Werven (Groningen City Council Member), *Proceedings*, Velo City '91, European Cyclists' Federation, Milan, 1992.
- 3 *Chicagoland Bicycle Federation News*, August 1992, p. 1.
- 4 See Charles Komanoff, "Bikes Just Lack 'Curb Appeal'," op-ed page, *The New York Times*, Sept. 1, 1990; also "Hyatt Busts Bikes," *City Cyclist*, Dec. 1987 / Jan. 1988, p. 13.

**Cycling activist John Dowlin has installed over a hundred bike racks in Philadelphia. Unsnarling red tape could encourage similar action in New York.**

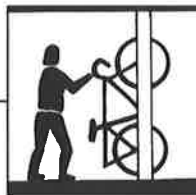


ELIZABETH PERRY



Secure indoor parking at the Natural Resources Defense Council headquarters in Manhattan.

PETER NOBLE



## Chapter 13

# Indoor Parking

### Why Indoor Access

Much as motorists carry jacks, flashlights and maps in their cars, commuting cyclists should be able to carry their essential gear — pump, tools, lights, panniers — on their bikes without having to remove it one or more times a day. This requires secure indoor parking. Even cyclists who travel light need access to places where they can keep their bikes safe from theft and the weather. In most cases, this too means indoor parking.

The 1992 Transportation Alternatives survey of 839 New York City cyclists bears out the importance of bike access to the workplace for bicycle commuting. Among the 323 survey respondents who do *not* commute by bike, the single biggest obstacle mentioned was “no secure parking,” given by 154, or 48 percent. Conversely, among the 516 bike-commuters, fully 345, or 67 percent, are able to bring their bike into the workplace. Among all respondents, 327 (39 percent) said that “workplace access” was very important to them. Almost daily, the T.A. office takes calls from workers seeking help in gaining on-the-job bicycle access.

A handful of New York City institutions have recognized the importance of bicycle security. For example, **New York University**, while maintaining extensive outdoor parking facilities, has moved a number of racks from outdoors into building lobbies next to security desks. The underground parking garage at **Police Plaza** in Lower Manhattan has a bicycle rack available for bike commuting employees and the public.

Among public officials, Manhattan Borough President Ruth Messinger has led the way in promoting awareness of the need for secure bike parking. In commenting on the proposed Commodities Exchange facility in Tribeca, Messinger asked that the project be designed to

“include secure indoor and outdoor bicycle parking facilities (with a minimum of 100 total spaces), both for employees who might commute to work and delivery-people, to safely park bicycles when they visit the Exchanges building.”<sup>1</sup>

The ideal form of indoor bike parking is in the cyclist’s personal office space; a common workplace storage area runs a close second. The closer and more secure the parking space, the less gear the cyclist must remove from the bicycle. This not only saves time but reduces the cyclist’s — and the office’s — exposure to grease and dirt.

### Gaining Indoor Bicycle Access

Provided that approval has been secured from the employer or manager in the immediate work area, the question is one of access to the building itself. Many New York City building managements refuse to admit bicycles to buildings or elevators. Reasons vary, but typically include concerns over cleanliness, elevator capacity, obstruction, accidents and liability, fear of tenant complaints, and image.<sup>2</sup>

Under a common but by no means universal compromise, cyclists are given access to freight elevators (usually via a rear entrance) during normal business hours (generally excluding the lunch hour, when many close down), and are sometimes permitted to use passenger elevators during evenings or on weekends. While cyclists are almost always grateful for any such dispensations, these smack of second-class treatment and today must often be negotiated individually and even surreptitiously.

In addition, many building managers, particularly in high-rent districts in Manhattan, bar bicycles altogether, though they may permit heavy traffic in hand trucks and dollies in

***Almost daily, the Transportation Alternatives office takes calls from workers seeking help in gaining on-the-job bicycle access.***

freight elevators, lobbies and hallways.<sup>3</sup> Many fail to realize that a bicycle's wheels, which travel the same turf as pedestrians' feet, are generally no dirtier than the bottom of the average employee's shoes.

Bike-banning building managers formerly included the Department of General Services (DGS), the city agency that owns, operates and leases buildings for the City of New York. City transportation officials prevailed upon DGS to open the doors of 39 city-owned buildings in four boroughs to bicyclists, beginning in April 1991. However, promotion by DGS has been lackadaisical, and it is not clear whether bike commuting to these buildings has increased.

### Creating Indoor Bicycle Parking

Beyond simple admittance, building owners and employers can take a number of steps that will enable tenants and workers to park their bikes at work while also helping resolve concerns over bicycle traffic in hallways and elevators.

One method is to create a bike parking area or room on the ground floor or in the basement. **J.P. Morgan and Co.** has made space for 20 bikes in a ground-floor storage room at its fi-

avoid the morning crunch at the front entrance, and present IDs to proceed to the bike area, which is accessible around the clock. Similarly, the **Natural Resources Defense Council**, with the assistance of Transportation Alternatives, has created an indoor bicycle-parking area for its national headquarters building on West 20th Street. The 10th floor parking area, which uses hooks to hang up to a dozen bikes vertically, is accessible via the freight elevator during business hours and by the passenger elevator at other times.

Large companies may also make provisions for bicycle parking in garages with which they have car-parking arrangements. The advertising firm **Saatchi & Saatchi**, which employs 1,300 workers at its Hudson Street offices in SoHo, has installed bike racks adjacent to 24-hour security booths on each level of its garage. Bike commuters can shower and change at the firm's fitness center. **Sterling-Winthrop**, the pharmaceutical company, maintains parking for over a dozen bikes in the sub-cellar of its Park Avenue offices. Directly adjacent to the classy "ribbon" racks are separate male/female showers and lockers. As at most other corporate facilities for bike riders, the cycle commuters enter the building through the freight elevator.

**NYC Consumer Affairs Commissioner Mark Green, announcing garage bicycle-parking program, with T.A. president Ann Sullivan and director Jon Orcutt, and Metropolitan Parking Association director Mac Victor.**



TOM MICOLI

nancial district building. Morgan even provides showers and lockers in a nearby basement corner. Cycling employees use a side door to

### Garage Parking

Freelancers and employees of smaller firms also deserve bike parking facilities, although they or their firms rarely have enough leverage to win parking concessions from building owners. Aggressive promotion of bike parking in public garages could create secure spaces for such workers.

A pilot Midtown garage-parking program launched in September 1992 is already showing the promise of such an approach. Responding to initiatives by Transportation Alternatives, NYC Consumer Affairs Commissioner Mark Green and the Metropolitan Parking Association arranged for eight privately-owned parking garages to install supervised bike racks. Usage is rising as word of the program has spread among NYC bicyclists.<sup>4</sup>

City government — through the DoT and Dept. of General Services — also runs its own parking garages, where bike racks could be placed immediately by administrative order. Currently the DoT is lagging behind Consumer Affairs and the private sector on this type of secure bike parking. Some city garages still have bike parking signs (and possibly racks) from an experiment conducted in the early 1980s.<sup>5</sup>

### Mandatory Building Access

An even bigger step to advance indoor bicycle parking would be enactment by the City Council of a local law requiring new buildings, along with buildings undergoing major renovation, to set aside space for bicycle storage. Palo Alto, California has pioneered this approach with an ordinance specifying three classes of bicycle parking facilities or equipment, which vary as to the degree of security provided. Each new building is assigned to one of the three classes, according to its type and size.<sup>6</sup>

Taking space constraints into account, a New York City bicycle parking ordinance could impose similar requirements, with the lowest “facility” requirement being a simple mandate to admit bicycles within the building — subject to tenant approval.

A more comprehensive legislative approach would be to require all *existing* commercially zoned buildings to admit bicycles indoors, probably without specific equipment requirements. Given the slow turnover rate of office building stock in the city, only a retroactive measure such as this will ensure that bike commuting is available to the average New Yorker before sometime in the next century. A grace period of several years could be specified to permit implementation in an orderly fashion and possibly in conjunction with other building improvements.

The 1990 Amendments to the Federal Clean Air Act may provide impetus for a comprehensive bicycle parking policy. Los Angeles passed a bike parking ordinance similar to Palo Alto’s (including showers and lockers in workplaces) in 1991. Regional air quality officials

### Bicycle Lockers

Bicycle lockers are a compromise between the security of parking a bicycle indoors and the vagaries of leaving one chained outside. They are a staple in Palo Alto and other “bicycle-friendly” cities on the West Coast, and on the Washington, DC metro transit system, where space is more readily available and theft and vandalism less endemic. Locker space is typically rented to cyclists on a first-come, first-served basis for periods ranging from several months to a year.

Although lockers have been considered problematic in New York City as potential magnets for vandalism, they would be less vulnerable in public areas such as lobbies or guarded plazas (although ordinary racks might suffice in such places). The best use for bike lockers in New York is probably at transportation hubs — central railroad stations, airports and commuter train stops — where security personnel are posted and there is a potential niche for relatively long-term bicycle parking (see Chapter 9, Bicycles and Transit). Where lockers are problematic, an alternative is to install guarded check rooms and/or to create bicycle parking areas in garages at rail junctions.

are requiring other southern California cities to specify clean air plans with workplace bike parking, showers and lockers by 1993,<sup>7</sup> and similar requirements are being considered in the San Francisco area.<sup>8</sup>



DAVID PERRY

**Bike lockers in apartment complex, Palo Alto, CA, where all new and renovating buildings must provide bicycle storage.**

Private garage at Avenue of Americas and 30th Street is one of eight in mid-town offering bicycle parking.



TOM JENEN

### Chapter 13 Recommendations

#### Agencies

##### Mayor's Office

Issue executive order requiring all city-run garages to install bicycle racks providing free parking. Publicize existence of these racks.

Issue executive order mandating bicycle access to all City-owned buildings. Where city leases office space, renegotiate leases to achieve bicycle access.

##### Departments of Transportation and Consumer Affairs

Create a joint initiative through the garage licensing process to offer incentives to the private parking industry to provide space for bicycles.

#### Legislative

##### New York City

Enact the following measures in a phased approach:

- Require all new and renovating buildings to set aside indoor space for bicycle parking.
- Require all commercially zoned buildings to allow tenant- and employee-owned bicycles indoors, unless building managers can demonstrate that bicycles constitute a hazard, or prove other extenuating circumstances.

#### Private Sector

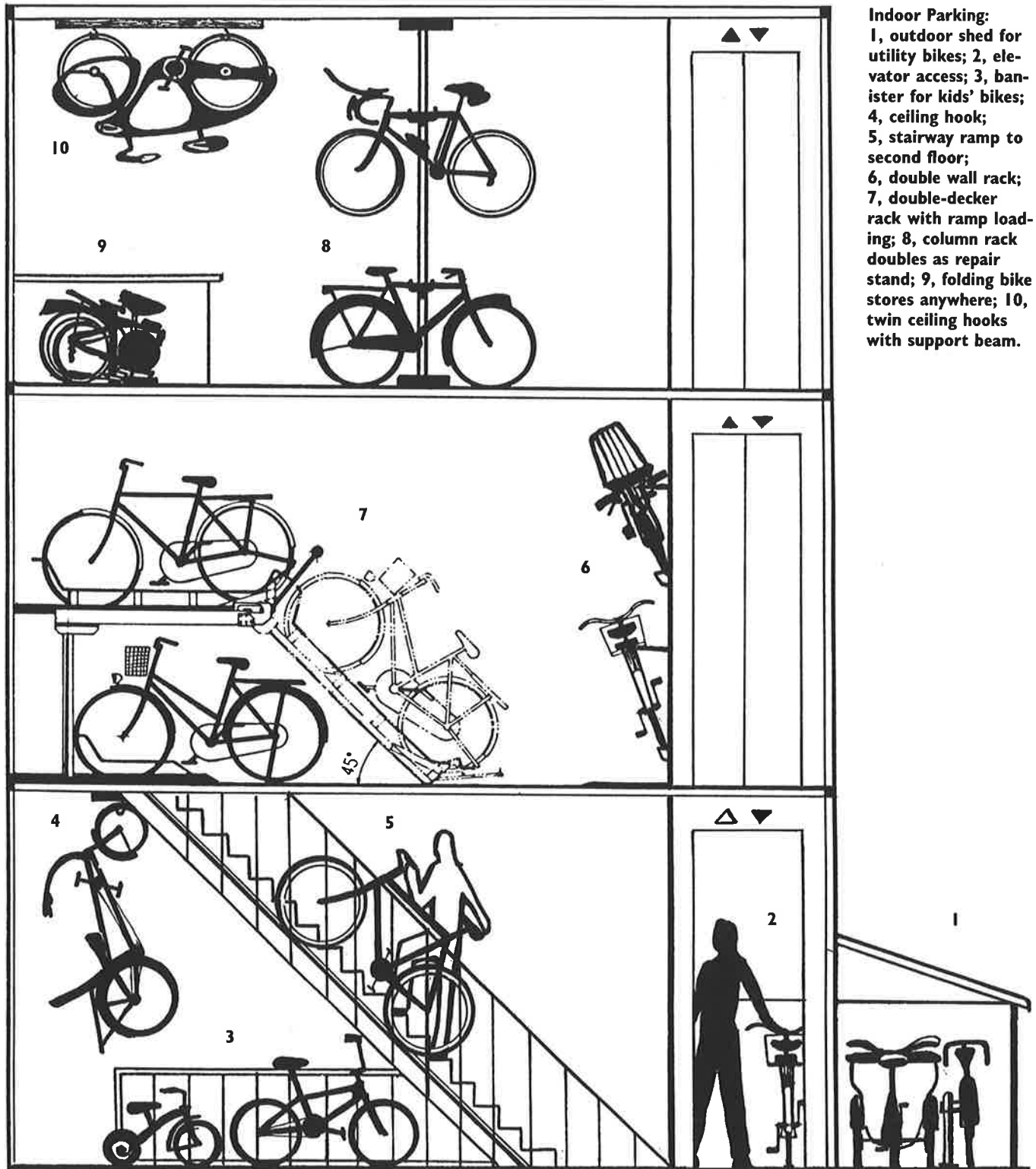
Trade associations such as BOMA (Building Owners & Managers Association of Greater NY) should take a proactive role to provide and encourage office-building bike access. As a first step, BOMA should create a joint committee with cycle commuters and advocates to exchange information and develop proposals.

Create indoor bicycle parking in office buildings as close to the workplace as possible (much as one would create a coat closet), by installing bicycle storage areas in car garages, basements or other underutilized spaces.

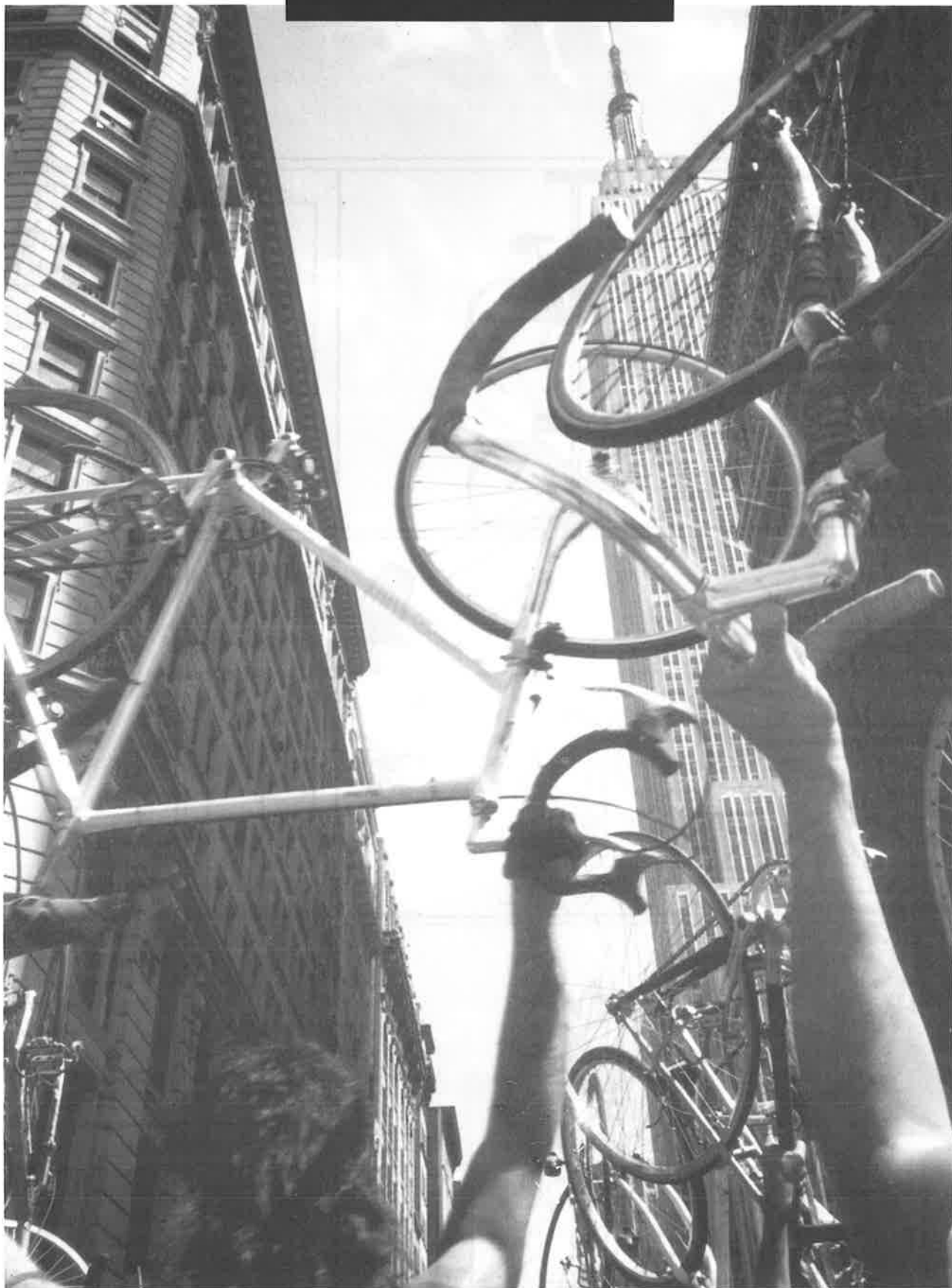
Where elevator access isn't feasible, install indoor racks in or easily accessible to lobbies or other public spaces. Where not possible, install sheltered outdoor racks within view of security guards.

### Chapter 13 Notes

- 1 Executive Summary, *ULURP Recommendations: the Exchanges Project*, Manhattan Borough President Office, Nov. 20, 1991.
- 2 "Sid's First Commute" by Jeff Della Penna in the Mar/Apr 1991 *City Cyclist*, offers a humorous fictional account of a confrontation between a bicycle-commuting building owner and his own security guards.
- 3 A Transportation Alternatives board member arriving with his bicycle at the Triborough Bridge & Tunnel Authority's Columbus Circle office for an evening meeting to discuss bicycle policy was refused admission, even though the bike was a folding, hand-carried model. This incident, in Nov. 1991, is not atypical.
- 4 "Parking Garages Open Doors to Bikes," *City Cyclist*, Sept-Oct 1992, p. 2.
- 5 Municipal garages on West 53rd Street (between Broadway and 8th Avenue), at Essex and Delancey, and at Police Plaza, have free, heavily used bike racks.
- 6 City of Palo Alto, Off Street Parking and Loading Regulations, Chapter 18.83.
- 7 Telecom with Ryan Snyder, Los Angeles Bicycle Advisory Committee, Jan. 17, 1992.
- 8 *REBAC Reporter*, Jan/Feb 1992, Regional Bicycle Advisory Committee (San Francisco Bay Area).



## On The Job Cycling



NYC bike messengers seize the streets in 1987 bike ban protest.

CARL HULTBERG



## Chapter 14

# Bicycle Messengers

### A Vital Service

Bicycle messengers serve a critical function in New York City where, fax machines notwithstanding, thousands of documents and packages need to be moved rapidly from one place to another every day. Messengers provide this service quickly, efficiently and cheaply, and many prominent companies depend on them (including newspapers whose editorial pages periodically rail against them). Most importantly, the bicycle messenger industry could be a model for future appropriate-technology enterprises — moving letters and small parcels through a dense city on human-powered conveyances is an ecological business adaptation *par excellence*.

### A Negative Reputation

In the mid-1980s, this segment of the bicycling community — only about one-fifteenth of those who use bikes daily for transportation but half or more of bikes in motion at any time in the Central Business District south of 59th Street — was turned into a symbol for all that's wrong with traffic in New York City. The anti-messenger hysteria has quieted since, but much of the conflict remains.

In many ways, the antagonism pedestrians and the press express toward messengers is legitimate — they do routinely run red lights, ride against traffic and hop sidewalks. In other words, messengers flout the rules set up to regulate motor traffic. Of course, motor vehicles, pedestrians and other cyclists regularly work around those rules themselves, at least the ones they can get away with. But because some cyclists are able to slice quietly and nimbly through obstacles, they often frighten and disorient people. Many pedestrians and drivers regard all cyclists with suspicion because of the offenses of a few.

At the same time, messengers are a handy scapegoat for problems that aren't of their own making — such as pedestrians who don't think to look as they cross in mid-block or against the light, and car traffic packed so densely that it can't make headway. But messengers are a much easier group to target than drivers or walkers. There aren't many of them (at most 5,000 currently), and they have the political disadvantage of being a small, unorganized working-class group. Rather than maintain an us-versus-them distance, it is helpful to understand who messengers are and how the industry operates.

### History of the Messenger Industry

The messenger industry, like other kinds of cycling, first hit its stride in the 1970s. A workable balance emerged: messenger companies could make a profit by hiring bike riders "off the books" as independent contractors. Messengers received a low per-package piece-wage and no benefits, but anyone with a bicycle could get hired, even with no skills or credentials, and could earn a decent living by signing on and working hard. Bob McGlynn, a veteran messenger and co-founder of the Independent Courier Association (ICA), aptly describes the early messenger industry as resembling 19th-century capitalism.

Toward the end of the 1980s, three things changed. First, in 1987, the Koch administration fed on growing anti-messenger sentiment by attempting to ban all daytime bicycling in midtown and impose a strict set of licensing procedures on messengers. An organized protest by the bicycling community (led by bicycle messengers themselves), coupled with administrative ineptitude in promulgating the ban, stopped both measures in their tracks.

A year or so later, the state and federal governments began cracking down on messenger

***Moving letters and small parcels through a dense city on human-powered conveyances is an ecological business adaptation par excellence.***

companies, charging that messengers were not contractors but employees. Companies were required to take withhold taxes and also pay back taxes.

Finally, as the 1980s ended, the recession hit, along with the proliferation of fax machines, making it difficult for the companies to pass these extra costs on to customers. This led to a significant shake-out, with many small companies going out of business or merging. (There is little data available on current numbers of companies and individual bicycle messengers.<sup>1</sup>)

### Bike Messengers Earn Their Pay

"Bike messenger work is grueling and the work environment utterly dehumanizing. The life span of messengers in this work is seldom more than a year. They're treated with superciliousness in elevators and offices. They drink foul, putrid, and health-threatening exhaust as a daily diet. They work in bitter cold and enervating humidity.

They work in constant danger — and not only danger of their own making — as they negotiate our mean streets, streets chock full o' potholes, illegally crossing (and standing) pedestrians, passengers entering and exiting taxis more than 12 inches from the curb and without looking or warning, cars going through red lights and turning suddenly and without warning from other than turning lanes, and buses challenging their right to the road. They bike approximately 40 miles a day in these wretched conditions."

From "A Kind Word for Bike Messengers" by Richard S. Rosenthal, *Newsday*, Aug. 28, 1987.



JEAN-JACQUES MARQUETTY

Despite a perception that bike messengers are becoming obsolete, the industry has stabilized somewhat in the early 1990s, but with incomes and profits significantly lower than during the boom times of the 1980s. "Three or four years ago you could make \$500 to \$700 a week, but most make more like \$200 to \$400," says J.P. Lund, a messenger for the past five years. (The going rate for an average run is around \$7, of which the messenger receives about half, with higher rates for rush and oversized packages. Messengers also earn bonuses for working in bad weather, and messenger company dispatchers often favor senior riders with more lucrative runs.)

### Profile of Messengers

The industry has a cadre of skilled and dedicated messengers who, like Lund, remain on the job because they love cycling for their living. These intrepid cyclists — African-American, Latino and white — comprise a genuine "gorgeous mosaic," reflected in their colorful clothing and evident pride. But many others become messengers because they have few other options. "It's a poor working-class job," says McGlynn, "one of the few jobs that's always available." "If you're going to get bottom-rung work, you can get a job in a restaurant, cleaning up offices or as a messenger," says Lund. For many, becoming a messenger is the most attractive option, since it's outdoor work with an unusual degree of autonomy.

The casual nature of messengering has serious drawbacks, both for the riders themselves and for everyone on the street. Because most companies hire rapidly without screening or training their messengers, many are sent out on the road with little or no expertise in city riding. There are exceptions, such as Breakaway Courier Systems, a company that conducts safety orientations for its new couriers and has a good safety record.<sup>2</sup>

Under the harsh conditions of the street, many messengers last only a few months. Injuries are frequent, and of the 15-20 cyclists killed each year in New York City, one or two usually are messengers. Companies are required by law to

provide worker's compensation, but don't necessarily go out of their way to inform their messengers of the fact. They generally offer no other benefits, no holidays. Attempts by McGlynn and the ICA to create a messengers' union have run into a catch-22: because conditions are so poor, the turnover rate is far too high to get a union started to improve conditions.

### Messenger Behavior

Some bicycle messengers behave recklessly or rudely because the job encourages it — to make a living on piece-rates they have to hustle. Because messengers are anonymous, not identified with the company they work for, their employers have little incentive or power to encourage good cycling habits.

The ICA, at its most active in the late 1980s, briefly created a unified voice for messengers through newsletters and frequent rallies. Its "Outlaws Code of the Road" (so named to express messengers' sense of their public image) urged messengers to go out of their way to ride courteously. But many messengers continue to break traffic rules — not to scare or annoy people, but because ignoring the rules seems to be the way of the street, obeyed by motorists and pedestrians alike. Furthermore, experience has led many messengers to believe that these rules were set up not for them but strictly for the control of cars.

After all, more than anyone else on the street, messengers are the victims of New York City's racetrack mentality, dodging motor traffic and vehicle exhaust every day, all day long. Messengers resent being lumped together with cars, which take up precious street space, create pollution and wreak infinitely more damage than bicycles could ever cause. The worst that can be said about bicycle messengers, they feel, is that they sometimes scare people needlessly.

Indeed, the number of actual collisions between messengers and pedestrians is extremely small, and it's not even clear whether the messengers are most often to blame. (As noted in Chapter 17, Accidents, the rate of bicycle-

pedestrian accidents in New York City is about the same as that for pedestrian deaths from motor vehicles; almost 2,000 pedestrians have been killed here by cars and trucks since the last pedestrian death from a messenger crash, in January 1987.<sup>3</sup>) The problem would easily correct itself, messengers feel, if cars were removed from the equation.

"The enmity between bikers and pedestrians is pent-up aggression based on cars," says Lund. "Without cars there would be a lot more room for everyone. In a large crowd, people have the ability to get by each other." The worst that happens, he adds, is that occasionally one person bumps into other, says excuse me and moves on, causing no harm.



ANITA BARTSCH

The messengers stretch a point — until a day when human-powered locomotion is granted the status it deserves on New York City streets, bicyclists are considered vehicles and by law are subject to traffic rules. Moreover, even without cars, traffic laws would be needed to regulate the flow of pedestrian and bicycle traffic. When messengers — or anyone else — flout the law, they add to the atmosphere of confusion and distrust on the street, if not the actual danger. But the messengers' point about the rightful place of motorized traffic and nonmotorized traffic is one that needs desperately to be made.

***"The enmity between bikers and pedestrians is pent-up aggression based on cars," says one bicycle messenger.***



### Food Delivery Bicyclists

As enmity toward bicycle messengers has eased in recent years, many New York pedestrians have discovered a new bicycle *bête noire* — food delivery cyclists. Although data aren't available, the number of such cyclists appears to be at an all-time high, as prepared foods grow ever more popular. Speed is paramount in food delivery, since customers look for their meals to arrive quickly and oven-hot. Not surprisingly, then, many delivery cyclists surpass even commercial bike messengers in flouting the law; wrong-way cycling and riding on sidewalks are particularly common, especially in neighborhoods like the Upper East Side, where car gridlock is endemic. Many riders elect to use the sidewalks for short-haul deliveries rather than risk riding against traffic on busy avenues.

### DOONESBURY



In this climate, City Council Member Charles Millard has had little trouble obtaining co-sponsors for his bill authorizing police to confiscate commercial bicycles ridden on sidewalks. (Other bills in Millard's package would intensify enforcement against cars parked in bike lanes and red light-running cabbies.) Although cycling traffic on sidewalks is onerous, one notes that, as in other crackdowns on cyclists, simple education hasn't been tried first.

At the start of 1993, Transportation Alternatives and the City DoT were preparing to distribute multi-lingual leaflets targeting Chinese delivery cyclists, who by acculturation often ride against traffic. Signs identifying restaurant ownership of delivery bikes might also bring community pressure to bear against dangerous

riding. Over the long haul, cracking down on dangerous motorists and discouraging driving in general would make the streets safer for everyone while making it easier for cyclists to stick to the roads.

## Chapter 14 Recommendations

### Legislative

#### City Council

Require messenger companies and all commercial enterprises employing bicycle riders to:

- provide safety training for all employees;
- offer helmets, lights, reflectors and other safety equipment to riders;
- publicize worker's compensation regulations.

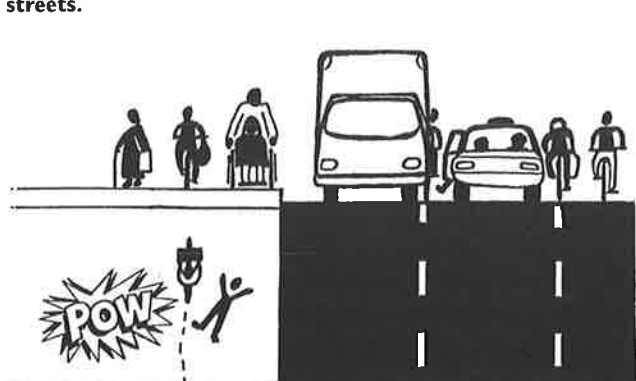
#### Private Sector

Food delivery businesses should train and monitor bicycling employees to ride with traffic, avoid sidewalks and generally respect pedestrians' rights.

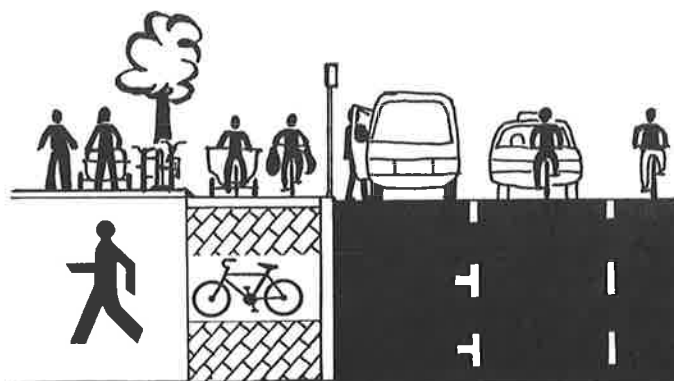
## Chapter 14 Notes

- 1 The Mar/Apr 1991 *City Cyclist* and the March 19, 1991 *New York Times* both reported on shrinkage in the bicycle messenger industry resulting from the recession and the spread of telefax communication; the *Times* cited no statistics and appeared to overstate the extent of the decline.
- 2 Breakaway Courier is profiled in "With Speed and Charisma, Bicycle Couriers Deliver," Denise Jones, *Bicycle USA*, Jan. 1992.
- 3 At this writing, it was not known if it was a commercial cyclist who collided with a pedestrian near Grand Central Station in Dec. 1992, leading to the pedestrian's death the following month.

**Pedestrian space on sidewalks can be protected by providing safe space for utility bicycles on streets.**



**Problem**



**Solution**

## "Fifth, Park and Madison"

by Mary Frances Dunham

*In July 1987, Mayor Ed Koch moved to prohibit bicycle-riding on three major Manhattan avenues during weekdays. Cyclists responded with an uproarious campaign to win back public opinion and overturn the Midtown Bike Ban. How this campaign unified and invigorated the bicycle community was recounted by Mary Frances Dunham, a longtime cycling activist, in the July/August 1989 Bicycle USA, published by the League of American Wheelmen. Copyright © Bicycle USA, 1989.*

As I was pedaling down Second Avenue recently, a bicycle messenger slowed his pace to speak to me. "Didn't I see you two years ago?" he asked. I guessed that he was referring to the street demonstrations during the summer of '87, when thousands of New York cyclists, myself included, joined together to protest the Mayor's proposed ban on cycling in mid-Manhattan. As an older woman among mostly young people, I was a conspicuous participant. I carried a sign that said: "Grandmas cycle too!"

"Yes," I answered. "I must have seen you, too."

"I saw you," he affirmed as he picked up speed. "Thanks!" he called back. "You people saved our jobs!" I thanked him in return, but he was already far ahead.

This was one of several such experiences lately. Now, almost a year since the Mayor gave up the ban, I was pleased to know the fight was remembered.

Many cyclists like myself protested the ban not just in sympathy for the messengers, who bore the brunt of blame for reckless cycling and whose vital routes were to be banned, but because we ourselves were angered. Cyclists as a group were being punished for the sins of individuals. We were scapegoats for the chronic failure of the city government to control its rampant traffic disorder. Some cyclists, non-messengers as well as messengers, were indeed irresponsible, but the city had done little to ed-

ucate them or chastise the larger and more offending sectors of traffic — motorists and pedestrians. Even New York's club cyclists, generally uninterested in pro-bike activism, joined the protest against the threat to the cycling community.

We non-messengers also entered the fray because it was a golden opportunity to advertise the virtues of bicycle transportation and to celebrate its existence where it was most maligned — in the heart of the city. The messengers understood this evangelistic aspect of the non-messenger collaboration. They acknowledged our mission with more good will than bemusement. Both types of cyclists rooted for the other and reinforced the other's modes of action.

As I look back on the nine months that it took to change the Mayor's mind, I wonder how far we succeeded in improving our status as city cyclists. Did we mollify the pedestrians whose complaints against us had provided the ban? Did we still appear to be "killers," "scofflaws," or, at best, bothersome "eccentrics?" When we testified at government hearings, did we sway the minds of political leaders more than temporarily? All those City Council members who finally urged the Mayor to drop the ban — how much did they really care about the needs of New York cyclists?

I, for one, doubt that we made many converts. Nevertheless, we made strategic progress. We matured as a community and we grew in numbers.

New York cyclists have long been factious individualists, not easily organized, although we share many problems. However, in reaction to the Mayor's proclamation, we started to cooperate with each other — argumentatively in our first meetings, but more cohesively as talk engendered action.

We became a formidable host. Our squadrons included such gifted volunteers as messenger Stephen Athineos, our streetwise Dionysian



BILL WALTZER

**Mary Frances Dunham at 1990 T.A. Queensboro Bridge rally.**



**Bike Ban Headlines, 1987.**



JAMES HOLCOMB

figurehead; Steve Stollman, perennial goad for the avant-garde; Roger Herz, veteran gadfly of government laggards; Charlie Komanoff, articulate framer of our aims; George Bliss, talented creator of our best visuals; and gentle James Holcomb, our top graphic artist. As well, there were the faithful "Jerries" — "Jerry One" and "Jerry Two" — who led our processions through rush-hour traffic; "R.C.," "J.R.," "B\*C\*," "Ollie," "Albert," and many others took charge where they were needed. Leona Gonsalves, a bicycle messenger recently arrived from San Francisco, grew to be one of the protest's most eloquent and effective organizers. Leona has since joined the staff of Transportation Alternatives.

We became memorable campaigners. Messengers in colorful cycling garb and work-a-day commuters, myself among them, circled



CARL HULTBERG

**"What do we want?  
Our streets back!"  
Bike ban demonstration,  
August 1987.**

by the hundreds through central Manhattan at least once a week. We chanted "Fifth! Park! and Madison!" (the names of the banned avenues) while wooing spectators with pro-bike signs and with flyers that urged New Yorkers to observe traffic safety rules.

We became adept polemicists for press and media interviews. When we attended government meetings and public hearings, our old-guard pro-bikers surpassed themselves in oratory and shy novitiates revealed themselves as fluent speakers.

We acquired devoted chroniclers. Besides the daily press reporters who publicized our protests, some journalists, photographers, and film makers actually joined us. Fatherly Daniel "Pops" Perez, editor of *El Especial*, accompanied our street demonstrations with a van covered with posters. Dragan Ilic from Yugoslavia, clad always in black, and "Marlene" from the Upper East Side filmed us from brainstorming sessions to public demonstrations and City Hall hearings. These auxiliaries enhanced our sense of importance by their dedicated presence and rewarded us with retrospects we could enjoy later.

Our forces increased. Messengers rallied messengers, many of whom would otherwise have shunned meetings and organized causes. Transportation Alternatives revived its street-activist spirit from the '70s and supplied a venue for new members and sympathizers. Wheelchair riders and pedestrians swelled our ranks. Not since the 1980 transit strike, when pedestrians and cyclists flooded into the city by the thousands, had New York seen so much unmotorized traffic occupying its streets.

Since our victory we have taken more pride in ourselves as a group and we cycle more consciously to please the public. At the moment the hot winds of its disfavor seem to have cooled. Media reporting on bicycling misdemeanors has almost disappeared and the number of pedestrian-bicyclist accidents reported to the police has come down almost 30% in just two years. The NYC Department of Transportation is listening more attentively and with more respect than it has shown before.

Just the other day, the CBS national evening news showed Dr. Bob Arnot's documentary film on city cycling, a first of its kind. The film compares the adverse cycling conditions in New York to the amenities afforded cyclists in Palo Alto. In the film, Dr. Arnot comments that the contrast is due not so much to the difference in the physical conditions of the two cities as a difference in their respective attitudes toward bicycles as vehicles. New York's Transportation Commissioner appears briefly and noncommittally; he and New York viewers of the film may now realize that city cycling is not just an "issue," but a valuable institution that

our city should foster more seriously.

Maybe bicycles on city streets are still a concept too alien, futuristic, or "Third World" for most New Yorkers to embrace at present; we have a long way to go before they are welcome here. However, as city dwellers become more aware of how they are fouling their nest with excessive car use, the desire for better transit and for human-powered vehicles to replace motorized ones may, at last, take root in New York as it seems to have done in Palo Alto.

The fight that began against a decreed ban on cycling continues today as we protest the *de facto* ban — the threatening traffic, bicycle thefts, and lack of parking facilities — that deter the City's one million recreational riders from cycling for transportation. Now we attend the Department of Transportation Bicycle Advisory Committee meetings with sharpened demands and in unprecedented numbers. We are exploring ways to enlist support from the Police Department, taxi drivers, and others whose cooperation we need. We are seeking to correct the lack of bicycle education for the city's children. We continue to exhort the public to observe traffic rules and to value bicycle transportation.

At this printing, Transportation Alternatives has initiated or participated as a group in a number of springtime events. About 100 cyclists, mostly T.A. members, were cheered by onlookers as they rode through Manhattan in an Earth Day parade on April 22, 1989. T.A. members conducted a bicycle rodeo as part of "Safe Cycling Day," sponsored by city agencies in Brooklyn on April 29. On May 1, T.A. accompanied City Council members and commissioners who rode on borrowed bicycles along the car-blocked Sixth Avenue bicycle lane for a bit of consciousness-raising concern-

ing cycling conditions in the city. On May 17, "Bike to Work Day," T.A. volunteers will escort novice bicycle commuters and staff tables on bridges and at main intersections, handing out flyers and encouraging the public to use their bicycles for transportation. We are planning more such events, introducing our cause to the widest public possible.

We city cyclists may be mavericks, but we are justified in our determination. Our cause lies near the center of mankind's deepening concern for a healthful environment and a society built to human scale. We are determined to belong to this movement and to help it grow.



JAY JONES



**Food delivery, 9th Avenue, Manhattan.**

CATHERINE PAGE HARRIS



## Chapter 15

# Freight Cycles

### Efficient Deliveries

Delivery bicycles and tricycles have been getting packages around New York City for over a century. Currently, they are used primarily, and heavily, for food delivery — by Chinese restaurants, pizza parlors and grocery stores. Despite their obvious efficiency in New York traffic, some see these heavy-duty, human-power-driven cycles with their baskets and metal boxes as a throwback to an earlier time — low-tech, even “third-world.”

The truth is that for most kinds of city deliveries, it's cars, vans and trucks that are inappropriate technology, a relic of some mythical time when traffic flowed smoothly and swiftly through the streets of Manhattan.

In midtown Manhattan, motor traffic moves at an average speed of less than 7 miles per hour,<sup>1</sup> and 90% of parcels delivered weigh 30 pounds or less.<sup>2</sup> Motor vehicles are bulky and oversized for much freight delivery, as well as costly to buy and run, and expensive and time-consuming to park. These are just the costs and inconveniences to the delivery business itself, not taking into account the costs and inconveniences to the city at large: a loss of public street space to vehicles; traffic tie-ups from double-parking; and the pollution, congestion and noise that are inherent with fossil-fueled motor vehicles, particularly large ones making frequent stops.

Certainly many motorized delivery trucks and vans carry loads too large or heavy for human-powered vehicles. But if companies and government are willing to see human-powered vehicles (HPVs) as a serious and viable complement to other freight haulers, they certainly could ease the environmental burdens created by large trucks. Many companies employ one or several vans, which are loaded up in the morning and spend all day in traffic making deliveries. For a far smaller investment, a compa-

ny could buy a fleet of cycles and send them out simultaneously. A side benefit would be the creation of more jobs. The cycles could also give the company a higher profile and a reputation for innovation.

### Working Models in NYC

Two delivery companies have done just this. **Airborne Express**, the third largest overnight package service in the U.S., uses 150 tricycles<sup>3</sup> made by Queens-based **Worksman Cycle Company** (the leading U.S. manufacturer of utility cycles, and supplier to Fortune 500 companies including GM, Ford, Exxon, who use bicycles extensively in factories and warehouses).<sup>4</sup> These “trikes” are housed in Airborne’s

**Human-powered freight-hauling vehicles avoid the environmental burdens created by trucks.**



BILL WALTZER

three Manhattan distribution facilities, where they are loaded indoors directly from trucks via conveyor belts, then ridden to their destinations. Because the trikes get so much hard use around town, making them less than shiny, they're currently unmarked; as of late 1992, however, Airborne and Worksman were developing a new custom-designed fleet with weather-proof, dent-resistant, lockable boxes, and the Airborne logo prominently displayed.

**Airborne Express loads parcels directly onto tricycles at its lower Manhattan distribution facility.**

## Decentralizing Urban Freight Delivery

Competitors to Airborne Express, like the United Parcel Service (UPS), which likes to bill itself as an innovative company, would do well to consider Airborne's model. Insisting that it needed to expand its delivery facilities to accommodate more 18-wheelers, UPS applied in 1990 for a variance to build a huge new sorting and distribution facility on Manhattan's Lower West Side with a four-block-long tunnel along Washington Street. (These trucks are too large to fit in the Hudson River tunnels and must be routed across the George Washington Bridge and down Manhattan's length.)

Clearly UPS is trying to fit a square peg in a round hole: 18-wheelers are simply not appropriate vehicles for Manhattan streets. Instead, the company should consider (or the city should insist on) the option of smaller, decentralized distribution centers, using human-powered vehicles to deliver small parcels. A city crackdown on chronic double-parking and other illegal parking by UPS, Federal Express and other delivery companies would also help create a level playing field with delivery bikes that can be parked off-street.

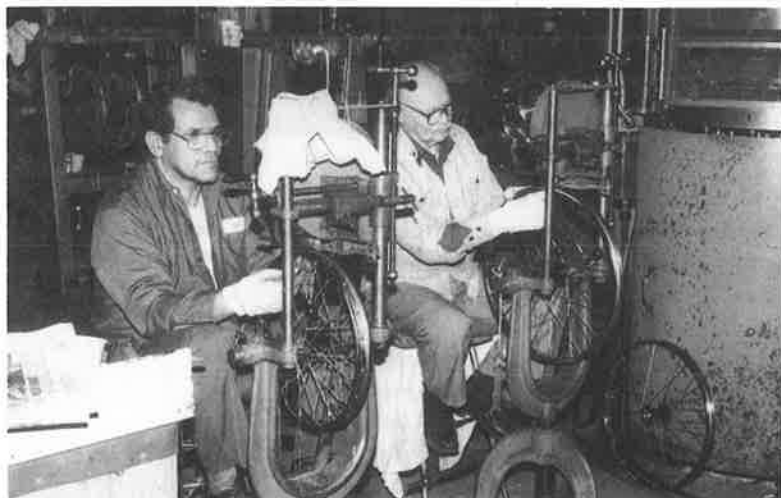
The delivery cycles each save an estimated \$20,000 a year by displacing vans. According to Bob Stetser, Airborne's Manhattan station manager, the trikes' only drawback is that one or two get stolen each year. "Normally we get the bike back," he says, "but we never see the freight that was in the box." Still, he reports that Airborne is pleased: "You don't have to park, you don't get tickets, and you save a lot of money."

Manhattan-based **Five-Star Courier**, which calls itself "the messenger service with an environmental conscience," added five delivery cy-

cles to its fleet of conventional bicycles and vans in 1990.<sup>5</sup> These sleek, eye-catching bicycles, designed and built by HPV innovator Jan Vander Tuin,<sup>6</sup> remove the stigma from delivery cycles, proving that they needn't be heavy, clunky or hard to ride. The cycles are no wider than mountain bikes, and their wheelbases are only 8 inches longer than a standard 10-speed, yet the aerodynamic fiberglass boxes mounted in front of the seat can carry 200-pound loads.

Vander Tuin fitted the 65- to 70-pound cycles with shifting and braking components and tubing worthy of a racing bike, with details like an extra-long seat post and handlebar stem to allow for drivers of varying heights, dual steering linkage for flexibility, and five-speed derailleurs.<sup>7</sup> According to Five-Star's senior messenger Glen Pierce, "the bike is fast and maneuverable....The heavier the load, the more the bike grips the road."<sup>8</sup> The Charrette art supply service's Providence, RI, branch, has been using Vander Tuin's design since 1990. Several small businesses on the West Coast, including a ravioli manufacturer, are using the design as well. Vander Tuin is also custom-designing trikes for a California-based greenhouse and several local papers.

**Wheel builders at Ozone Park factory of Workman Cycle Company, the country's largest manufacturer of utility cycles.**



ROB CUMMINGS

## Additional Uses for Freight Cycles

Overnight delivery and messenger services are only one obvious market for utility cycles. With a little imagination, other businesses — laundries, small contractors, caterers, florists, garden centers, recycling businesses, department stores and the U.S. Postal Service — could easily take advantage of the quick, efficient and inexpensive delivery offered by human power.

George Bliss, a leading inventor of and spokesperson for human-powered vehicles, has designed an array of vehicles that take advantage of the possibilities inherent in a simple tri-cycle.<sup>9</sup> His most popular designs are the **Dump Trike** and the smaller **Pick-Up Trike**. Both consist of Workman frames fitted with ½- or 1-cubic yard polyethylene containers in front. Bliss's Dump Trike, designed for construction or landscape work, tilts forward and back from

the driver's seat and has a reverse gear to maneuver in tight spaces. The Pick-Up Trike, intended for street travel, features a rear suspension and angled wheels for a steady ride and safe turns. It can also be fitted with a collapsible, removable canopy, complete with a zip-on rain shield.

Dump Trikes are already in use at several recycling companies, including the Village Green Recycling Team in Manhattan, and New York University's comprehensive recycling program. New users include a South Bronx recycling team that plans to collect 80% of household wastes by having teenagers ride door to door.

Pedi-cabs are an increasingly popular sight in tourist areas in European cities and in downtown Seattle, San Francisco, some towns in Florida and in Mexico City. But their potential as serious transit for New York City has not yet been tapped. Bicycle or tricycle taxis, which can easily snake through traffic jams where cabs could never fit, could become formidable competition to yellow cabs and radio cars. Not only can they reach destinations faster and at less cost, they can provide an enjoyable ride. Bliss has built enchanting pedi-cabs with padded chaise lounge seating and Cinderella-like chariots with a bent-wood chair mounted under a large umbrella.

### Hauling Household Gear

Bicycles or tricycles fitted with simple boxes or freight compartments can also pull their weight for individuals doing day-to-day errands and shopping. As unlikely as it seems, a bicycle can easily bear up under heavy loads of groceries, recyclables, furniture or almost anything else a city dweller needs to move; all it takes is a minute or two of adjusting to the altered center of gravity. Indeed, in early 1992 a "cycle convoy" of seven cargo bicycles and bikes with pull-trailers moved the entire Transportation Alternatives office, including file cabinets, desks and computers, from SoHo to the East Village (see photo, p. 6).

Bliss has designed bikes that can accommodate a shopping or laundry cart with a simple hook.

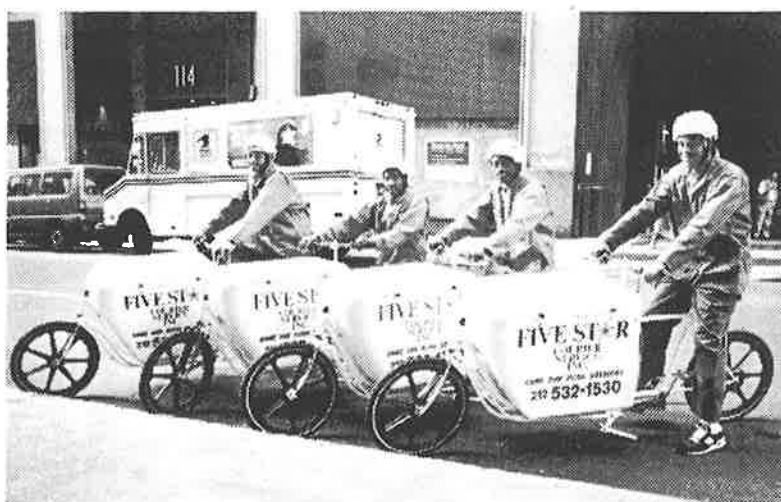
## Freight and Asian Pedal Power

Domestic bike sales [in China] in 1987 reached 35 million — surpassing total worldwide automobile sales. Elsewhere in Asia, bicycles often make up two-thirds of the vehicles on city streets during rush hour. Many Asian urban transit systems are enhanced by pedal-powered "paratransit," consisting of three-wheeled vehicles for hire — variously called rickshaws, trishaws, pedicabs and becaks — in which a driver transports one or more passengers. These resourceful adaptations of the bicycle do much the same work automobiles do elsewhere. Cycle rickshaws are the taxis of Asia, and heavy-duty tricycles, hauling up to half-ton loads, are its light trucks. In Bangladesh, trishaws alone transport more tonnage than all motor vehicles combined."

from *Worldwatch Paper 90, The Bicycle: Vehicle for a Small Planet*, by Marcia D. Lowe, Sept. 1989.

He also envisions renting out his freight cycles, like inexpensive, nonmotorized U-Hauls, on an hourly or daily basis. Ken Hughes of Mobility Resources in Santa Fe, NM, builds narrow, single-wheeled trailers that are ideal for apartment living; the trailer can be easily detached, enabling it to fit in a small elevator or be carried up stairs. Vander Tuin has sold a small freight bike fitted with a rack and trailer to a farmer near Eugene, Ore., who uses it for all his transportation needs, including composting and shopping.

**Human-powered utility vehicle fleet of Five-Star Courier Co. carries loads up to 200 pounds through midtown Manhattan.**



BILL WALTZER

## Chapter 15 Recommendations

**Agencies****NYC Dept. of Transportation**

Create permit system allowing freight-carrying cycles of specified sizes to park temporarily on sidewalks while making deliveries.

**NYC Office of Economic Development**

Provide economic incentives to encourage pedi-cab businesses as non-polluting, job-intensive, amenity-creating sector.

**Taxi & Limousine Commission**

Create appropriate regulatory structure, including competitive tariff, for pedicabs.

**NYC Police Department**

Enforce parking, double-parking, sidewalk-blocking, idling and other regulations against delivery truck operators, particularly fleets (e.g., UPS, Federal Express). (This will improve competitiveness of bicycle delivery services, which take up considerably less space.)

## Chapter 15 Notes

- 1 New York City Dept. of Transportation, *Recent Trends in Traffic Volumes and Transit Ridership*, August 1991, p. 12. 1990 average midtown auto speeds were 9.0 mph on avenues and 5.9 mph on streets.
- 2 *City Cyclist*, May/June 1990, "Bikes That Deliver."
- 3 Telecom, Jan. 1992, Bob Stetser, Manhattan Station Manager, Airborne Express, (212) 391-0416. Unfortunately, Airborne doesn't keep statistics on how many truck trips the cycles displace —another indication of the low status of cycles in industry.
- 4 For information, Workman Trading Corp., 94-15 100th Street, Ozone Park, NY 11416, (718) 322-2000.
- 5 Five-Star Courier, 120 East 32nd Street, New York, NY 10016, (212) 532-1530.
- 6 Jan Vander Tuin, Human Powered Machines, 3910 Steward Rd., Unit F, Eugene, OR 97402, (503) 343-5568.
- 7 *City Cyclist*, Jul/Aug 1990, "Five-Star Courier Rolls Out Five Cargo Bikes."
- 8 Ibid.
- 9 George Bliss, Human Power Research, 600 West 131st Street, New York, NY 10027, (212) 505-8276.

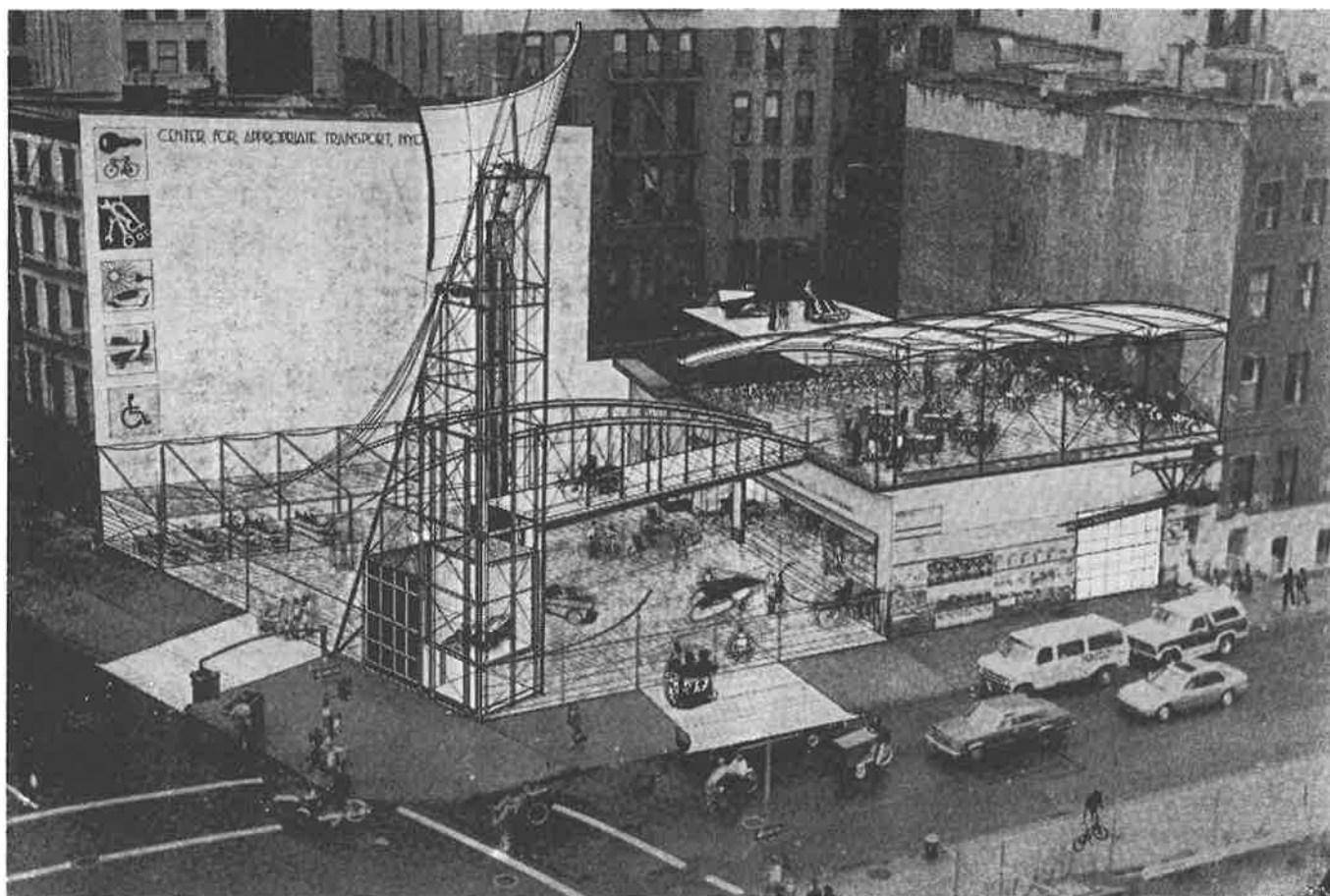
**Right, bicycle designer George Bliss of Human-Power Research, with "maxi-loader dump trike" at Village Green Recycling Center, Greenwich Village.**  
**Below, bank-sponsored pedicab service, Germany.**



BICYCLE NETWORK

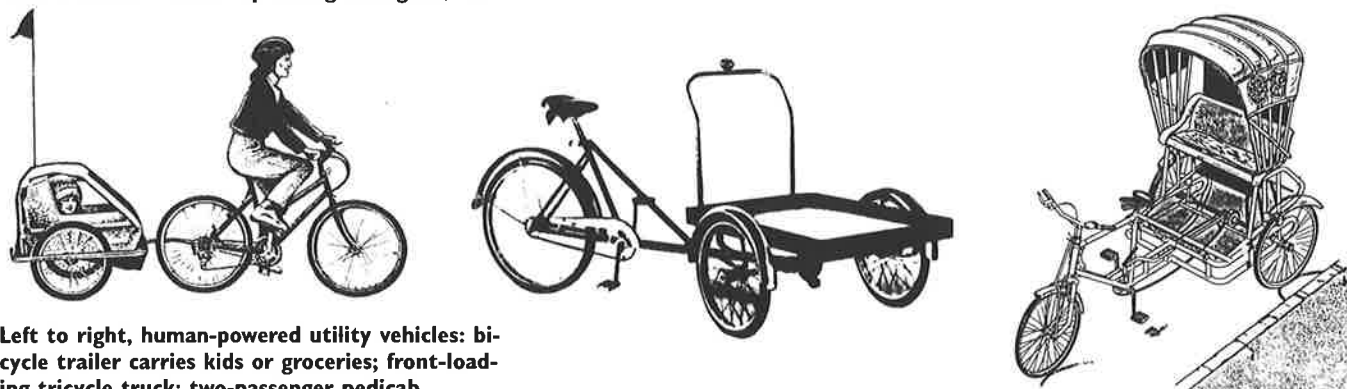


DAVID PERRY

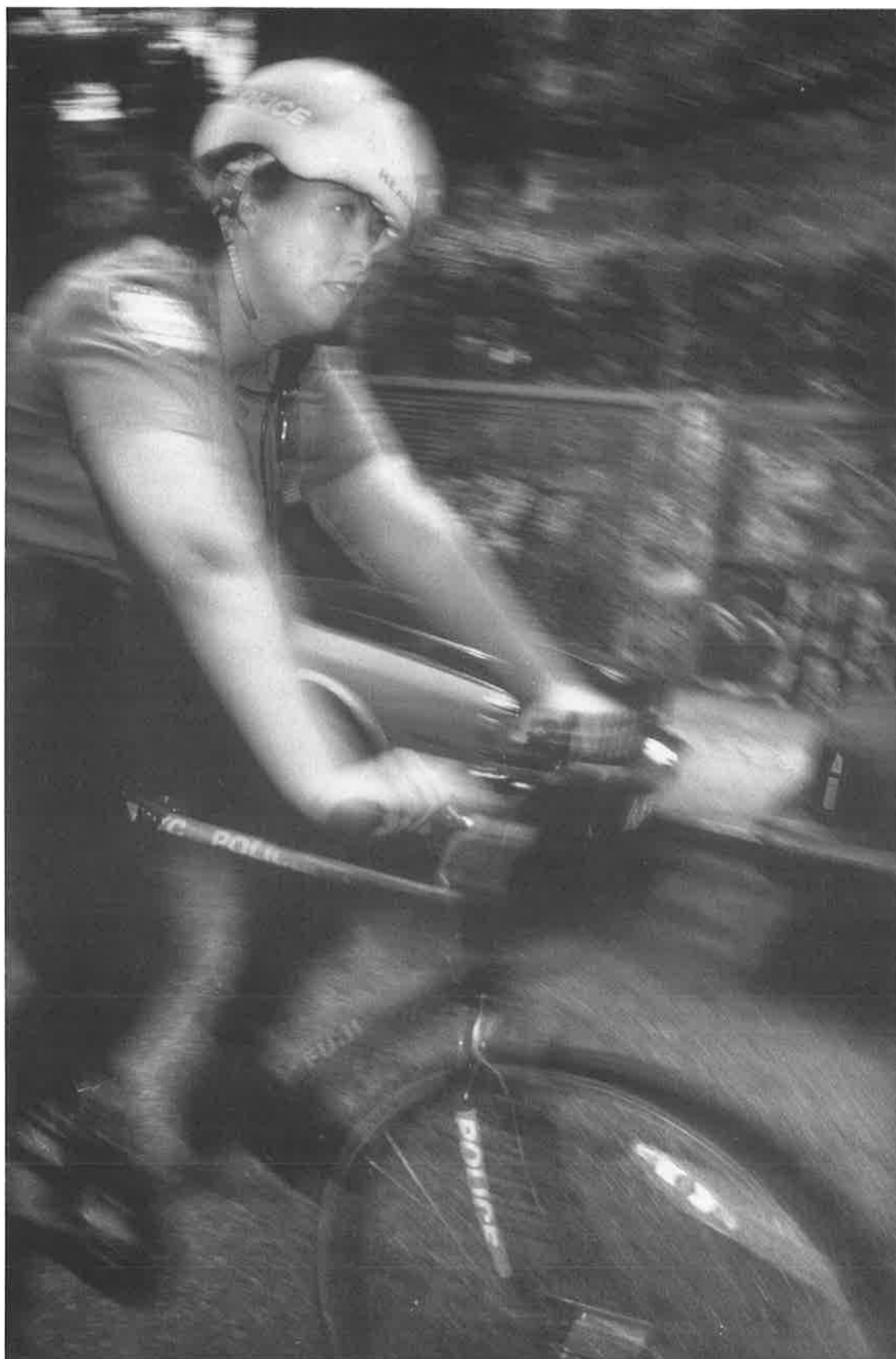


GREG TALMONT

Above, design for a Center for Appropriate Transport at former gas station owned by Cooper Union at East 4th Street and the Bowery. A wide variety of human-powered, electric and solar vehicles would be designed, built, repaired, rented, refueled and parked here. The center is being developed by a working group led by George Bliss and Karen Overton of the Institute for Transportation and Development Policy, and parallels a similar "C.A.T." operating in Eugene, OR.



Left to right, human-powered utility vehicles: bicycle trailer carries kids or groceries; front-loading tricycle truck; two-passenger pedicab.



NYC police officer, 24th Precinct (Manhattan), 1992.

ANITA BARTSCH



## Chapter 16

# Governmental Cycling

### New York City's Fleet

New York City government operates some 24,000 vehicles. Many of these are essential vehicles like fire engines and sanitation trucks, but city workers also use some 7,500 sedans and 3,200 pick-up trucks. Purchasing, maintaining, insuring and fueling these vehicles costs the city hundreds of millions of dollars a year.

On at least two occasions, Mayor Dinkins has called for the city to cut its automotive fleet by 1,500, a move that he estimates would save \$11.2 million over five years. The Mayor has not, however, taken the logical next step: directing city agencies to adopt bicycles as an alternative mode of transport for government employees.

### Adding Bicycles to the Fleet

The use of bicycles by the city improves their status within government and among the public. Equally important, experiences of other municipalities that have switched to bicycles for short- and medium-haul trips suggest that their use improves productivity and saves money. Not only are bicycles often faster door to door than cars or mass transit; they reduce purchase, fuel, insurance, storage, maintenance and health-care costs.

### Street Cut Inspectors and Traffic Enforcement Agents

In April 1991, the New York City Department of Transportation began a pilot program that took five of its 150 street-cut inspectors out of their city cars and put them on bicycles. The cycling inspectors, chosen from a surplus of volunteers, monitor all street cuts in Manhattan south of 59th Street as part of the Highway Inspection and Quality Assurance program.

Although no official results have been reported, by all counts the program is a big success. "The people love participating in it," says John Benfatti, the New York City DoT bicycle coordinator, "and they're very productive." The city also saves a considerable amount of money — to equip the five riding inspectors with heavy-duty bikes (complete with carrying racks, water bottles, and bells) cost only \$600 per person, vs. \$12,000 to supply a motor vehicle (not including gas, maintenance and storage).

The Department of Transportation is contemplating expanding the program and perhaps putting traffic enforcement agents on bikes as well. Since traffic agents must stop frequently to issue summonses, this would make a great deal of sense. Bicycles are easier to stop and to park than sedans, they don't block traffic when parked, and can cover more territory than agents on foot.



Since 1991, five bicycle-riding DoT inspectors have monitored all street cuts in Manhattan south of 59th St.

CHARLES KOMANOFF



ANITA BARTSCH

**NYC Housing Authority Police are finding bicycles well suited for community policing and crime prevention.**

Another candidate for bicycle use is the joint DoT-DEP vehicle-idling enforcement unit, whose productivity has been miserable (see Chapter 18, Air Pollution); getting these agents out of cars would save money and make it easier to spot infractions, while sending the message that the city practices what it preaches.

### Police on Bicycles

Under the administration of Mayor Dinkins and former Police Commissioner Lee Brown, the Police Department has been moving toward community-based patrol to increase police presence on the streets. In a major new application of community policing, the NYPD inaugurated a pilot “cops-on-bikes” program on Manhattan’s Upper West Side in mid-1992. Joining — and perhaps upstaging — the Police Department are the Housing Authority Police, with 36 officers in six Bike Patrol Units patrolling in and around public housing projects in Queens, Brooklyn and Manhattan.

Generally, the officers ride mountain bikes and wear shorts or cycling pants, and undertake normal, on-the-beat duties, from neighborhood patrol to anti-drug-trafficking. Both police departments say they hope to expand their bicycle programs in the near future. Apparently, New York officials are discovering what more than 200 big and small cities across the U.S. and

Canada have learned: that bicycle-riding police are effective in community relations, crime fighting, and public security.

Although it’s too early to report definitively on experience in New York City, police bicycle patrols have been a hit wherever they’ve been deployed, impressing everyone from bike cops and top police officials to community groups and individual citizens. By all accounts, bicycle patrols lead to less crime and higher arrest rates; in Seattle, where 82 police officers — 5% of the force — regularly ride bicycles on the beat, bike cops make five times more arrests than their colleagues on foot patrol.<sup>1</sup> As Officer Brian Hermes of the Boston Metropolitan District Police (MPD) bike patrol explains, “The officers can hear and see crimes being committed that they never could before.”<sup>2</sup>

Riding bikes keeps the cops more vigorous and fit and helps connect them to the community, less hidden and isolated from the neighborhood than police driving in cars. Officers on bikes are simultaneously a friendly presence on the street and a stealthy, unexpected one in the hard-to-reach places where crime tends to occur. “The people get to know us as human beings and not just as guns and badges,” reports Officer Jim Smith of the bicycle safety patrol of Fort Worth. “We get to develop a rapport with them which naturally helps community relations. [The bicycle patrol] has one of the highest records of arrests in the police department.”<sup>3</sup> Bike patrols also save money — the total cost of purchasing, outfitting, and maintaining a police bicycle is only about \$1,000 to \$1,500 for the life of the bike, a tiny fraction of the cost of patrol cars.

To be sure, New York can pose special problems to bike-riding police, particularly concerning safety and security. For the NYPD pilot program, in Manhattan’s 24th Precinct, the bicycle police — many of whom were already recreational riders, and all of whom volunteered — took a special training course in city cycling savvy with an expert local bicyclist, on hazards like metal plates, sewer grates and car doors. The police bikes are specially marked as a deterrent to theft. Yet even if bicycles were stolen routinely, the replacement costs would

not begin to match the cost of buying, running and maintaining cars, or even the enclosed “Cushman” scooters used by the NYPD.

Bicycle patrols elsewhere haven’t led to higher accident or injury rates. According to Sgt. Robert L. Follett of the Boston MPD, Boston’s police officers on bike actually have fewer accidents and injuries than those in cars; in fact, over the first eight-month period of the program, during which 24 officers each did 1 to 2 shifts per week, not a single injury was reported.<sup>4</sup> Follett attributes this record to the better physical condition and greater alertness that accompany bicycling. “Cops on bikes are more alert, have more visibility, know they’re more vulnerable to accidents,” says Follett. “Being in a cruiser, you have all that metal around you, you get complacent. On a bike, you see and hear better. Also you’re going slower.”

Finally, cycling officers set a positive example for the public, encouraging civilians to try bicycle transportation. And perhaps as officers begin experiencing the streets from the cyclist’s point of view, they will be less inclined to tolerate motor vehicle speeding and red-light running — the major causes of accidents for cyclists and for everyone else. Perhaps too, motorists will think twice before violating a cyclist’s right of way, if they know that the insignia on the cyclist’s jersey isn’t a racing stripe but a police badge. If so, the nascent cops on bikes program could go a long way toward taking city streets away from both criminals and cars and giving them back to the people.

### Departments of Parks and Sanitation

The joint Parks and Sanitation Departments’ “Clean Team” uses a variety of large pickup trucks and vans for hauling and delivering equipment. Obviously, these city agencies often require large, heavy-duty vehicles. But just as often, a more compact human-powered vehicle would do the job at least as well. New York-based inventor George Bliss, a leader in human-powered vehicle innovation, has devised a variety of utility vehicles for small freight jobs (see Chapter 15, Freight Cycles).

These bicycles and tricycles can be equipped with a half or whole cubic-yard capacity rubber dumpster.

Since Sanitation vehicles often have to stop in places with little or no parking, and since Parks vehicles often block the narrow pathways of parks, these small and agile vehicles are an appropriate as well as economical alternative to motor vehicles. Most parks are small enough to traverse by bike, and the Parks Department should be particularly sensitive to its vans and trucks that now mar park drives and pollute the air. Where the front-loaders are too bulky, large flat-bed trailers such as those designed by Mobility Resources would be a viable alternative for hauling barrels and other freight (see Chapter 15, Freight Cycles).

### Bikes for Office Workers

Office workers also use city vehicles; executives are often granted their own cars, and others have the option of signing up to use vehicles as needed. Often, the vehicle is used merely for a short trip from one office to another, or from the office to an event. In a city smothered by pollution and short on funds, city government would be wise to look into new, less wasteful ways to get its workers around. For short trips around town, employees should be given the option of using a bicycle. This would not only reduce time and hassle, it would also cut gasoline and maintenance costs and free up garage space for more productive uses.

**Municipalities and private firms around the country are offering employees cheap or even free bicycles.**

### Free Bikes for Employees

Increasingly, not only municipalities but also private companies are seeking to mitigate their parking and clean-air compliance problems by offering employees cheap or even free bicycles. In the process, they have created dedicated cyclists out of people who were once committed motorists. The Nabisco bakery in Buena Park, CA, gives away new bicycles to employees who commute to work three out of five days for a six-month period. Those who commute on their own bikes are given \$300, the cost of a moderately priced new bike. Ten percent of the plant’s 480 workers now commute regularly by



bicycle, helping Nabisco satisfy the Los Angeles area's stringent new anti-pollution rules. "These commuters have become biking enthusiasts," reports Nabisco transportation coordinator Byron Kemp. "For them, biking is now an important social activity, and they regularly participate in fun rides on weekends."

Similarly, Apple Computer, as part of a Commuter Alternatives program, provides free use of mountain bikes for employees at its Cupertino, CA, facility. The chemical company Ciba-Geigy — though notorious in the New York region for toxic discharges into the Atlantic Ocean — was able to avoid building a new garage at a facility in Switzerland by encouraging its employees to ride to work. Any worker willing to give up his or her parking space was given a new bicycle, an option 230 employees chose.<sup>1</sup>

Copenhagen and several other European cities have actually experimented with public provision of bicycles to anyone who wishes to ride in the downtown area. Typically, the bikes are withdrawn from municipally furnished racks by depositing a token costing about \$3.50, and then replaced in similar racks (with token returned) at the end of the trip. Among a number of other European examples, the Borough Council of Sutton (a district in London), has created a bike pool and offers employees a mileage allowance of up to 58 pence per mile (roughly \$1). Erlangen, in Germany, has purchased bicycles for the use of City Hall staff. In an experiment begun in 1992, reminiscent of Amsterdam's legendary "white bikes" in the 1960s, the English towns of Hertfordshire, Exeter and Stratford-upon-Avon provide free green-painted bikes to anyone wishing to use one.<sup>2</sup>

Closer to home, the Downtown Management Commission of Boulder, CO, has made available 100 bicycles and 50 helmets for residents and tourists; all that's required is a credit card as a deposit. Champlain College in Burlington, VT, gives bikes to students who agree not to keep a car on campus.<sup>3</sup>

New York City should follow these leads, first by offering at-cost bicycles and secure indoor parking spaces to city workers who now hold

parking permits, including police and fire department personnel, judges and mayoral aides. The Department of General Services should create a bicycle pool, giving city employees both the option and the economic incentive to ride (such as mileage allowances or the part-time or full-time use of city-owned bikes). The city could also implicitly encourage cycling by instituting a fee for car parking that is now free to privileged employees but expensive to taxpayers in terms of land and other auto-related subsidies.

## Chapter 16 Recommendations

### Agencies

#### Mayor's Office

Create bike pools for city workers for appropriate freight hauling and for transportation on-the-job use; employ unclaimed bikes obtained from regular police auctions (after making appropriate repairs).

Institute policy reimbursing city workers for use of private bicycles on city business, at same rates applied to use of private auto.

Establish regular no-driving days (e.g., Wednesdays) on which visible public officials (mayor, commissioners) bike-commute, walk or use transit.

Accelerate the phasing out of city cars by city agencies, particularly for "take-home" use (i.e., if employee truly needs car for agency work, it should be picked up and returned daily to a motor pool).

Charge fee for now-free city parking, while adding free bicycle parking.

Eliminate preferred curbside parking areas for private cars used for commuting by city employees.

As an incentive for City commissioners, permit each agency to retain money it saves from eliminating official cars, agency fleets, etc.

#### NYC Dept. of Transportation

Expand DoT street-cut inspector bicycle program.

Implement new inspector-on-bike programs for parking ticketing, vehicle-idling enforcement and other applicable uses.

#### NYC Police Department

Expand NYPD's uniformed police-on-bikes program.

#### NYC Housing Authority

As appropriate, expand the authority's police-on-bikes program.

## NYC Department of Sanitation

Deploy human-powered cargo cycles in the expanding curbside recycling program.

### Chapter 16 Notes

- 1 "82 police officers" from *Seattle Post-Intelligencer*, April 21, 1992, p. A4. "Five times more arrests" from *How to Get Police Onto Bicycles*, 1990, League of American Wheelmen, Suite 120, 190 W. Ostend St., Baltimore, 21230, (301) 539-3399. Andy Clarke, legislative director of the Bicycle Federation of America, reports that bike cops account for 40% of all arrests in Seattle (personal communication, August 1992).
- 2 *Boston Globe*, July 30, 1990.
- 3 "Millburn Cops Learn Advantage of Bike Patrols," *The Sunday Star-Ledger*, May 20, 1990, p. 48.
- 4 Boston Metropolitan Police, 250 Leverett St., Boston, MA. 02114, (617) 727-6780.
- 5 Nabisco information from *Southwest Cycling*, "Buena Park Bakery Puts Employees on Bikes," Sept. 1991. Apple Computer information from electronic mail message from Santa Clara Valley Bicycling Association, May 25, 1991. Ciba-Geigy information from *London Cyclist*, Jan/Feb 1990, London Cycling Campaign, 3 Stamford St., London, SE19NT.
- 6 "Free Bikes Catch On In Herts," *Cycling Weekly* (U.K.), July 11, 1992, p. 6.
- 7 Sutton, England information from *London Cyclist*, July/August 1990. Erlangen, Germany information from "Cities for Cyclists" brochure, European Cyclists' Federation, Bremen, Germany, 1991. Boulder information from Jim Fremont, *Proceedings From Pro Bike 88*, Bicycle Federation, 1818 R Street NW, Washington, DC 20009, (202) 332-6986. Champlain College information from "Students get a Wheel-Deal," *Champlain Today*, Oct/Nov 1989, reprinted in *Bicycle Network News* #44, Oct-Dec 1989, p. 10.



JEAN-JACQUES MARQUETTY

## Reducing Risks



**Bicycle messenger Stephen Athineos, with friend.**

MARK BABUSHKIN



## Chapter 17

# Accidents

### Perceptions and Reality

In discussing bicycling accidents, it's important to separate perception from reality. For many non-cyclists, the perception is that cyclists take their lives into their hands on the streets — that in some sense they are “asking for it” by riding recklessly or by venturing onto the streets in the first place.

In reality, most cyclists are extremely alert when riding on the city streets, and cycling accidents are much less common than those involving pedestrians or motor vehicles (although travel by foot and motor vehicle in New York also far exceeds that by bike).<sup>1</sup> This is not to say that cyclists don't face danger every day. However, much of the risk of bicycling in New York City could be mitigated with public education and more care on the part of pedestrians and motorists, abetted by enforcement and other policies to reduce the amount and aggressiveness of motor vehicle use.

Any cyclist knows that the main traffic risks come from three sources: reckless, belligerent or blindsided motorists; swinging car doors; and jaywalking pedestrians. Cyclists must somehow be alert to these dangers while simultaneously keeping a close eye on the pavement for potholes, metal plates and other ground-level hazards.

### Accident Statistics

Official City statistics on traffic accidents provide telling information about risks *to* cyclists and risks *from* cyclists. For the full year 1992, there were 298 recorded collisions in New York City between *cyclists and pedestrians*. Two of these resulted in fatal injuries to the pedestrian. The frequency of collisions between *motor vehicles and bicycles* was an order of magnitude higher — 3,520 accidents and 17 fatalities (see table, next page).

In the same year, 1992, there were 13,599 collisions between pedestrians and motor vehicles in New York City. 294 pedestrians were killed in these accidents, including approximately 15 fatalities on sidewalks and other “off-road” areas. In other words, pedestrians were almost 50 times more likely to be struck by a motor vehicle than by a bicycle, and more than a hundred times more likely to be killed.

Indeed, pedestrian deaths from cars running amok *off-road* in just one year roughly equal pedestrian deaths from all bicyclists in the entire 1980s. Granted, cars far outnumber bikes. But pedestrians (and the press) would be wise to examine more closely the real danger on the city streets: the huge volume, high speeds and crushing weight of automobile traffic.

### Cyclist/Pedestrian Accidents

Other patterns emerge when the statistics from various years are compared. The most striking change over the past decade has been the decrease in collisions between bicyclists and pedestrians (see table). The number of reported collisions climbed from around 400 in the early 1980s, steadily up to a high of 707 in 1985, and then dropped even more steadily to just 298 in 1992 — the lowest number ever recorded. (Annual fatalities, ranging from 0 to 3, seem to follow no particular pattern.) The decline is more impressive still when the increase in the volume of cycling is taken into account.

The Police Department has attributed the impressive drop in cyclist-pedestrian accidents to its aggressive ticketing policy of cyclists. There is a certain correlation: from 1985 to 1986, when the bicycle messenger industry gained visibility and notoriety, the number of summonses issued to cyclists nearly tripled from 6,578 to 18,130, while bicycle-pedestrian accidents dropped 11 percent, from 707 to 631. Yet since then the rate of summonses has dropped

***Collisions between bicyclists and pedestrians have declined, even as the volume of cycling has increased.***

### Collisions and Fatalities in NYC Traffic Accidents

	<u>1992</u>	<u>1991</u>	<u>1990</u>	<u>1989</u>	<u>1988</u>	<u>1987</u>	<u>1986</u>
Bicycle-Motor Vehicle Collisions	3,520	3,857	3,356	3,544	3,661	4,246	4,313
Bicyclist Fatalities	17	18	20	18	15	15	24
Pedestrian-Motor Vehicle Collisions	13,599	14,732	15,109	14,552	14,043	14,304	14,347
Pedestrian Fatalities	294	317	366	374	352	319	286
Pedestrian-Bicycle Collisions	298	358	351	327	430	511	631
Pedestrian Fatalities	2	0	3	0	0	1	2

Fatalities (except 1991-92) from *Traffic Fatalities Data in New York City*, NYC DoT, Aug. 1991. All collision data and 1991-92 fatalities compiled by Transportation Alternatives from NYPD Traffic Division, except 1992 bicyclist fatalities from DoT Safety Division, March 1993. See T.A. fact sheet, updated regularly, "Accidents Involving Bicycles, Pedestrians and Motor Vehicles in New York City."

back down, to 10,395 in 1990, while bicycle-pedestrian accidents have continued to decline. Moreover, while there is no record of which party is at fault in bicycle-pedestrian accidents, clearly a good proportion of them can be traced to jaywalking, for which the Police Department issued virtually no summonses.

The bicycling community ascribes the halving in bicycle-pedestrian accidents since 1985 instead to a gradual mutual accommodation of cyclists and pedestrians. The increase in accidents occurred in the mid-1980s, during a big boom in city cycling. As pedestrians and cyclists have learned to adjust to each other and anticipate each other's moves, the number has fallen back down.

In addition, cycling groups have stressed safety and kinship between cyclists and pedestrians, from the collegial rhetoric that flourished in the 1987 demonstrations against the midtown bike ban, to the constant safety exhortations in Transportation Alternatives' *City Cyclist* magazine. The increasing respect cyclists have received as public opinion and political action gradually shift in their favor may also have played a part in encouraging improved cyclist behavior.

If the city reduced car use by eliminating curbside auto parking, in favor of bike lanes or wider sidewalks in congested areas, the number

of pedestrian-bicycle and pedestrian-motor vehicle accidents would also decrease due to the improved visual contact between sidewalk and street. Slowing motor vehicle traffic would also ease the general assault on the senses New York City motor traffic now presents, allowing all parties to pay better attention to people and vehicles moving around them (see Chapter 4, Street Design).

#### Motor Vehicle Collisions

No such dramatic reduction in accidents has occurred where motor vehicles are concerned. As the table shows, the number of *bicycle-motor vehicle* accidents and fatalities decreased only slightly from 1987 to 1992. (The reliability of bicycle accident statistics improved markedly after 1986, when the NY State Department of Motor Vehicles revised its report form after prodding from the bicycle community.) The number of accidents between *motor vehicles and pedestrians* has also been steady, staying in the 13,000-15,000 range, though fatalities declined in 1991-92. Still, the best way — the only way — to make city streets safer is to start with the drivers of motor vehicles.

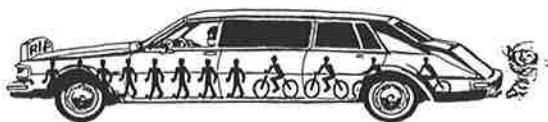
#### Enforcing Motor Vehicle Violations

When it comes to ticketing motorists for reckless driving, government exhibits a dangerous leniency. Motorists constantly exceed the speed

limit and drive erratically and assaultively, yet they are virtually never ticketed. Over the most recent 4-year period for which data are available, motorists received only 12,000 summonses a year for speeding or reckless driving on city streets — just 30-35 per day.<sup>3</sup> Small wonder that over 300 pedestrians and 15 cyclists are killed on city streets and sidewalks each year, while thousands more are injured and intimidated. Moreover, as discussed in Chapter 4, even legal speeds may be too dangerous, in light of data showing that a car moving at 30 miles per hour is far more deadly than one moving at 20.

Contributing to this “anything goes” climate is a policy known unofficially as the “Rule of Two.” For criminal prosecution to be initiated in a reckless driving case, the New York State Code of Conduct requires motorists to be proved guilty of two simultaneous infractions. In other words, if a driver accidentally kills someone while speeding, it’s unlikely that the driver will be prosecuted unless he or she was also breaking another law at the same time.

Under the Rule of Two, cases of pedestrians killed by motorists running red lights rarely lead to criminal prosecution. The enforcement pattern reflects social acceptance of motor vehicle carnage as the price of the wasteful, destructive luxury of private car-centered transportation.



PHILIP GREENBERG/NEW YORK OBSERVER

### Helmet Laws

Debates over bicycle safety in the United States frequently center on getting cyclists to wear protective helmets. Helmet use has increased markedly throughout the U.S. and in New York City. A whopping 63% of cyclists responding to the 1992 *City Cyclist* survey say they always wear a helmet — up from 42% in 1988; another 16% ride with helmets some of the time. Although these percentages overstate helmet use by the overall cycling population, there is no question that helmet use is large and growing.

Despite the rise in voluntary helmet use, some advocates and legislators increasingly are seeking to mandate their purchase and use. At least five states and a number of counties now require helmet use by children under various ages.<sup>4</sup> New Jersey recently mandated helmet use for cyclists age 14 and under, and Rockland County (NY) adopted legislation in mid-1992

### Police Department Accident Record-Keeping

Police Department crash statistics, though helpful, are superficial where bicycle figures are concerned. According to Sgt. Brian Franklin of the NYPD Traffic Division, bicycle accidents tend to fall between the cracks of the official accident record. “Bicycle-pedestrian accidents aren’t even supposed to be reported under the federal government’s Fatal Accident Reporting System,” he says.

The explanation usually given by city record-keepers is that city cycling is still a relatively new phenomenon — a strange attitude to take toward a transportation option that is over a century old and has been resurging for several decades. In any case, the Police Department had little difficulty in mobilizing its forces to increase its ticketing some 20 times over. To learn more about how to reduce risks, the NYPD or the DoT needs to gather, analyze and disseminate detailed information about serious accidents, such as proximate cause and (when it’s possible to determine) who was at fault.<sup>2</sup>

requiring all cyclists of all ages to wear helmets. While no states have passed mandatory bicycle helmet laws for adults, a number of such bills have been introduced in state legislatures. A law mandating adult helmet use in Ontario, Canada is scheduled to take effect by 1994, even though 80% of cyclists surveyed there said they opposed the measure.<sup>5</sup> New York State law mandates helmets for children ages 1-5, who must also ride in approved child seats (infants under 12 months may not be carried on bikes).

Proponents of legislating mandatory helmet use cite strong evidence that helmets can prevent many fatalities and up to 88% of potential brain injuries in bad falls.<sup>6</sup> Opponents focus on the potential chilling effect of bike helmet laws on cycling itself. According to this argument, since cycling is already a discretionary activity, anything that makes cycling less convenient — and indeed the simplicity and convenience of bicycling is one of its main attractions — will discourage cycling.

In effect, mandatory helmet-use creates an additional expense for the cyclist, another piece of equipment to carry around and one more preparatory step before climbing aboard and pedaling away. And indeed, cycling has declined in several Australian states that passed mandatory adult helmet laws in 1990.<sup>7</sup> Ironically, helmet laws that discourage cycling may indirectly harm those so discouraged, in view of research indicating that cycling promotes health through the cardio-vascular benefits of vigorous exercise.<sup>8</sup>

Moreover, since many helmet-law proponents are medical professionals with little familiarity with cycling, some cyclists feel singled out among the various groups in society, many of whom — motorists, for instance — engage in arguably more dangerous and antisocial practices.<sup>9</sup> While helmets drastically lessen the severity of head injury to cyclists, helmet-law advocates rarely promote helmet use as part of a comprehensive set of safety, education and facility-development measures aimed at cyclists and motorists alike. The European Cyclists' Federation estimates that the expenditures required to equip all bicyclists with hel-

met in a country or state would prevent more accidents and injuries if spent instead for safety education and on improving the cycling infrastructure.<sup>10</sup>

This conclusion appears to have been borne out in at least one local example. The town of Cranford, NJ, instituted an ambitious bicycle safety campaign aimed at both motorists and bicyclists in 1973. Accidents declined about 30% from pre-campaign levels over the next few years, and have remained low. Cranford continues to spend \$1,000 each year on bicycle safety education.<sup>11</sup>

## Chapter 17 Recommendations

### Administrative

#### Mayor's Office, Departments of Transportation and Environmental Protection

Implement public-service campaigns stressing courteous walking, cycling and driving.

In conjunction with Police Department, implement traffic-curb and motorist-regulating actions, including eliminating/reducing curbside car parking, slowing motor vehicle traffic, and issuing tickets for reckless driving (see Chapter 3).

#### NYC Dept. of Transportation

Regularly (at least semi-annually) and promptly disseminate statistics to dispel impression that cyclists cause large numbers of accidents.

Regularly (at least semi-annually) disseminate statistics establishing the magnitude of pedestrian deaths caused by or involving motor vehicles.

Publish and disseminate annual report on bicycling fatalities and serious injuries, including detailed analysis of proximate cause.

#### NY State Dept. of Transportation

Amend driver's education syllabus to teach new drivers how and why to be alert to bicycles.

### Legislative

Eliminate prosecutors' informal but prevalent "rule of two" that restricts indictments for motor vehicle accidents to instances in which motorist committed two or more violations.

Abandon efforts to legislate bicycle helmet use in favor of a more holistic approach to bicycle safety that

stresses cyclist-motorist education and enforcement and reduced motor vehicle traffic.

See also recommendations regarding traffic law enforcement and vehicle speed limits in Chapter 3, and concerning public education in Chapter 20.

## Chapter 17 Notes

- 1 In New York City in 1990, motor vehicles were involved in 187,503 accidents, pedestrians in 15,460 accidents, and bicycles in 3,706 accidents. These figures were calculated by combining the number of motor vehicle-motor vehicle accidents, motor vehicle-pedestrian accidents, motor vehicle-bike accidents, and pedestrian-bike accidents, as compiled by the NYPD. See table in text.
- 2 For example, *Accidents in North American Mountaineering*, published annually by the American Alpine Club, has raised awareness of pitfalls in mountain climbing and wilderness hiking. Transportation Alternatives has offered to develop a parallel report for city cycling accidents, but city officials have refused access to accident reports.
- 3 Figures cover 1989-91 and exclude ticketing on limited-access highways. Raw data are from *Statistical Report: Hazardous Violations — Arrests and Summonses (Report UCAR9500)*, NY Police Department, Office of Management Analysis and Planning, Crime Analysis Unit. Although citywide speeding tickets averaged 95,000 per year, the vast majority of these (92%) were issued by Highway Patrol officers; an estimated 95% of these are on limited-access highways, where pedestrians and cyclists are excluded (Transportation Alternatives telecom with NYPD Officer Scott Block, Dec. 9, 1992). Citywide summonses for reckless driving averaged only 900 per year in the same period.
- 4 "The Most-asked Questions About Bicycle Helmets," Randy Swart, Bicycle Helmet Safety Institute, Arlington, VA, Dec. 1991, p. 4.
- 5 "Bike Helmet Law for Ontario?" *Ontario-Carlton Cyclist*, August 1991, cited in Bicycle Helmet Safety Institute Bibliography, Dec. 1991.
- 6 *The New England Journal of Medicine*, "A Case-Control Study of the Effectiveness of Bicycle Safety Helmets," Robert S. Thompson et al., Vol. 320, No. 21, May 25, 1989.
- 7 Jim Pravetz, "The Impact of Australia's Mandatory Helmet Laws," *Bicycle Forum*, August 1992, Number 30. See also "Helmet Law Discourages Cycling: Riding Numbers Plummet," Ron Shepherd, *Australian Cyclist*, month unknown, 1991.
- 8 *Bicycle Forum*, "The Impact of Australia's Mandatory Helmet Laws," by Jim Pravetz, No. 30, August 1992. See also *Cycling Towards Health & Safety*, Dr. Mayer Hillman, British Medical Association, Oxford University Press, Britain, 1992, which found a 20:1 ratio between life years gained vs. life years lost because of cycling.
- 9 For example, the *New England Journal of Medicine* article cited above identifies bicycling solely as a sport, and not also as a means of transportation.
- 10 "Cycle Helmets," Position Paper, European Cyclists' Federation, Oct. 1991, Strasbourg, France, pp. 3-4.
- 11 Letter from Thomas E. Kane, Lieutenant of Police, Cranford, NJ, to Transportation Alternatives, March 23, 1992. Also "Bicycle Safety Alert Program," Cranford Police Department and Cranford Bicycle Board, 1984.



DAVID WEISS/NYC DOT

**NYC DOT bicycle co-ordinator John Benfatti on his 30-mile daily commute. Safety equipment such as helmet, reflective vest and light system may improve one's odds in city traffic.**

## “Three Who Died”

by Jeff Parker

*New York City bicyclists are anonymous in death, as in life. Between 15 and 20 cyclists are killed riding bicycles here each year, yet these deaths cause scarcely a ripple. For the most part, they go unreported by the media and unnoted by police and transportation officials.*



Julia Collier

*To put a face on these victims and register the bicycling community's concern and outrage, Transportation Alternatives asked Jeff Parker, a reporter for U.P.I. and a cyclist, to investigate a trio of fatal accidents from a single week in early 1989. Parker's report was published in the May/June 1989 City Cyclist.*

The radio report was terse and somber that January day. “Police say one bicyclist was run over and killed by a truck, and another was struck and critically injured by a city bus in separate Manhattan accidents. Neither driver was charged with wrongdoing.”

What made a sad story remarkable was the timing, for the accidents that killed Randall Postell and Jay Rosenblum in January 1989 came just 10 minutes apart. And only six days earlier, another veteran rider, Julia Collier, died under a truck's wheels on the Upper East Side.

It's a violent, rough-and-tumble city, but *three* bicycling deaths in a week? What's going on? Is it no longer safe to bicycle in New York? Has it ever been? And does anybody care?

New Yorkers should care because Randy, Jay and Julia were not just statistics at the city morgue. They were you and I. They were anyone who ever ventures onto New York's teeming, rutted streets. And each of them — like each of us — represented something unique and irreplaceable. What they held in common was their love of cycling and their dedication to making wheels work in New York City.

**Julia Collier: January 19, 10:15 a.m.**

Every morning for more than a decade Julia Collier had pedaled her way from her East 80th Street apartment down Second Avenue to her

job at Christies East. She was an expert on collectible dolls and last year had arranged the \$165,000 auction sale of the ruby slippers Judy Garland wore in “The Wizard of Oz.” But one sunny morning in January — just 20 days shy of her 39th birthday and two blocks short of her East 67th Street office — Julia's life was snuffed out under the wheels of a beer truck.

“The one good thing is that she was killed instantly and didn't feel a thing. But it still came as a shock for us,” said Julia's nephew, David Cook, who was in town with Julia's sister, Marty Cook, to pack her things. “She was on her way to work — she rode every day — and a truck was taking a right, and the driver didn't see her. She fell underneath the wheels.”

According to witnesses, Julia was riding in the right-most lane and the truck simply cut across her path into 69th Street, crushing her under its right-front wheel. The driver gave an all-too-common explanation for the accident: “I didn't see her. She was in my blind spot.”

“We still haven't been able to see the accident report,” Marty Cook said, her voice revealing the shame of having to beg police for answers. “I explained to them that I was her only sister, that I was here from Chicago, that we just wanted to know what happened. They said, ‘That's not good enough. We're too busy.’”

Julia Collier was one of a large number of professional women and men who brave the city streets on a bicycle saddle. Ironically, she also was one who raised a voice in defense of cyclists' right to safe passage. Her plea was published in *Our Town* in response to tirades against “kamikaze cyclists” printed in *The New York Times* last fall.

“Julia always rode and she really was very careful,” her sister recalled. “But whenever she came to Chicago she always said she was going to leave New York. Our cab drivers in New York almost knocked pedestrians off the street. It surprises me that anyone would have the

nerve to ride a bicycle there."

Julia's book, "The Official Identification and Price Guide to Dolls," was scheduled to be published in late April. "Random House had to stop everything to reword the biography," said Marty Cook, who collaborated on the book. "She never even got to see it."

**Randall Postell: January 25, 5:20 p.m.**

Randy Postell more closely approximated the image most non-cycling New Yorkers maintain of the typical city cyclist — the hellbent Manhattan bicycle messenger.

Randy belied the stereotype. He was a proud parent and breadwinner who loved his five children and spent time with them every day. He was a black man who managed to survive in a country where homicide is the leading cause of death in young black men. He made it past his 31st birthday — only to die in the line of duty during rush hour on Sixth Avenue.

Clad in his trademark sweatshirt and blue jeans, Randy was pedaling up Sixth Avenue when he was struck. Police said a driver with Presidential Trucking Co. of South Kearny, NJ, had stopped his rig on West 26th Street to ask for directions, then pulled into Sixth Avenue, rolling over Randy with his right-front wheel. According to police, Randy may have entered the intersection before the light turned green. The driver told detectives he had not seen the cyclist in time and was not charged.

"Sometimes Randy said traffic was pretty busy, but he never really had any problems. He was very good on a bike," said Randy's eldest sister, Geraldine Postell, incredulous that a motorist could run a man down without being arrested or even ticketed.

"Being a messenger was his primary job," Randy's sister said. He'd done that for about four years. He enjoyed it. He said it paid well and he got along with his boss."

Geraldine Postell said Randy used his earnings to help support his four daughters and one son, who live with their mother in Brooklyn's Fort Greene section. "They were really close. They were together just about every day," she said.

Randy looked down on messengers who took

their bikes to work on the subway. "He loved to ride and he rode to work every day" from his apartment on Malcolm X Boulevard, Geraldine said, describing her brother as fit and lean at 5 feet, 9 inches. "And the bike — that bike was his baby. Oh, he put a lot of work into it."

**Jay Rosenblum, January 25, 5:30 p.m.**

Just 10 minutes after Randy Postell was killed, New York lost another of its native sons when Jay Rosenblum, an abstract painter, was struck by an M14 bus above Tompkins Square Park, a half-block from his Lower East Side home. Rosenblum died two days later. He was 55 years old, a husband, a father of two daughters.

Police said Rosenblum pedaled his three-speed bicycle onto Avenue A at East 10th Street and into the path of an uptown city bus. As in Postell's case, an initial investigation by detectives cleared the bus driver of wrongdoing.

Rosenblum's wife, Muriel, said she and her husband were no strangers to bicycling in the city. "He rode his bike in the city for 30 years, we both did," she said. "We rode our kids on the back of our bikes. We rode everywhere."

Jay was born in the Bronx and graduated from Manhattan's High School of Music and Art and Bard College. He settled on the Lower East Side in 1961 to paint and raise two girls, Julia and Maria. While teaching at the School of Visual Arts and the Dalton School Jay discovered the freedom and efficiency of the bicycle, pedaling everywhere on his English 3-speed. "It was so easy and quick by bike," his wife explained. "He always rode to his galleries in the Village, in SoHo, on the Lower East Side."

Muriel Rosenblum said she suffered a frightening lesson in the dangers of city cycling. "I was struck two years ago when a limo door opened. I was shaken up badly and stopped riding. My husband continued to ride," she said.

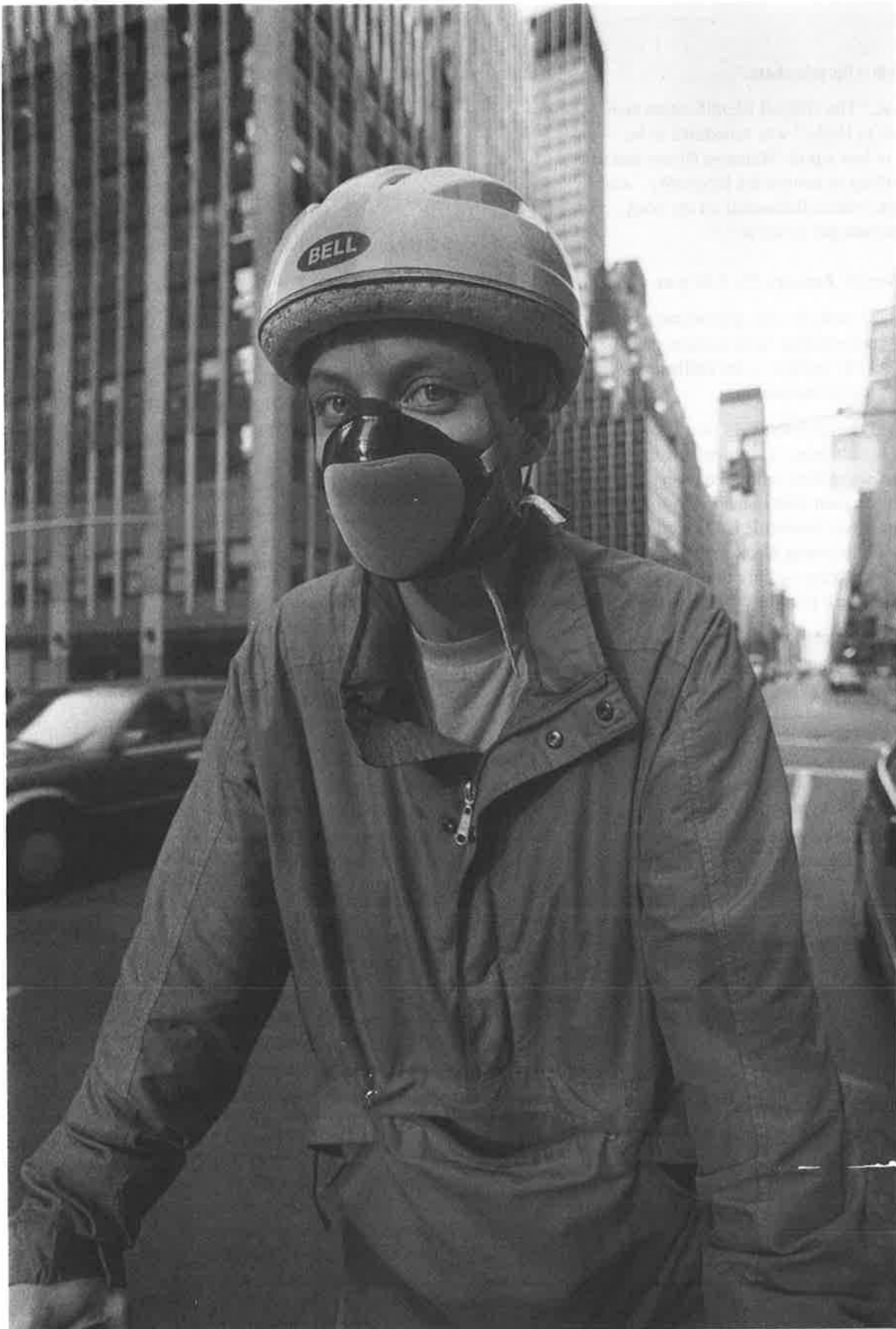
The Rosenblum home is jammed with artworks Jay created or collected. But tucked away in a back room is an equally poignant reminder of the artist, his life and his death — a 1961 Raleigh 3-speed, its frame dented and sprung, the rear wheel twisted like a pretzel. He'd ridden it safely for 28 years.



**Photomontage for Randall Postell**



**Jay Rosenblum**



De rigeur for NYC cyclists: helmet and anti-smog mask?

DOUG GOODMAN



## Chapter 18

# Air Pollution

### Bad Air

Air pollution is one of the harsh realities of city cycling that, along with invasive motor traffic and bike theft, scare off many New Yorkers from cycling. According to the federal Environmental Protection Agency, New York City's air ranks third-worst in the country (after Los Angeles and Houston), with 26 days a year in which the air is "unhealthful."<sup>1</sup> Daily, bicyclists and walkers suffer itchy noses, burning eyes and scratchy lungs — and the knowledge that they are being slowly poisoned in the act of trying to get around a city where the car rules.

Bicyclists adapt by running lights to keep clear of idling traffic, or by wearing smog-filtering masks which also prevent the easy, spontaneous communication that used to be a normal feature of bicycling. Or they quit bike-commuting altogether and confine their cycling to weekends in the park. Meanwhile drivers, the prime generators of New York City's air pollution, remain closed off from the irritation and sickness bred by their own "mobile source" emissions.

In the 1992 *City Cyclist* survey, 58% of respondents labeled cleaner air "very important" — a percentage outranked by only four categories (more support from government, better street surfaces, fewer cars and better bike lanes). Less bus exhaust was likewise called very important by 52%. While these figures no doubt reflect the overall commitment to environmental values felt by many bicyclists, they also indicate cyclists' special sensitivity to air pollution. Notwithstanding studies suggesting that exercising cyclists expel pollutants as fast or faster than they inhale them,<sup>2</sup> bicyclists understandably believe that vigorous breathing of polluted air undercuts the health benefits of cycling.

### Pollutants and Damage They Do

Bike riders get the full brunt of pollutants such as carbon monoxide, nitrogen oxides and particulate matter (soot) emitted at ground level by cars, buses and trucks. Because cyclists often breathe vigorously in the midst of traffic flow, they draw more pollutants into the lungs, causing coughing, fatigue and shortness of breath. Cyclists are stuck in a traffic catch-22: if they ride harder, to keep up safely with traffic flow, they wind up taking in more fumes through their mouths and straight into the lungs; if they ease up, they risk being sideswiped or blasted by the noxious back-end of a bus.

*Ozone*, the main constituent of smog, is the most insidious and constant air pollutant. The EPA classified New York City's ozone levels unhealthful on 19 days in 1991 — more than any year since 1988,<sup>3</sup> when record heat pushed ozone to the highest levels in a decade (ozone is formed when nitrogen oxides and hydrocarbons combine in sunlight). Actual exposures may be worse, because not all monitors are at street level.

Ozone is a highly reactive form of oxygen that damages body tissues and cells. After several

***New York City has never met all the "ambient air" requirements of the 1970 Clean Air Act.***



DAFYDD JONES/NEW YORK OBSERVER



CHARLES KOMANOFF

days of exposure to high ozone levels, the body seems to recover from symptoms such as an itchy throat and a tight chest. But this apparent recovery may be just a temporary adjustment. Long-term or repeated exposure to ozone can produce fibrosis — scarring of lung tissue which can lead to emphysema and other chronic respiratory disorders. Ozone also weakens the body's ability to fight off sickness-causing bacteria and prevents the lungs from cleansing themselves of other trapped pollutants.

Inhaling tailpipe fumes exposes cyclists to *carbon monoxide* (CO), a notorious — though odorless and invisible — pollutant that impedes the body's ability to distribute oxygen. After a time cycling in heavy traffic, the cyclist may feel light-headed and fatigued due to overdoses of CO. Improved car exhaust systems and oxygenated fuels have led to reductions in CO nationwide. Indeed, for the first time in decades, CO levels in New York City did *not* violate federal standards in 1992, leading city officials to proclaim that no discouragement of auto traffic would be needed to clean the air.<sup>4</sup> Other considerations argue otherwise, however, including the limited number of CO monitors (four), the violations of CO standards in 1991 and prior years, and continued exceedence of smog limits.<sup>5</sup>

*Acidic aerosols* land in lung passages and may cause bronchitis, while *nitrogen oxides* damage the lungs and weaken the immune system, and

*particulates* in diesel exhaust can cause lung cancer. New York City did not even measure particulate matter at street level until November 1990.<sup>6</sup> The Natural Resources Defense Council (NRDC) estimates that 3,000 tons of particulate matter are emitted every year by the 5,000 buses and tens of thousands of diesel trucks being operated in New York City. The combined effect of particulate matter and the other air poisons to which New Yorkers are exposed is probably greater than the sum of the parts, since each pollutant taxes the respiratory system's ability to repel and repair pollution damage.

Air pollution's damage extends beyond the metropolis. Ground-level ozone blankets the entire northeast U.S. Acid rain caused by sulfur and nitrogen oxides is destroying lakes, forests and buildings. Increasing carbon dioxide in the atmosphere caused by fossil-fuel burning is raising earth's temperature via the greenhouse effect.

#### Pollution Control: Too Little, Too Late

Periodically, attempts have been made to combat urban smog on the federal and city level. However, city cyclists have a right to be cynical — because of lackadaisical or nonexistent enforcement, overall air quality has improved only modestly, and New York City has never met all the "ambient air" requirements of the 1970 Clean Air Act. Indeed, *The Wall Street Journal* reported in 1990 that New York City violated Environmental Protection Agency (EPA) limits for common pollutants 80 days a year on average.<sup>7</sup>

The major failing of anti-pollution policy has been its reliance on reducing tailpipe emissions, rather than auto use. While pollution per mile driven has declined because of emission controls and cleaner fuels, increases in total miles driven have offset gains in controlling pollution at the back end. Encouraged by cheap gas, curtailed public transit, trucking industry deregulation, and subsidies for both driving and auto-dependent land development, U.S. vehicle-miles travelled (VMT) increased 94% from 1970 to 1990. In the New York City metropolitan area, VMT grew 17.5% during 1985-

**The major failing of anti-pollution policy has been its reliance on reducing tailpipe emissions, rather than auto use.**

## KNOW YOUR POISONS — N.Y.C. POLLUTION SCORECARD

Of the dozens of air pollutants, the federal Environmental Protection Agency has identified six as particularly prevalent and poisonous. One of the six, sulfur dioxide, has diminished since the early 1970s, when the Lindsay Administration restricted sulfur in oil used by power plants and for home heating. Another, airborne lead, has been reduced by eliminating most lead from motor fuel. But the remaining four, all emitted primarily by cars, buses and trucks, continue to plague New Yorkers, especially on the city's crowded streets.

	Carbon Monoxide (CO)	Ozone (O <sub>3</sub> ) (Smog)	Nitrogen Dioxide (NO <sub>2</sub> )	Particulates (Soot)
Where It Comes From:	90% from motor vehicle exhaust	From combining in sunlight of hydrocarbons and nitrogen oxides (mostly emitted by autos)	All fossil fuel combustion, including motor vehicles, power plants, furnaces	In NYC, mostly diesel buses and trucks; also incinerators, factories, power plants
What It Does To You:	Shortness of breath, headache, heart strain	Shortness of breath, tightness in chest, coughing, eye-nose-throat irritation, scarring of lungs	Forms ozone smog; acute exposure causes respiratory illness; also causes acid rain	Diesel exhaust is causes cancer; soot carries "air toxics" like cadmium and benzene into lungs
How To Spot It:	Can't — CO is invisible, odorless, tasteless	Yellow-brown haze in the air	Reddish-brown gas	Smoky exhaust; particles on face and tongue
When It's Worst:	In cold weather and heavy traffic, due to poor combustion	Summer; sunny days in general	Morning rush hour (before changing to smog in atmosphere)	Behind some trucks or almost any NYC bus, particularly when accelerating
NYC Violations:	26 days per year in 1988-89, less in 1990-91, none in 1992	19 days in 1991	Marginally in compliance	NYC's lone street-level monitor violates standard
NYC National Ranking:	Tied for 10th worst (1991)	4th worst (worst outside Southern California)	Not available	EPA doesn't compare cities' street-level readings
Changes Since 1970:	Better	Improved in '70s, no improvement in '80s	No real change	Better overall, but worse in heavy traffic
How 1990 Law Affects:	High-O <sub>2</sub> gasoline required in NYC since Oct. 1992 will reduce CO slightly; ditto, longer warranties on catalytic converters	NYC must cut 15% in 6 years, 3%/yr after; "reformulated" gas by 1995 will reduce some; ditto, canisters on new cars in 1994	New cars to reduce by 30% starting 1994; pollution devices on all new cars must work for 10 years or 100,000 miles	New diesels must run cleaner starting this year; cleaner fuel required 1993; Transit Authority testing control devices
Compliance Target:	12-31-95	By 2007	In compliance now	12-31-94 or 12-31-2001

**Source:** Jan/Feb 1991 *City Cyclist*, updated Dec. 1992. Thanks to NRDC, the NYC Department of Environmental Protection, *London Cyclist*, and other sources.

## Clean-Air Legislation

### Federal

The 1990 Clean Air Act Amendments require that new 1996 cars emit 35% fewer hydrocarbons and 60% fewer nitrogen oxides (both are ozone-creating chemicals). More importantly, the Amendments, along with the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) require states to develop detailed transportation plans emphasizing regional transportation planning, VMT reduction, and penalties for non-compliance. The federal government could withhold highway funding and impose its own plans, although in the past Congress caved in to state and local pressure — much of it from New York-area senators and representatives — and eliminated this authority.

### New York State

In 1991, New York State announced plans to adopt the "California Rules" restricting vehicle emissions. Starting in 1994, rising percentages of vehicles sold in New York must be "low-emission" or electric. Under this regulation, cars sold in New York in 2003 would pollute 75% less than federal standards. However, the regulation must be backed up by more stringent vehicle inspection and maintenance programs to be effective. Some experts also question whether the necessary technologies can be developed in time, and at this writing the auto industry is challenging the regulation in court.

### New York City

New York City's Air Pollution Control Code contains only two provisions to limit vehicle air pollution. First, no engine may idle for more than three minutes, and tailpipe emissions must be invisible. Officials drive to various sites to enforce this law and return an appallingly low 25 summonses a week, according to the Department of Environmental Protection's Enforcement Division.

Second, Local Law 6, enacted in 1991, requires rising percentages of buses and other new vehicles purchased by the city and private transit operators to run on non-diesel or non-gasoline fuels.<sup>10</sup> City buses currently emit 30-70 times more carbon particles than automobiles.<sup>11</sup> Carbon particulates link with lead, cadmium and benzene, carcinogens released by burning diesel fuel in bus engines, and carry them into New Yorkers' lungs. While cyclists and walkers will appreciate the city's switch to less-polluting bus fuels, alternative fuels also pollute — methanol, for instance, releases toxic formaldehyde.

1989 alone — a 4.1% annual rate — before dipping by 0.8% in 1990. In 1988, 760,000 cars drove through Manhattan's central business district (below 59th Street) on an average work day — 100,000 more than in 1980.<sup>8</sup>

A second obstacle is the federal regulation structure, whose deadline approach and peak-emission emphasis have produced short-term, legalistic strategies that fail to address fundamental transportation technologies or behavior. This has fed transportation planners' tendency to build or widen roads to improve traffic flow, on the theory that faster-flowing cars mean fewer pollutants per mile than idling ones.

Highway construction thus ends up being touted as environmentally sound, while dedicating road space to cycling, walking and non-transport uses is opposed as congestion-causing, hence polluting.<sup>9</sup> (See section below on the case of the "QB6." The NYC DoT also uses this argument to justify car traffic in Central and Prospect Parks; see Chapter 8.)

The result is all too predictable — increased road capacity fosters greater dispersion of economic activity and more driving, leading eventually to more widespread and even worse pollution.

New legislative initiatives such as the 1990 Clean Air Act Amendments, New York State's "Low Emission Vehicle" requirement, and the city's alternative fuel vehicle purchase program, should help reduce pollution (see box). But for the most part, these initiatives continue the 20-year focus on after-the-fact emission controls to curb the effects of automobile transportation, and by themselves, don't go nearly far enough. Effective action to fight pollution will come only through aggressive transportation control measures including new motorist user fees and infrastructure investment that specifically attack auto-dependence.

To offset growth in VMT and reduce VMT as necessary to comply with air quality standards, the Clean Air Act Amendments present a list of suggestions for measures such as secure bicycle parking, restricted automobile use in downtown areas, employer-based ride-share programs, and construction of paths for pedestrians. But the Amendments include no provisions to fund transportation projects aimed at reducing auto reliance; nor do they mandate adoption of any such measures, other than employer-based car-pool schemes.

Without a clear political message from the State Capitol or City Hall, transportation officials will almost certainly continue to skirt auto-use reduction objectives and to interpret Clean Air Act Guideline 5 ("traffic flow improvement programs that achieve emission reductions") as an excuse to build roads. Notwithstanding possible federal penalties and new opportunities for regional planning, strong citizen pressure and leadership from public officials will remain the key to real auto-reduction measures.

### The Bicycle Solution

A damaging, and ironic, effect of air pollution is its discouraging effect on cycling. If even a fraction of city trips now taken by car were made by bike, New Yorkers would see (and feel) a dramatic improvement in the air they breathe. Short trips are particularly insidious, because cars emit more pollutants when their engines are cold. For instance, under typical speeds on a local urban street, engines running cold produce 4-5 times the CO and twice the hydrocarbon emissions (a precursor to smog) per mile as engines running hot.<sup>12</sup> Indeed, for a 5-mile trip with a catalytic-converter equipped



GEORGE T. NELSON

**Clean-air activist issues "environmental ticket," Manhattan.**

car, 80% of hydrocarbon emissions are generated by cold-starting and evaporation after the engine has been shut off. Yet short trips, including many commutes or quick hops to rail lines, are ideal for bicycling.

We calculate that bicycling already spares the city almost 6,000 tons of carbon monoxide each year, plus hundreds of tons of ozone-forming hydrocarbons and nitrogen oxides (see box). Nationwide, bicyclists forgoing auto travel save between 120 and 680 million gallons of gasoline per year, equivalent to 0.1%-0.6% of fuel consumed by passenger vehicles. This translates into significant savings of vehicle emissions: as much as 0.5% of NO<sub>x</sub>, 0.9% of hydrocarbons, and a 1.2% savings of CO.<sup>13</sup>

Proportional savings could be far greater in dense urban settings. A recent British study estimated that a pro-environment, pro-bike transport policy could convert 20-50% of non-pedestrian trips in the U.K. to bicycles, displacing between 5% and 24% of total car trips. At its upper limit, such a shift could eliminate over 20% of auto emissions of carbon monoxide and hydrocarbons, and up to 14% of vehicle-produced nitrogen oxides. Even a 20% shift of car trips to cycling would eliminate over 6% of vehicle-produced CO and hydrocarbons, and over 4% of NO<sub>x</sub>.<sup>14</sup>

Environmental scientist Barry Commoner has long argued that "pollution prevention calls for

### NYC Bicyclists Save Pollution

Number of Daily Cyclists	75,000
Annual Bicycle Miles	203 million

#### Urban Auto Emissions (Grams/Mile)

CO	78.0
Hydrocarbons	4.4
NO <sub>x</sub>	1.5

If every three bicyclists take one car off the road...

#### Tons of Auto Emissions Avoided per year

CO	5,800
Hydrocarbons	320
NO <sub>x</sub>	110

Source: Komanoff Energy Associates. Assumes 5,000 messengers traveling 50 miles/day, 70,000 "commuter" cyclists riding 8 miles/day, 250 days/yr.

replacing the production technologies that now assault the environment with processes that are inherently free of pollutants.”<sup>15</sup> Encouraging bicycling (and walking) while discouraging private automobile travel is a quick and cheap way for New York City to cleanse the poisons from its atmosphere. Such a program, in conjunction with stricter emissions standards, alternative fuel conversion, increased auto inspections and maintenance, and a renewed investment in public transit and rail freight, offers a truly sustainable path to clean air and a healthy city.

#### The Trial of the QB6: The Fight for Clean Air in NYC

On March 14, 1991, a New York County Criminal Court judge acquitted six clean-air activists of disorderly conduct charges stemming from a traffic-blocking protest on the South Outer Roadway of the Queensboro Bridge. Their actions protesting the partial closure of the only bicycle and pedestrian route between midtown Manhattan and Queens were just and necessary given the grave and imminent danger from air pollution, reasoned Judge Laura Safer-Espinoza. The decision was a moral victory, not only for the six bicyclists acquitted, but for all New Yorkers who seek breathable air and better transportation choices.



ARI MINTZ/N.Y. NEWSDAY

**T.A. members arrested for blocking the Queensboro Bridge bike-pedestrian path to cars. The New York County Court judge who acquitted the “QB6” in 1991 ruled that “The death and illness of New Yorkers from air pollution and vehicles are far greater harms than that created by disorderly conduct.”**

Transportation Alternatives initiated weekly protests on the Queensboro Bridge in June 1990 to keep the bicycle and pedestrian lane open to non-polluting transportation. The City Department of Transportation had failed to inform the bicycle community of its plan to convert the lane to motor vehicle use during the 3-7 pm evening rush period, for six years of bridge reconstruction. DoT reasoned:

The availability of the outer roadway [Queensboro Bridge Bike Lane] to vehicular traffic during the rush hours facilitates the rapid movement of traffic out of Manhattan. By doing so, traffic congestion decreases and air quality improves.<sup>16</sup>

The Mayor’s Office reasoned similarly:

While we regret the dislocation to the bicycling/pedestrian community, the likelihood of increased pollution and the potential for gridlock without the use of the extra lane poses an unacceptable alternative.<sup>17</sup>

Judge Safer-Espinoza rejected this reasoning, emphasizing “the grave harm [that] is occurring every day” from automobile pollution, and rebutting the DoT’s premise that more roads mean less pollution. The Judge wrote:

Former [City] Commissioner of Transportation [Ross] Sandler gave undisputed testimony that New York City would have to reduce vehicular traffic in order to come into compliance with the minimum standards set by the EPA for air pollution.... Furthermore, Sandler testified that the net effect of giving vehicles more space to travel, which has been the constant trend over the last fifty years in New York, has *not* resulted in an increase in average automobile speed which would decrease pollution, but rather in *more cars going at a decreased rate of speed*.<sup>18</sup>

Judge Safer-Espinoza’s decision echoed the findings of international transportation researchers Peter Newman and Jeffrey Kenworthy that adding road space to keep traffic flow-

ing smoothly actually produces more emissions than limiting or reassigning that road space. While individual vehicles tend to pollute less when they move along, city-wide emissions increase overall as motorists make use of the additional road space. In effect, cities that build more roads and parking spaces find that the volume of cars expands to fill the roads. Furthermore, "car cities" generate urban and suburban sprawl which make investments in public transit and bicycle facilities less productive.<sup>19</sup>

Sadly, Transportation Alternatives' victory in the courts did not restore 24-hour bike and foot access to the Queensboro Bridge. The Dinkins Administration continues to resist steps to limit vehicular traffic significantly. While City officials talk of the need to reduce auto use, improve transit and, occasionally, enhance cycling and walking, the status quo remains that motor-free transportation must fend for itself on streets where the car is king.

## Chapter 18 Recommendations

### Agencies

#### NYC Departments of Transportation and Environmental Protection

Enforce the New York City idling law as widely as possible, using foot or cycling officers.

#### NYC Dept. of Environmental Protection and NYS Dept. of Environmental Conservation

Make vehicle emissions inspection and maintenance programs more stringent.

Broaden emphasis of State Air Quality Implementation Plan from primarily tailpipe emissions to reducing auto use.

#### NYS Dept. of Transportation

Cease plans to widen highways, and transfer funds to transit and infrastructure for nonmotorized transit.

#### Federal Environmental Protection Agency

Issue guidelines barring city, state and regional agencies responsible for air pollution compliance from ignoring the traffic- and pollution-generating consequences of roadway expansion.

Make clear that the federal government will exercise fully its power to punish states that fail to comply

with air quality criteria and guidelines for reducing VMT (vehicle miles traveled).

### Legislative

#### State Legislature

Adopt the California standards mandating reductions in motor vehicle pollution emissions on an accelerated schedule (relative to federal standards).

#### Private Sector

Emulate commuter programs in Los Angeles and other areas subject to federal requirements to reduce car commuting and air pollution, by:

- Providing secure bicycle parking (e.g., guarded outdoor racks, indoor building access, lockers) and showers;
- Providing compensatory time for cycle commuters;
- Offering economic incentives for bicycle commuting, e.g., free bicycles for workers who become regular cycle commuters;
- Providing financial compensation for using a bicycle at work rather than on-the-job use of motor vehicles.

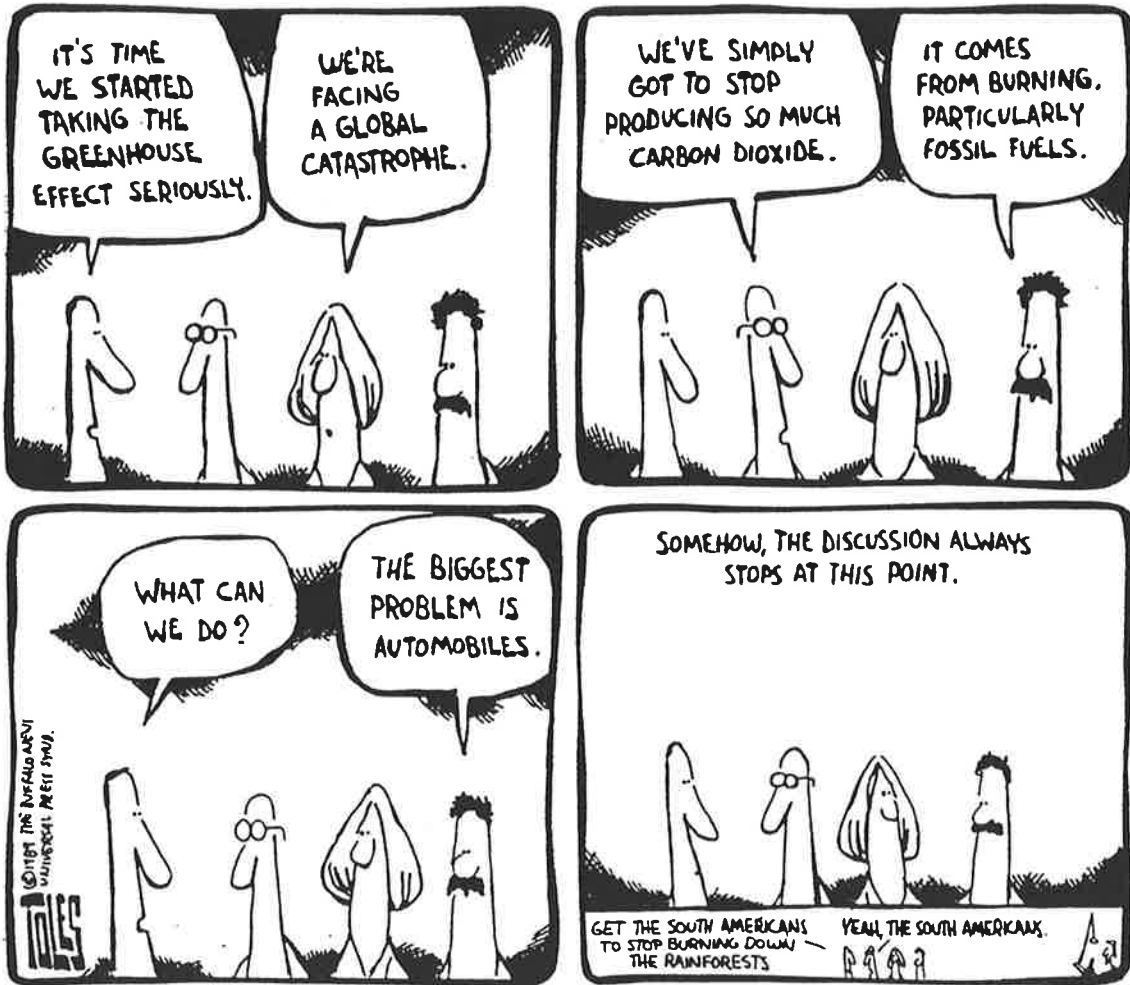
## Chapter 18 Notes

- 1 U.S. Environmental Protection Agency, *National Air Quality and Emissions Trends Report*, 1991, 450-R-92-001, Oct. 1992, Table 5-2. The right-most column shows the number of days in 1991 in which the Pollutant Standards Index exceeded 100, indicating violation of one or more of the National Ambient Air Quality Standards.
- 2 See "Warning: Messengering May Be Good for Your Health," *City Cyclist*, Jan/Feb 1990, p. 3. See also Michael Waldman et al., *A Study of the Health Effects of Bicycling in an Urban Atmosphere*, U.S. Dept. of Transportation, 1977.
- 3 U.S. EPA, op. cit., Table 5-3.
- 4 Seth Faison, "Without Dire Steps, New York Finds Air is Cleaner," *The New York Times*, Nov. 13, 1992.
- 5 Matthew L. Wald, "2d Air Pollution Issue, Smog, May Yet Curb Cars," *The New York Times*, Nov. 14, 1992.
- 6 A pollution monitor at Madison Ave. and 47th St. in Manhattan has long recorded the level of several other pollutants, but not until 1990 did its measurements of particulates figure in "official" calculations. In 1988, readings at this monitoring station averaged 11% over federal limits, at times reaching double the limit, according to NRDC

- (Eric Goldstein and Mark Izeman, *The New York Environment Book*, Island Press, 1990, p. 98). 1990 readings replicated NRDC's 1988 findings, according to EPA official Edward Finfer (telecom, Oct. 10, 1991).
- 7 Ron Winslow, "Air Polluted by Carbon Monoxide Poses Risk to Heart Patients, Study Shows," *The Wall Street Journal*, Sept. 4, 1990.
  - 8 "U.S. VMT 94% increase..." *Statistical Abstract of the U.S.*, Table 1047, Motor Vehicle Travel; 1990 figure per telecom with the Statistics Division, Federal Highway Administration, Oct. 8, 1991. "NYC region 17.5% increase..." letter from New York State DoT to Transportation Alternatives, March 10, 1992. "NYC 20% increase..." and "100,000 more than 1980..." NRDC, op. cit., p. 95.
  - 9 Dan Convisser, "DoT Sees More Highways as Brooklyn's Road to Clean Air," *Auto-Free Press*, Transportation Alternatives, Jan/Feb 1992.
  - 10 Local Law 6 directed the City to purchase 350 Alternative Fuel Vehicles (AFVs) by the end of fiscal year 1991. For FY93, 30% of new vehicles purchased by the city would be AFVs; FY94, 60%; after FY95, 80%. Beginning in FY95, private bus fleet operators must purchase AFVs as well.
  - 11 NRDC, op. cit., p. 97.
  - 12 Komanoff Energy Associates, *The Environmental Benefits of Bicycling and Walking in the United States*, Federal Highway Administration, 1992, p. 19. See also Andy Rowell and Malcom Fergusson, *Bikes Not Fumes*, Cyclists' Touring Club, Godalming, England, 1991, p. 3.
  - 13 Komanoff Energy Associates, op. cit., pp. 15, 26.
  - 14 Rowell and Fergusson, op. cit. pp. 14-16.
  - 15 Barry Commoner, "Free Markets Can't Control Pollution," *The New York Times*, June 10, 1990.
  - 16 Lucius Riccio, NYC DoT Commissioner, letter to Transportation Alternatives, March 27, 1991. In a Sept. 23, 1991 letter to T.A., DoT Acting Records Access Officer Joseph Bianco acknowledged that DoT had conducted no studies or analysis to support its contention that pollution is reduced by reserving the Queensboro Bridge bike lane for motor vehicles.
  - 17 Sharon Landers, Special Advisor to the Mayor, letter to Transportation Alternatives, July 24, 1991.
  - 18 Emphasis added. The decision was reprinted in full in *The New York Law Journal*, March 25, 1991, and is available from Transportation Alternatives.
  - 19 Jeffrey Kenworthy and Peter Newman, *Cities and Automobile Dependence: A Sourcebook*, Gower Technical, Brookfield, VT, 1989, pp. 142-150, Table 5.

<b>VIOLATION</b>	
<b>PLANET OF</b> <b>Earth</b> <b>DEPARTMENT OF EVERYTHING</b>	
<b>DESCRIPTION OF VEHICLE:</b> <b>CAR</b>	
<b>DATE:</b> LATE 20th CENTURY	<b>LOCATION:</b> NYC
<b>OFFENSES:</b>	
<input checked="" type="checkbox"/> EXTINCTION BY GREENHOUSE EFFECT <input checked="" type="checkbox"/> MURDER BY PHOTOCHEMICAL SMOG <input checked="" type="checkbox"/> LARCENY OF NON-RENEWABLE RESOURCES <input checked="" type="checkbox"/> EARTH-RAPE: FILLING LAND WITH PAVEMENT <input checked="" type="checkbox"/> DESTRUCTION OF OCEAN LIFE: 100,000,000 SPILLED GALLONS OF OIL PER YEAR <input checked="" type="checkbox"/> DRIVING TO ENDANGER BICYCLISTS AND PEDESTRIANS <input checked="" type="checkbox"/> DELAYING RESPONSE TIME FOR EMERGENCY VEHICLES <input checked="" type="checkbox"/> DEGRADING DRIVERS' PHYSICAL FITNESS	
<b>PAYMENT: COMMUNITY SERVICE:</b>	
These offenses can never be paid for. The world is in dramatically worse shape today than ever before, and this culture's dependence on cars must bear much of the responsibility. However, you can start making a difference today: cut your automobile dependence and make the world more hospitable to alternative transportation.	
Make your driving fuel efficient and friendly; Take the subway to and from work; Ride a bike or walk wherever, whenever possible; Get your elected officials to stop bending over backward for automobiles and get serious about mass transit and better bicycling and walking.	

**"Ticket" given to motorists depicts driving's societal harms.**

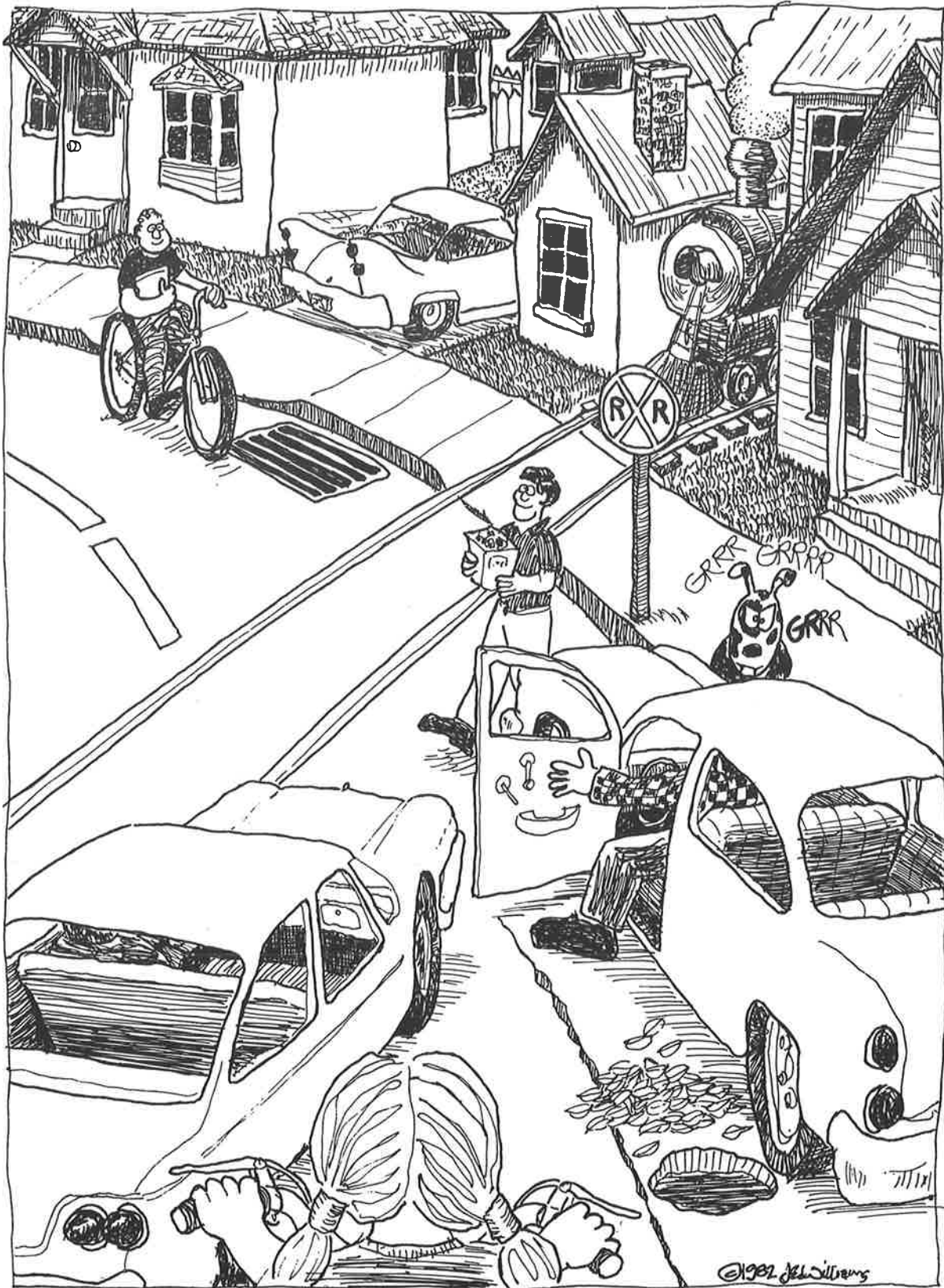


TOM TOLES/BUFFALO NEWS, UNIVERSAL PRESS SYNDICATE



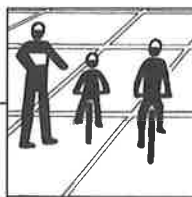
ANNE HANSEN

# Bicycle Education



Find the twelve hazards...

JOHN WILLIAMS



## Chapter 19

# Schools

### Teaching Kids to Ride

Learning to ride a bike is a childhood rite of passage. But in New York City, children are often denied the opportunity. A variety of obstacles stand in the way: not every family can afford a bicycle or has a secure place to store one. There's a perception that bikes are superfluous in a city with such good public transport. Most importantly, the city streets can be a forbidding place for children to learn and for parents to supervise.

The New York City school system and other educational and recreational institutions here should make every effort to teach children to ride. Because almost all kids love bicycling — for both its sheer physical pleasure and the treasured autonomy it offers — cycling is probably the most effective way for them to absorb traffic safety information. In addition to giving children one of the most joyous experiences of childhood, school bicycle education offers a bonus for the city: it helps create generations of lifelong city cyclists — adults who ride courteously and safely and who are less apt to burden the city with traffic and pollution from motor vehicles. Education is sorely needed, too, for those adults who didn't learn to ride when they were young. (For adult bicycle education, see Chapter 20, Public Education.)

With little expense and effort, schools can compensate for the difficulties involved in riding in the city. In fact, according to a 1973 amendment modifying section 806 of the Education Law, New York City children are already entitled to in-school bicycle safety education; unfortunately, this toothless law fails to stipulate the content or the breadth of the education.

### Available Programs

Some school children do get bicycle instruction from a visiting DoT Safety Education Division



COURTESY, ERROL TORAN

representative, a police officer or, ironically, a member of the New York Automobile Club. But these programs are one-shot affairs and are left to the discretion of the individual school board or school principal.

In Harlem, third-graders from the 17 area schools take advantage of a two-year-old pilot program called *Safety City*,<sup>1</sup> conducted at a former school yard converted to a miniature streetscape complete with intersections and traffic lights. Up to one-fifth of the two sessions, including a half-hour film, is spent on bicycle safety education, which stresses that bicycles are vehicles rather than toys and that cyclists are therefore drivers. The DoT would like to expand the existing program and construct a second *Safety City* in Brooklyn, but it's hardly a budgetary priority.

Other models for bicycle education programs from around the country are available for schools that can't take advantage of *Safety City*; it's only in New York City that cycling education is considered exotic. Maryland, Florida and Michigan, in particular, are known for their successful programs based in part on manuals and kits put together by bicycling advocates, teachers and public officials. The best

**"Bicycle rodeos" are a proven way to teach kids the basics of cycling.**

***Kids love bicycling for its sheer physical pleasure and the autonomy it offers.***

## Bicycling Education Publications

Linda Tracy and John Williams, *The Basics of Bicycling*, 7-lesson manual and videotape, available through Bicycle Federation of America, 1818 R Street, NW, Washington, DC, 20009, (202) 332-6986.

John Williams, ed., *Bikecentennial's Guide to Bicycle Rodeos*, 2nd edition, April 1988, available through *Bicycle Forum*, Bikecentennial, P.O. Box 8308, Missoula, MT 59807, (406) 721-1776.

*Sharing the Road; New York State Bicycle Laws*, Statewide Bicycle Advisory Council, available through Governor's Traffic Safety Committee, NY State Department of Motor Vehicles, Empire State Plaza, Core 1, Room 414, Albany, NY 12228, (518) 473-3662; and through Bicycle Coordinator, New York City DoT, 40 Worth Street, New York, NY 10013, (212) 566-0751. This publication is suitable for high school students.

John Forester, *Effective Cycling*, MIT Press, Cambridge, MA, 1984, teacher's manual available from League of American Wheelmen, 190 W. Ostend St., Suite 120, Baltimore, MD 21230, (301) 539-3399.

of these combine on-bike and on-street exercises with classroom sessions, including films, discussions, puzzles and projects. Teachers don't have to be cycling experts to use the manuals. The League of American Wheelmen also offers its own kit for school use as well as a nationwide teacher-training course that grants certificates to graduates (to date, there are no New York City graduates).

### The Bicycle Rodeo

The bicycle rodeo goes these programs one better, teaching the same safety skills by focusing on the fun of cycling. In rodeos, which require little more than a large open space, some chalk, traffic cones and a few bikes, participants try out different on-bicycle tests. In one, riders may have to ride a certain distance as slowly as they can without falling; in another, they turn in a circle while signaling; in a third, they ride an obstacle course. One person at a time tries each challenge (so that bikes can be shared), and mastery is emphasized rather than competition.

Bicycle rodeos have become common around the country in the past decade as an effective way to teach safe biking, as well as to bring a

community together. They can be run on a small, courtyard scale, or be an all-day affair with hundreds or even thousands of participants. Ample instructions exist for organizing rodeos. Transportation Alternatives members have run several successful rodeos around New York City.

Bicycle education can also be taught in local YMCAs, Parks Department facilities and other community centers such as Asphalt Green on the Upper East Side of Manhattan, which has expressed an interest in conducting classes. Transportation Alternatives member Mary Frances Dunham, an expert on bicycle education, has taught classes through the Girl Scouts.

For older students, bicycle education could be made an optional section in Physical Education courses. It could also be a focus of high school extracurricular clubs that combine bicycle safety instruction with advanced cycling techniques.

### Bike Streets

Sometimes, what kids really need is simply a safe place to ride, one free of cars and pedestrians. The city has a long history of "play streets"; it could easily create a series of "bike streets" by closing neighborhood streets at certain times and designating areas within parks and schoolyards for cycling.



HELEN LEVITT/HORIZON PRESS

## Chapter 19 Recommendations

### Agencies

#### NYC Dept. of Transportation

Create “bike streets” along the lines of play streets near schools.

#### NYC Board of Education

Enforce 1973 amendment to Education Law specifying children’s entitlement to bicycle education in the schools.

Adopt a curriculum for elementary school bicycle education, emphasizing the environmental and social advantages of cycling over driving. Even for students who do not learn to ride, include basic education in bicycling issues, including hand signals and watching out for cyclists.

Expand Safety City program to include one in each borough.

### Chapter 19 Notes

- 1 Information on Safety City is available from instructor Ron Whittaker, (212) 368-8336.



Teacher and Student

### Bicycle Rodeo Courses

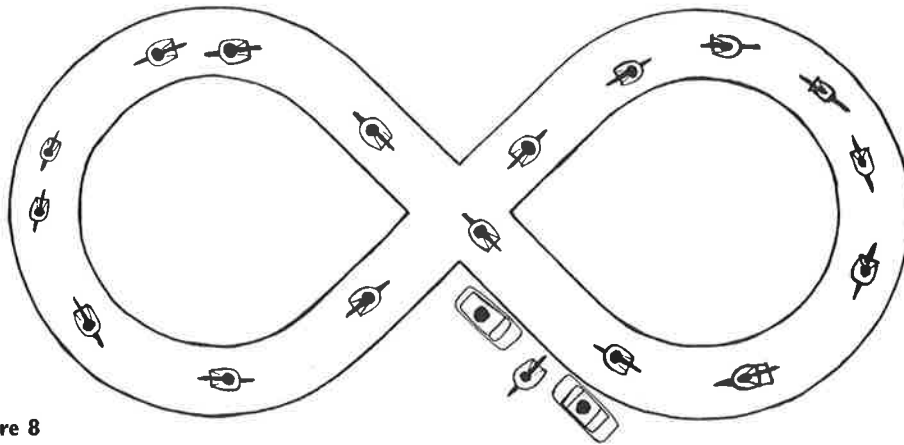
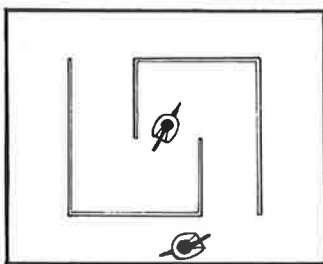
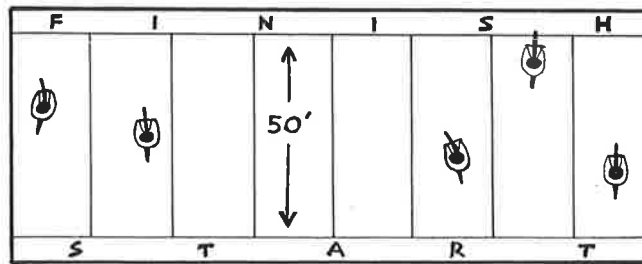


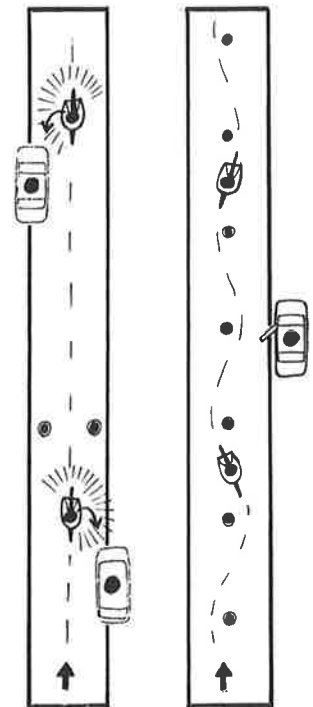
Figure 8



Turning Maze



Slow Race



Looking Back

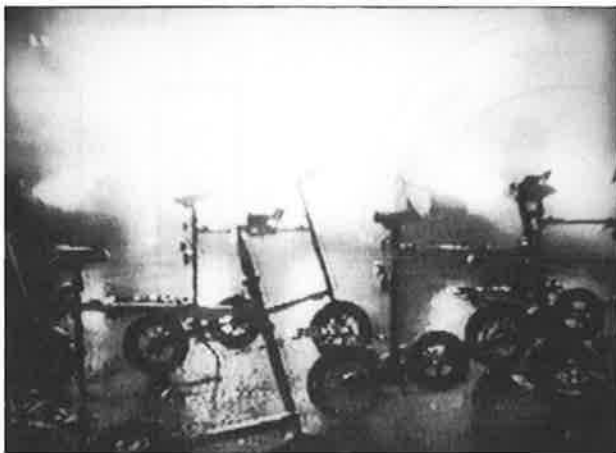
Slalom



1



4



2



5



3



6

YORK FILMS

Scenes from government-sponsored bicycle promotion on Dutch TV.  
Drivers who turn in old cars get a "micro-bike" plus a compacted piece of their car as a souvenir.



## Chapter 20

# Public Education

### Make Room for Bicycles

Bicycles have been a prominent presence on the streets of New York City for over two decades. In many parts of town, close to one in ten vehicles is a bicycle, making bikes at least as common as, say, city buses (see Appendix 2, Bicycle Traffic Counts). Yet many other street users, including pedestrians, motorists, cabbies and bus drivers, are still reluctant to acknowledge the constructive role the bicycle plays in transportation, much less grant cyclists the respect and road space they deserve. Public education is needed to create positive awareness of bicycling's contribution to the city's character, economy and community.

### The Real Traffic Problem

This animosity toward, and misunderstanding of, bicyclists stems in part from the sudden, unanticipated surge of bicycling in the late 1970s, leading to the heyday of the bicycle messenger in the mid-1980s. Pedestrians, motorists and cyclists needed time to get used to each other. Lacking any help from the city, in the form of education, guidance or tolerance, the more entrenched street users were too often suspicious of the newcomers.

In the mid to late eighties, cyclists became a handy scapegoat for traffic problems that have existed for decades. The real source of animosity and danger on the streets is too many motor vehicles vying for too little street space. After all, bicycles mitigate the problem — the more bicycles on the street, the less congestion, horn-honking and pollution.

### Raising the Consciousness of Street Users

While the city slowly begins to acknowledge the real source of its traffic problems, street users need to learn to live together amicably.

The grass-roots bicycling community, in lieu of a governmental agency looking out for its interests, has labored to teach its constituency and raise public consciousness about bicyclists. Some observers credit cyclist self-education and empowerment with the halving of bicycle-pedestrian accidents since 1985 (see Chapter 17, Accidents). But much remains to be done by others. Awareness also requires city-sponsored public service announcements, driver education, and acknowledgement of cycling in the classrooms of the Police Academy, the Taxi & Limousine Commission, and the DoT.

### Bicycle Training Programs

One way to reach large numbers is through the private sector. Corporations that routinely provide such services as smokers' counseling, Weight Watchers and computer classes for their employees should consider adding bicycle training classes. While it may seem far afield, bike training makes a great deal of sense. New York City probably has the country's largest population of non-cyclists, adults who would love to learn but are too shy to try. Cycling employees would arrive at work refreshed rather than harried and would have more control over their commuting. Even those who rode only for recreation on the weekends would be in generally better health.

These classes would focus on basic instruction, as well as on-bike training in traffic skills and bicycle handling. Classroom time would be spent on road sense, route selection, rules of the road and equipment choice and maintenance. Once in place, a solid program could be adapted for use in high school and college physical education classes, and in adult education programs. The program could be developed by the private sector and financed in part by private industry, the federal government and state and local agencies.

**Public education is needed to create positive awareness of bicycling.**

### Pedestrian Awareness

In a society trained to equate status and vehicles with big, noisy cars, it's important to remind people that the unobtrusive, quiet bicycle is a serious form of transportation whose presence requires attention by others on the street. Pedestrians are right to be angry about cyclists who don't respect their rights. But by the same token, they must respect cyclists' rights.

Pedestrian respect of cyclists is largely a question of awareness. It means looking — not just listening — before crossing, with the assumption that a law-abiding bicyclist could be approaching at any time. It means thinking twice before stepping off the curb into the street. For those who insist on standing in the street, it means being ready to step back quickly to give a cyclist the right of way. Pedestrians should learn to respond to the sound of a bike bell the way they would a car horn. In other words, pedestrians have to realize that bicycles are not an aberration but a legitimate, increasingly common form of urban transport — one that is far more congenial to them than the car.

The city could develop public awareness campaigns, through subway posters and public service announcements on radio and television. These should be positive, emphasizing not that city walkers should bow down before the bicycle, but that bicycles belong on the streets. The DoT bicycle coordinator, if given more support and a budget, could coordinate these campaigns.

### Additional City and State Initiatives

In any classroom where driving is taught, bicycle awareness must be part of the curriculum. Information about bicycle operation, hand signals and road-sharing techniques should be included in lessons and state-issued drivers' manuals. Licensing exams should have questions related to motorist-bicycle behavior, including the integrity of bicycle lanes. Behind-the-wheel training should include practice in scanning for bicycles, evaluating cyclists' behavior and sharing the road with nonmotorized vehicles (which, it should be stressed, have as

much right to it as any motorist). Instruction should also emphasize the dangers of opening car doors into traffic without looking.

Likewise, training sessions for the Police Department, the Taxi & Limousine Commission and the Transit Authority should all be bicycle-sensitive, making the point that bicycles are a legitimate form of transportation with a right to road space. Perhaps all these agencies could collaborate on a manual. Trainees should be reminded that because bicycles can be harder to spot than cars, they should make an effort to watch for them.

Bus and cab drivers-in-training should be instructed not to pass bicyclists in pulling over, but to wait for cyclists to pass and then pull over. Perhaps bus drivers — not to mention mechanics and Transit Authority managers — should be made to stand behind an idling bus and inhale rapidly, or have the side of a bus nearly squeeze them off the road as a lesson in what it feels like for a cyclist; not that bus drivers have control over their vehicles' emissions, but they can certainly be more sensitive to cyclists trying to ride around them rather than be blinded and choked by their exhaust.

Cab interiors should have mandatory stickers telling passengers to look before opening doors. Companies that employ fleet drivers, such as Federal Express and the United Parcel Service, should also include door-opening instructions in their training sessions, as well as injunctions to cut down on the chronic double-parking that forces cyclists to bob into traffic. (See Chapter 15, Freight Cycles, for ways to reduce the number of trucks on the road.)

Finally, the Police Department and other city agencies can send a powerful message to the public by using bicycles themselves whenever practicable. Uniformed police officers on bikes (see Chapter 16, Governmental Cycling) would reinforce efforts to educate the public about cyclists' rights. Occasional cycle commuting by the mayor, the commissioner of transportation and others would strengthen the message that New York is a viable city for cycling.

## Chapter 20 Recommendations

### Agencies

#### Mayor's Office

Mayor to give major speech affirming New York as a pedestrian and cycling city, with driving as a privilege not a right.

#### NYC Dept. of Transportation

Establish a bicycling public awareness campaign, with subway and bus shelter posters and radio and TV public service announcements.

Use every opportunity to highlight pedestrian deaths caused by motor vehicles (see Chapter 17, Accidents).

#### NYC Dept. of Consumer Affairs

Prepare and distribute multilingual manual on safe operation of restaurant / food delivery bicycles.

#### Taxi & Limousine Commission, MTA, DoT

Jointly produce a bicycle education curriculum and manual for all vehicle operators (taxicab drivers, MTA and private bus operators). Consider requiring licensed operators to undergo an hour of bicycling in the central business district for sensitivity training.

#### Taxi & Limousine Commission

Require cab interiors to have stickers reminding customers to look before opening their doors.

#### NY State Dept. of Motor Vehicles

Amend driver's education syllabus to teach new drivers how and why to be alert to bicycles.

#### Legislative

Enact regulation to hold taxicab passengers as well as drivers responsible for bicyclist accidents caused by opening cab doors.

#### Private Sector

As part of mandated programs to reduce car commuting, large businesses should institute bicycle training classes for employees, financed in part with federal, state or local funds. As an alternative, businesses may institute voucher system to pay for bike safety or bike repair classes.

Companies employing fleet drivers should develop and apply bicycle-sensitive curriculum to drivers.

Take-out restaurant and food delivery companies should give a course in safety training and traffic law before sending out bicycle deliverers, and also provide helmets, lights and reflectors to improve safety, especially at night



**Cyclists await start of 5-Boro Bike Tour, the largest bicycle ride in the United States.**

DAN CONVISSOR



ARNIE SCHLISSEL

**Transportation Alternatives auto-free Prospect Park rally, 1991.  
Bicycle messenger Dexter Benjamin speaks for both cyclist and disabled rights.**



## Appendix A

# Immediate Steps to Increase Bicycling in NYC

Following are a comprehensive series of recommendations for increasing bicycling in New York City. The recommendations also appear at the end of each chapter. Here they are broken down by Agencies (with separate subgroups for the various responsible agencies), Public Authority, Legislative and Private Sector.

Thus, for example, the recommendation, *Streamline and publish the "sidewalk furniture" approval process for bike rack installers*, appears both under Department of Transportation (in the Agencies section), directly below, and also at the end of Chapter 12, On-Street Parking, also under Department of Transportation, under Agencies.

### Recommendations which Administrative Agencies can Implement

#### Mayor's Office

Issue *Bicycle Policy Statement* affirming New York as a pedestrian- and cycling-friendly city. Statement should explain how bicycling benefits New York City and declare cyclists' right to safe streets, bridge access and safeguarded parking. Statement should adopt ambitious goals for bicycling, e.g., a one-third increase by 1995 and a further one-half increase to 2000 (resulting in a combined doubling from today's levels).

Formally reconstitute the NYC Bicycle Advisory Committee under the auspices of the NYC Dept. of Transportation, but with attendance also required by key City personnel (e.g., from NYC Dept. of Environmental Protection's clean air planning group, NYPD Traffic Division, NYC Parks Dept., Dept. of City Planning) and encouraging participation by City Council Transportation Committee Staff and NY State DoT Region 11 Bicycle Coordinator.

Issue executive order requiring all city-run

garages to install bicycle racks providing free parking. Publicize existence of these racks.

Issue executive order mandating bicycle access to all City-owned buildings. Where city leases office space, renegotiate leases to achieve bicycle access.

Create bike pools for city workers for appropriate freight hauling and for transportation on-the-job use; employ unclaimed bikes obtained from regular police auctions (after making appropriate repairs).

Institute policy reimbursing city workers for use of private bicycles on city business, at same rates applied to use of private auto.

Establish regular no-driving days (e.g., Wednesdays) on which visible public officials (mayor, commissioners) bike-commute, walk or use transit.

Charge fee for now-free city parking, while adding free bicycle parking.

Eliminate preferred curbside parking areas for private cars used for commuting by city employees.

As an incentive for City commissioners, permit each agency to retain money it saves from eliminating official cars, agency fleets, etc.

Complete negotiations with the New York State Greenway Council concerning the hotel tax mandated by the Hudson Valley Greenway Act, to enable the City to join the other municipalities that are participating in creating a Hudson Valley Greenway system.

#### Mayor's Office, Departments of Transportation and Environmental Protection

Implement public-service campaigns stressing courteous walking, cycling and driving.

In conjunction with Police Department, implement traffic-curb-ing and motorist-regulating actions, including eliminating/reducing curb-





side car parking, slowing motor vehicle traffic, and issuing tickets for reckless driving (see Chapter 3).

### **NYC Dept. of Transportation**

Create a comprehensive (500-mile) on-street bicycle lane network throughout the five boroughs, deploying a phased combination of improving and connecting existing lanes, new lane designs, and traffic "calming" and reduction (see detailed 3-phase program spelled out at the end of Chapter 4).

Provide staff and political support for the DoT bicycle coordinator position, including reinstitution of the bicycle safety coordinator position.

Ensure that DoT Bureaus respond to draft NYC DoT Bicycle Policy with detailed plans for bicycle-friendly improvements in construction and maintenance work.

Reduce speed limits on avenues and streets to reflect normal congested conditions. Re-time traffic lights accordingly.

Inaugurate phased pedestrian-cyclist traffic lights to give non-motorized travelers a safe head start before motorists, as in European cities.

Plan to discourage, not accommodate, motor traffic. Phase-in neighborhood "traffic calming" projects.

Streamline and publish the "sidewalk furniture" approval process for bike rack installers.

Stop issuing summonses and/or reduce fines for violating regulations governing installation of bike racks.

Finance and manage large-scale installation of bike racks, especially in the Manhattan Central Business District (below 60th Street), downtown Brooklyn, and busy borough retail areas such as Flushing and Fordham Road. Racks should include "Bike Parking" decals to exploit their positive symbolism.

Co-ordinate bike parking with traffic-calming measures; for example, install permanent bike parking sites at neckdowns (extensions of sidewalk into what is normally street space).

**(Note: Some of the following bridge recommendations also apply to the Port Authority and Triborough Bridge and Tunnel Authority.)**

Replace unrealistic "Bicyclists Dismount" signs at bridge entry-ways and exits with "Go Slow" signs.

Establish an explicit, written city-wide policy recognizing the importance of guaranteed, safe, continuous, convenient bicyclist and pedestrian access to all bridges, and including the following:

- As bridges are rebuilt, create bicycle-pedestrian access where it is not now provided, and convert any stairs on bicycle-pedestrian paths to ramps. Ensure that bicycle-pedestrian access continues during all bridge reconstruction.
- Install or rehabilitate cyclist-pedestrian paths on bridges that originally included them in the design or as built: Manhattan, Whitestone, Outerbridge, Verrazano.
- As an interim step, install front-mounted bicycle racks on buses whose route passes over the bridge (applies especially to Verrazano-Narrows and Whitestone Bridges).

Install signs within a 5-block radius of entrances to bridges directing cyclist and pedestrian traffic to the bridge path.

Maintain existing emergency telephones on bridges and begin a program to install solar-powered phones on bridge paths that now lack phones.

Assign inspectors on bicycles to conduct regular inspections of all bridge bike-pedestrian paths for structural integrity, physical safety, signage, sweeping, etc.

To reduce the hazard from expansion joints that run parallel to the cyclist's direction, install beveled steel plates or permanent rubber coverings over the joints.

Closely monitor and enforce the directives for utility company street cuts listed below, under Private Sector recommendations.

Employ non-skid surface on all traffic-lane lines.



Install wide concrete borders around bus lanes to prevent “pavement-migration” due to buses’ heavy axle-loads.

Create permit system allowing freight-carrying cycles of specified sizes to park temporarily on sidewalks while making deliveries.

Expand DoT street-cut inspector bicycle program.

Implement new inspector-on-bike programs for parking ticketing, vehicle-idling enforcement and other applicable uses.

Regularly (at least semi-annually) and promptly disseminate statistics to dispel impression that cyclists cause large numbers of accidents (see Chapter 17, Accidents).

Regularly disseminate statistics establishing the magnitude of pedestrian deaths caused by or involving motor vehicles.

Publish and disseminate annual report on bicycling fatalities and serious injuries, including detailed analysis of proximate cause.

Do not sever or destroy — whether temporarily or permanently — any existing bicycle path or walkway as part of any highway rehabilitation-modernization or expansion project.

Establish a bicycling public awareness campaign, with subway and bus shelter posters and radio and TV public service announcements.

Create “bike streets” along the lines of play streets near schools.

Implement the Transportation Alternatives / Auto Free NY 4-Year Plan (see Appendix C).

Prohibit cabs from cruising and idling in congested areas, e.g., Manhattan CBD.

(Also see recommendations concerning street space, vehicle use, and vehicle operation under Chapter 3, Cyclists and City Streets; Chapter 4, Street Design; Chapter 15, Freight Cycles; Chapter 16, Governmental Cycling; and Chapter 18, Air Pollution.)

#### **NYC Departments of Transportation and Police**

Enforce the integrity of bike lanes with ticketing and towing patrols.

#### **NYC Departments of Transportation and Environmental Protection**

Enforce the New York City idling law as widely as possible, using foot or cycling officers.

#### **NYC Departments of Transportation and Consumer Affairs**

Create a joint initiative through the garage licensing process to offer incentives to the private parking industry to provide space for bicycles.

#### **NYC Departments of Transportation and Parks**

Replace the Central Park bicycle speed limit with the set of measures shown in the sidebar in Chapter 8.

Ban automobiles from all other city parks, including, but not limited to, Prospect and Forest Parks.

Elevate priority for maintaining and improving bicycle paths, e.g., Shore Parkway bike path.

Create a new cycling loop in Flushing Meadow Park around the two lakes and the perimeter of the main part of the park.

Whenever possible, establish bicycle access to nature preserves such as the Jamaica Wildlife Refuge and the Audubon Buffer/Bay Project.

Work together to target street renovation projects with tree-planting programs along mapped greenway corridors.

#### **NYC Departments of Transportation, Parks and City Planning**

Produce a New York City bicyclist map, showing greenways, bicycle paths and routes, low-traffic streets, and points of interest, to be sold at cost through normal City tourist and publications offices and via the private sector.

To ensure maximum construction and maintenance of greenway routes, at minimum cost, incorporate the greenway and bicycle route recommendations mapped out by the Metropolitan Greenway Committee, Public Space for Public Life, and the Bicycle Advisory Committee (BAC) into the city’s capital project process. Describe route parameters and flag them on the NYC OMB CAPIS computer system.



## CONSUMER AFFAIRS

In conjunction with NY State agencies, secure federal funds available for greenways that are part of highway or mass transit projects or are fundable under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.

Adopt as formal policy the Manhattan Borough President's 1992 *Comprehensive Manhattan Waterfront Plan*.

### **NYC Parks Department**

Set up jitney bus service in Central and Prospect Parks to make them accessible to those who can't easily walk or ride.

### **NYC Department of Consumer Affairs**

Prepare and distribute multilingual manual on safe operation of restaurant / food delivery bicycles.

### **NYC and NYS Departments of Transportation**

Construct the 1-mile elevated path over the Interboro Parkway to complete the Brooklyn-Queens Greenway.

### **NYC DoT, NYS DoT, applicable County/Municipal Departments of Public Works**

Monitor and oversee public authority implementation of policies itemized below, particularly those concerning bicycle parking at stations.

Create *bicycle-access routes* — bike paths or bicycle-friendly roads — to suburban train stations and major outer-borough subway stations. Implementation to include signage, roadway design, and maintenance (e.g., bicycle-safe sewer grates, repairs and street surfaces).

Install front-mounted bicycle racks on buses, where bus routes include tunnels or bridges without bicycle paths, such as the Verrazano-Narrows, Whitestone and Throgs Neck Bridges. To minimize inconvenience to other passengers, bicycles shall be carried only between the first stops on either side of the tunnel or bridge.

Direct providers of any new ferry service to accommodate bicycles.

### **NYC Police Department**

Enforce motor vehicle and traffic laws governing:

- motor vehicle speeds (enforce 30 mph speed limit on all city streets, and lower speed limits instituted on some avenues and streets);
- parking and double-parking violations;
- blocking of bicycle lanes;
- motor vehicle infringement of cyclist right-of-way.

Commissioner should issue directive to precinct commanders raising priority of reducing bicycle theft and improving recovery rates; precincts to be rated on percentage of recovery to theft, with safeguards to ensure that cyclists aren't discouraged from reporting theft.

Actively combat bicycle theft; target known stolen bike resale spots, e.g., East Village.

Publicize the Police Department's bicycle registration program and expand hours when cyclists can enroll at station house. Allow bicycle stores to provide this service. Place an official, durable police sticker on each registered bike.

Enforce parking, double-parking, sidewalk-blocking, idling and other regulations against delivery truck operators, particularly fleets (e.g., UPS, Federal Express). (This will improve competitiveness of bicycle delivery services, which take up considerably less space.)

Expand NYPD's uniformed police-on-bikes program.

### **NYC Fire Department**

Maintain existing emergency telephones on bridges; install phones on bridge paths that lack phones.

### **NYC Department of Sanitation**

Deploy human-powered cargo cycles in the expanding curbside recycling program.

### **NYC Dept. of Environmental Protection**

Replace parallel bar sewer grates with bike-safe grates on all streets undergoing reconstruction.



**NYC Dept. of Environmental Protection  
and NYS Dept. of Environmental Conservation**

Make vehicle emissions inspection and maintenance programs more stringent.

Broaden emphasis of State Air Quality Implementation Plan from primarily tailpipe emissions to reducing auto use.

**NYC Office of Economic Development**

Provide economic incentives to encourage pedi-cab businesses as non-polluting, job-intensive, amenity-creating sector.

**NYC Borough Presidents**

Establish advisory committees modelled after Bronx Borough President's greenway advisory group to assist in greenway exploration, route development and design, and to recommend effective use of discretionary funds to match federal grants.

**NYC Board of Education**

Enforce 1973 amendment to Education Law specifying children's entitlement to bicycle education in the schools.

Adopt a curriculum for elementary school bicycle education, emphasizing the environmental and social advantages of cycling over driving. Even for students who do not learn to ride, include basic education in bicycling issues, including hand signals and watching out for cyclists.

Expand *Safety City* program to include one in each borough.

**Taxi & Limousine Commission,  
MTA, NYC DoT**

Jointly produce a bicycle education curriculum and manual for all vehicle operators (taxicab drivers, MTA and private bus operators). Consider requiring licensed operators to undergo an hour of bicycling in the central business district for sensitivity training.

**Taxi & Limousine Commission**

Require cab interiors to have stickers reminding customers to look before opening their doors.

Create appropriate regulatory structure, including competitive tariff, for pedicabs.

**NY State Dept. of Transportation**

Write and adopt a statewide bicycle-pedestrian master plan (as required by the Intermodal Surface Transportation Efficiency Act of 1991, ISTEA), emphasizing urban transportation bicycling.

Position the newly hired bicycle program manager at a high enough level to command responsibility to ensure implementation of bicycle capital programs in all 11 State DoT regions.

Cease plans to widen highways, and transfer funds to transit and infrastructure for nonmotorized transit.

Establish statewide public/private task-force modeled on NYC Metro greenways group to oversee distribution of ISTEA enhancement funds. Counties should be represented on the basis of population.

Remove offices from the East River bicycle-pedestrian path at 91st Street (and thereby cure the violation of Section 4(f) of the (U.S.) Dept. of Transportation Act of 1966, (49U.S.C. 1653), that DoT committed by taking parklands where there was a feasible and prudent alternative).

**NY State Dept. of Motor Vehicles**

Amend driver's education syllabus to teach new drivers how and why to be alert to bicycles.

**National Park Service**

Upgrade bicycle facilities in Gateway National Park by creating a circumferential cycling path in Jamaica Bay, a velodrome (bicycle racing track) and BMX course in Floyd Bennett Field, and installing secure bicycle parking facilities near the beach in Fort Tilden.





### Recommendations which Public Authorities Can Implement

#### **Metropolitan Transportation Authority (including operating agencies New York City Transit Authority, Metro-North Commuter Railroad, Long Island Rail Road), NJ Transit, Amtrak, etc.**

In conjunction with NYMTC (New York Metropolitan Transportation Council), conduct a region-wide study of the environmental and transportation benefits of implementing an aggressive bike-and-ride program.

Establish policy permitting bicycles on all off-peak commuter rail and subway trains, except where operator demonstrates that bicycles constitute a hazard or may otherwise interfere with safe and effective operation.

Permit bicycles on peak trains in non-peak direction, with the proviso that cyclists not board or alight at Grand Central Terminal or Penn Station in Manhattan and Newark. (This would allow intra-suburban bicycle commuting to scattered office parks, and also provide access to 125th St. in Harlem.)

Make bicycle permits available for purchase at major stations, including the LIRR's Penn Station ticket facilities.

Establish policy permitting folding bicycles on all trains at all times.

(Subways only): Permit cyclists to enter the subway via clerk-activated "security gate" (after depositing token) rather than lifting bicycle over turnstile.

Ensure that station development programs make provisions for safe bicycle entry, exit and parking.

Provide bicycle parking at all stations, designed with awareness of theft problem (i.e., racks must be sturdy, provide shelter, and permit bicycle frame to be secured at more than one point; where possible, place racks in view of station personnel).

Install bicycle lockers which commuters and other regular users can lease on annual, quarterly or monthly basis. Create guarded bicycle check rooms and bicycle parking garages at ap-

propriate stations where substantial demand exists for bike-and-ride.

Alter appropriations policies restricting allocation of parking funds to automobiles.

Publicize bicycle parking facilities as part of a campaign to encourage bicycle commutation to stations.

Conduct surveys to gauge interest in commuter biking to train stations.

Publish requests for proposals for pilot bike rental programs and guarded bicycle parking garages at busy NYC and suburban stations, to be operated by bicycle stores or other businesses.

#### **Metropolitan Transportation Authority**

Install bicycle lockers and/or racks at subway and commuter rail stations and ferry terminals.

#### **Triborough Bridge and Tunnel Authority**

See specific recommendations for bridge access in Chapter 5, Bridges.

#### **Port Authority of NY/NJ**

See specific recommendations for bridge access in Chapter 5, Bridges.

#### **NYC Housing Authority**

As appropriate, expand the authority's police-on-bikes program.

### Recommendations Requiring City or State Legislation

#### **New York City**

In consultation with the cycling community, amend the *New York City Traffic Rules* as follows:

Add the following new sections to Article 5:

- Section 52. Turning vehicles shall yield to straight-through bicycle traffic.
- Section 53. Vehicles changing lanes shall not interfere with the right-of-way of a bicyclist.

Add the following new section to Article 8:

- Section 97. Drivers and passengers enter-



ing and exiting a vehicle shall exercise due care to avoid interfering with cyclists, especially in opening vehicle doors.

Amend Article 11:

- Section 157 (which prohibits bicycles on expressways, highways, interstate routes, etc. unless authorized by signs): Bicycle access to roadways and bridges shall only be denied through the rule promulgation procedure of the Dept. of Transportation.

Enact the following measures in a phased approach:

- Require all new and renovating buildings to set aside indoor space for bicycle parking.
- Require all commercially zoned buildings to allow tenant- and employee-owned bicycles indoors, unless building managers can demonstrate that bicycles constitute a hazard, or prove other extenuating circumstances.

Require messenger companies and all commercial enterprises employing bicycle riders to:

- provide safety training for all employees;
- offer helmets, lights, reflectors and other safety equipment to riders;
- publicize worker's compensation regulations.

Require that bicycle rental shops in the vicinity of major parks clearly display and distribute park-user guidelines to people renting bicycles and roller-blades.

### **City Council**

Convene public hearings to examine the economic and environmental costs and benefits of each form of transportation in New York City — transit, bicycling, walking and motoring — and develop a City Council agenda for transportation improvements in NYC.

### **New York State**

Increase penalty for bike theft to put it on par with car theft.

Eliminate prosecutors' informal but prevalent "rule of two" that restricts indictments for motor vehicle accidents to instances in which mo-

torist committed two or more violations.

Abandon efforts to legislate bicycle helmet use in favor of a more holistic approach to bicycle safety that stresses cyclist-motorist education and enforcement and reduced motor vehicle traffic.

Adopt the California standards mandating reductions in motor vehicle pollution emissions on an accelerated schedule (relative to federal standards).

Enact regulation to hold taxicab passengers as well as drivers responsible for bicyclist accidents caused by opening cab doors.

Increase penalties for motor vehicles blocking sidewalks and bicycle lanes.

### **Recommendations which Private Sector can Implement**

#### ***Directed to Businesses in general, especially Business Associations which can act as catalysts***

Request building managers, store owners, and other guardians of property to be more understanding of need for commuters, shoppers, etc. to bring bicycles inside premises, where possible, and to permit cyclists to lock up outside buildings and shops (see discussion under Indoor Parking, Chapter 13).

Encourage member businesses to install outdoor bike racks as part of an aggressive public campaign to reduce traffic congestion and air pollution (see Chapter 18, Air Pollution).

Use standardized bicycle symbols directing cyclists to bike-parking sites, to maximize the racks' effectiveness and heighten public awareness.

Trade associations such as BOMA (Building Owners & Managers Association of Greater NY) should take a proactive role to provide and encourage office-building bike access. As a first step, BOMA should create a joint committee with cycle commuters and advocates to exchange information and develop proposals.

Create indoor bicycle parking in office buildings as close to the workplace as possible (much as one would create a coat closet), by





installing bicycle storage areas in car garages, basements or other underutilized spaces.

Where elevator access isn't feasible, install indoor racks in or easily accessible to lobbies or other public spaces. Where not possible, install sheltered outdoor racks within view of security guards.

(See discussion in Chapter 18, Air Pollution.)

Emulate commuter programs in Los Angeles and other areas subject to federal requirements to reduce car commuting and air pollution, by:

- Providing secure bicycle parking (e.g., guarded outdoor racks, indoor building access, lockers) and showers;
- Offering economic incentives for bicycle commuting, e.g., free bicycles for workers who become regular cycle commuters;
- Providing financial compensation for using a bicycle at work rather than on-the-job use of motor vehicles.

As part of mandated programs to reduce car commuting, large businesses should institute bicycle training classes for employees, financed in part with federal, state or local funds. As an alternative, businesses may institute voucher system to pay for bike safety or bike repair classes.

Companies employing fleet drivers should develop and apply bicycle-sensitive curriculum to drivers.

Take-out restaurant and food delivery companies should give a course in safety training and traffic law before sending out bicycle deliverers, and also provide helmets, lights and reflectors to improve safety, especially at night.

Food delivery businesses should train and monitor bicycling employees to ride with traffic, avoid sidewalks and generally respect pedestrians' rights.

#### ***Directed to Utility Companies which perform street cuts***

Bring all street cuts flush to adjacent surface.

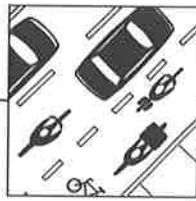
Mark all open street cuts with barriers, or cover with two inches of asphalt on top of dirt from the gouge.

Cease use of "wheel-swallowing" wooden beams parallel to cyclist's direction as a temporary street surface (exempting perpendicularly placed beams).

Use only steel plates with non-skid surface; use only steel plates with beveled edges or built up on all sides with asphalt (which must be replaced and renewed frequently).

Around steam manhole covers, maintain concrete pad of at least a 3-foot radius from the edge of the cover.

Install concrete above submerged steam pipes to prevent humping of street surface (applies to Consolidated Edison Co.).



## Appendix B

# Bicycling Levels in New York City

More cycling trips are made in New York than in any other U.S. city. Yet for decades, the true extent of bicycling here has been largely unknown. For example, the federal *Census of Journeys to Work* undercounts bicycling, since it ignores non-work trips (the vast majority), counts only respondents' primary means of travel, excludes students and is conducted in March, a below-average period for cycling.

Similarly, the City DoT's annual "screen-line" count records only cyclists entering or leaving the Manhattan Central Business District between 7 am and 7 pm, thus omitting the far larger volume of riders circulating within the CBD, as well as cycling in northern Manhattan and the other four boroughs. The agency also excludes these data from its compilations of vehicle use, transit ridership and ferry usage (e.g., *Recent Trends in Traffic Volumes & Transit Ridership*), further marginalizing cycling.

### T.A. Midtown Traffic Counts

To better estimate cycling levels in the CBD, Transportation Alternatives has counted bicycle traffic on midtown Manhattan avenues every spring since 1988 (excluding 1991). In these surveys, summarized on page 158, T.A. volunteers counted all traffic — not only bicycles, but private autos, cabs, trucks, buses, mopeds and motorcycles — on various avenues over 21 ¼ hours, a total of 37,515 vehicles.

The surveys establish that bicycles account for nearly one in every dozen vehicles traveling on midtown avenues during midday on weekends. **As a percentage of total traffic, bicycles averaged 8.6%** for all four years, ranging between a low of 7.2% in 1989 and a high of 9.6% in 1990. In the most recent year, 1992, bicycles were 9.0% of total traffic. Per avenue, the rate of cycling averaged 148 per hour during the four years.

While cycling drops off somewhat in winter, longtime observation suggests that these numbers overstate annual cycling levels only modestly. On rainy days, which accounted for one-sixth of the survey, bicycles averaged 99 per hour per avenue, or 6.2% of all traffic.

### Number of Daily Bicyclists in NYC

Although it is beyond T.A.'s resources to count cycling levels or percentages citywide, we have attempted to estimate the number of people who ride bikes in NYC on a typical day. We derived a figure of **75,000 daily cyclists — 5,000 commercial and 70,000 other riders** — as shown in the table on the following page and summarized directly below.

Our methodology began with the DoT's screen-line count, which we adjusted to a 24-hour period; assuming that 20 bicycle trips are made *within* the Manhattan CBD for each trip entering from outside, we estimated that 158,600 bicycle trips are made within the CBD on an average day. We then collected published estimates of each borough's daily vehicle "trip ends" (literally the volume of trips ending in that borough). By prorating bicycling's modal split within the CBD to the rest of the city, we estimated that an additional 106,400 biking trips are made daily in NYC outside the CBD, for a city-wide total of 265,000 cycling trips. In doing so, we assumed that cycling's share of vehicle trips in the other boroughs is only 10-20% as great as in Manhattan (with an average ratio of 17%).

Finally, we estimated that 5,000 commercial cyclists ride daily as couriers or food deliverers, making 12 trips each, for a total of 60,000 trips. Assuming that other cyclists average 3 trips apiece, the remaining 205,000 trips are made by 68,000 cyclists, which we rounded upward to 70,000.

### Bicycles Account for 8.6% of Midtown Avenue Traffic, 1988-1992

	Date	Location	Weather	Start	Hours	Bikes	Other	Total	Bike %	Bikes/hr
1992	15-May	Lex Ave & 40th St.	PC 60	1:00 PM	0.5	71	533	604	11.8%	142
	19-May	6th Ave & 40th St.	Su 62	9:25 AM	1	121	1,556	1,677	7.2%	121
	21-May	Lex Ave & 47th St.	Su 75	1:00 PM	0.5	53	623	676	7.8%	106
	02-Jun	Mad Ave & 29th St.	Cl 60	10:50 AM	0.75	102	771	873	11.7%	136
	02-Jun	7th Ave & 33rd St.	Cl 60	11:45 AM	0.5	61	595	656	9.3%	122
	03-Jun	42nd St. & 6th Ave	Su 80	5:30 PM	0.5	29	474	503	5.8%	58
	04-Jun	5th Ave & 42nd St.	Su 85	2:25 PM	0.5	126	937	1,063	11.9%	252
	04-Jun	6th Ave & 42nd St.	Su 85	3:05 PM	0.5	107	1,005	1,112	9.6%	214
	05-Jun	Park Ave & 34th St.	Ra 65	11:15 AM	1	50	821	871	5.7%	50
	<b>Total</b>				<b>5.75</b>	<b>720</b>	<b>7,315</b>	<b>8,035</b>	<b>9.0%</b>	<b>125</b>
1990	09-May	5th Ave & 41st St.	Cl 80	11:00 AM	1	188	1,729	1,917	9.8%	188
	14-May	5th Ave & 41st St.	Su 75	4:45 PM	0.75	148	1,129	1,277	11.6%	197
	15-May	6th Ave & 48th St.	Su 62	10:45 AM	0.5	96	956	1,052	9.1%	192
	15-May	6th Ave & 41st St.	Su 65	3:20 PM	0.5	116	946	1,062	10.9%	232
	15-May	Lex Ave & 40th St.	Su 65	1:00 PM	0.5	67	554	621	10.8%	134
	16-May	6th Ave & 40th St.	Ra 55	9:45 AM	1	157	2,050	2,207	7.1%	157
	24-May	6th Ave & 34th St.	Su 65	12:20 PM	1	180	1,325	1,505	12.0%	180
	29-May	Mad Ave & 52nd St.	Ra 57	11:30 AM	0.5	40	705	745	5.4%	80
	<b>Total</b>				<b>5.75</b>	<b>992</b>	<b>9,394</b>	<b>10,386</b>	<b>9.6%</b>	<b>173</b>
1989	25-May	6th Ave & 41st St.	Su 75	11:00 AM	1	180	1,864	2,044	8.8%	180
	26-May	5th Ave & 41st St.	PC 75	10:15 AM	0.5	48	832	880	5.5%	96
	30-May	5th Ave & 41st St.	Cl 75	11:00 AM	1	195	2,246	2,441	8.0%	195
	07-Jun	Mad Ave & 56th St.	Ra 62	2:20 PM	0.5	37	679	716	5.2%	74
	08-Jun	8th Ave & 42nd St.	Cl 80	3:30 PM	1	110	1,754	1,864	5.9%	110
	<b>Total</b>				<b>4</b>	<b>570</b>	<b>7,375</b>	<b>7,945</b>	<b>7.2%</b>	<b>143</b>
1988	05-Apr	5th Ave & 42nd St.	Su 70	11:15 AM	1	198	1,783	1,981	10.0%	198
	05-Apr	6th Ave & 41st St.	Su 70	11:35 AM	1	204	1,976	2,180	9.4%	204
	06-Apr	Mad Ave & 50th St.	Su 53	1:00 PM	1	113	1,476	1,589	7.1%	113
	06-Apr	5th Ave & 42nd St.	Cl 55	11:00 AM	1	189	1,810	1,999	9.5%	189
	07-Apr	5th Ave & 42nd St.	Ra 45	11:00 AM	1	110	1,750	1,860	5.9%	110
	05-Apr	Broadway & 32nd St.	PC 65	2:30 PM	0.5	32	455	487	6.6%	64
	08-Apr	3rd Ave & 58th St.	Cl 45	12:30 PM	0.25	30	411	441	6.8%	120
	08-Apr	Park Ave & 56th St.	Cl 45	12:50 PM	0.5	56	556	612	9.2%	112
	<b>Total</b>				<b>6.25</b>	<b>932</b>	<b>10,217</b>	<b>11,149</b>	<b>8.4%</b>	<b>149</b>
1988 - 1992	<b>Grand Total</b>				<b>21.75</b>	<b>3,214</b>	<b>34,301</b>	<b>37,515</b>	<b>8.6%</b>	<b>148</b>

### Daily Bicycle Trips in New York City

(See text, previous page, for derivation of 75,000 daily bicyclists based on 265,000 daily trips.)

		CBD	N. Manhattan	Bklyn	Queens	Bronx	S.I.	TOTAL
(1)	Daily Vehicle Trip Ends	1,731,500	457,200	1,769,100	1,995,800	710,500	562,900	7,227,000
(2)	Persons per Vehicle	3.2	2.2	2.2	2.0	1.8	1.6	2.3
(3)	Daily Person Trip Ends	5,540,800	1,005,800	3,892,000	3,991,600	1,278,900	900,600	16,609,700
(4)	Bike Share of Trip Ends, vs. CBD	100%	20%	20%	15%	20%	10%	37%
(5)	Daily Bikes Entering County	7,550	400	1,540	1,310	620	250	11,700
(6)	Ratio, Bikes In to Bikes Entering	20	20	25	25	25	30	21.6
(7)	Daily Bicycle Trip Ends	158,600	8,400	40,000	34,100	16,100	7,800	265,000

#### Notes and Sources

(1) & (2) are from NY Metropolitan Transportation Council; vehicles include transit. (4) & (6) are T.A. assumptions.

(5) Manhattan CBD = 1/2 of daily bikes crossing CBD screen-line. NYC DoT, "NYC Bicycle Statistics, 1990," Table 1, shows 10,930 bikes crossing CBD screen-line daily. We added 15% to this figure to corrected DoT's undercount documented in M.F. Dunham, "Assessing the Percentage of Bicyclists in the Traffic of Manhattan's Central Business District," Feb. 1991, plus 20% to reflect cycling between 7 pm and 7 am. Thus, the corrected estimate of bikes crossing CBD screen-line daily in 1990 (rounded) is 15,100. Other counties are calculated from figure for Manhattan CBD and figures in row (4).



## Appendix C

# Auto-Free New York 4-Year Plan

In April 1990, as its contribution to the 20th anniversary of Earth Day, the Auto-Free NY Committee of Transportation Alternatives published *Fewer Cars, A More Livable City*, a 4-year plan intended to reduce auto use by 20% in the Manhattan Central Business District and by 5% citywide. The plan was prepared by AFNY founder George Haikalis, and was presented at numerous agency meetings and civic forums, including the First International Conference for Auto-Free Cities convened by T.A. at NYU in May 1991. It was featured in the May/June 1990 and Nov/Dec 1990 issues of *Auto-Free Press*, with over 20,000 copies distributed.

The plan's greatest contribution was not in its individual features — many were contained in other proposals made through the years — but in its integration. To begin, the plan proposed five key strategies to make the City's rich resource of **public transit services** work better. The most dramatic — unlimited ride, time-based passes — would make the transit system "free" to subscribers. These passes would eliminate double fares for bus/subway trips and let transit riders make better use of the commuter rail system.

The transit strategies were doable in the short term, but at considerable cost. Accordingly, three of the five **traffic reduction strategies** were pricing disincentives; these would not only reduce auto use but would generate the revenues needed to finance the transit improvements. The revenue measures included higher gas taxes, bridge tolls, increased parking fees and a tax on medallion taxi trips.

The third group of strategies related to **auto-free streets** — Auto-Free NY's *raison d'être*. Busy commercial streets in the core and in out-

## Elements of the Auto-Free NY 4-Year Plan

### A. Drastically Improve Transit

1. Nearly "Free" Transit Service
2. (Almost) Waitless Transit
3. Penn Station Metro-Hub
4. A Station in Every Backyard
5. Get Home Safely

### B. Reduce Auto Travel 20% in Manhattan, 5% Citywide

1. "Non-stop" Tolls
2. Park 'n Pay in Manhattan
3. Parking "Lid" in City
4. Upstream Traffic Restraint
5. Tax on Taxis

### C. Create Network of Auto-Free Streets

1. Green Grid in Manhattan
2. Better Business in the Boroughs
3. Citywide Greenway Network
4. Green Neighborhoods
5. Green Vehicles

For a complete copy of the 4-Year Plan for *Fewer Cars, A More Livable City*, send a SASE to: 4-Year Plan, T.A., 92 St. Marks Place, New York, NY 10009.

### How the Strategies Support Each Other

- Better service attracts motorists to transit, but improvements and fare innovations cost money.
- Pricing strategies to reduce auto use produce revenues to improve public transit.
- Reduced traffic allows a shift in street space to pedestrians, cyclists and urban amenities.
- Improved public environment encourages travel by transit and non-motorized modes.
- Reduced auto traffic lets essential commercial traffic move more efficiently, strengthening the city's economy.
- Financing transit fares and better service through auto-use charges-benefits all New Yorkers — especially those with limited incomes who cannot afford autos.

lying business districts were proposed to be made auto-free, backed up by better transit service and auto restraint strategies. Some key vehicular streets would be closed to produce an interconnected network of greenways throughout the city, and through traffic would be removed from neighborhood streets.

Since the plan was published, the Dinkins Administration has floated various proposals that have included some of the plan's most controversial elements, like bridge tolls and higher gas taxes. Lacking, however, is a coherent, comprehensive vision that not only links the various elements but also could make the plan attractive and meaningful to New Yorkers.



JAMES HOLCOMB

## About the Authors

**Michele Herman** is a freelance writer who specializes in design and urban issues. She holds an M.F.A. in nonfiction writing from Columbia University. Michele is a regular contributor to *Metropolis* magazine and other publications, and has written extensively about bicycles and bicycling. For the past decade she has lived, cycled and worked as a community activist in New York City. Michele lives with her husband and their young son in Greenwich Village.

**Charles Komanoff** has worked for over two decades as a consulting economist and environmental activist to change U.S. energy and transport policy. His research and writing on nuclear reactor costs in the 1970s and 1980s helped steer government and business away from nuclear power and toward energy efficiency. As president of Transportation Alternatives in the late 1980s and early 1990s, Charles helped instill political and ecological consciousness among cycling activists in New York and other cities. He continues to serve the bicycling and auto-free communities as T.A.'s director of research and as senior editor of *City Cyclist*.

**Jon Orcutt**, a grassroots environmental organizer since 1985, has been executive director of Transportation Alternatives since 1989. Under his leadership, T.A. has expanded to over 2,000 dues-paying members and become the largest citizens' transportation initiative in North America, campaigning for both pedestrians' and cyclists' rights. Jon has also worked to expand the alternative transportation movement internationally, most notably as an organizer of the Auto-Free Cities Conferences in New York City (1991) and Toronto (1992).

**David Perry** is part bicycle, part graphic artist. Born in bike-friendly Palo Alto, California, he raced with the U.S. Cycling Team in the 1970s, and studied design at Pratt Institute in Brooklyn. Inspired by the advocacy of Transportation Alternatives, he serves as photo editor of *City Cyclist*. He has contributed to *Velo News* and *Bicycling*, and works with two New York groups promoting human-powered vehicles, Lightwheels and the Center for Appropriate Transport. David's encyclopedic book, *Bicycle Culture*, will be published by Four Walls Eight Windows (NY) in 1994.

### Transportation Alternatives Board of Directors

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(Continued from inside front cover)

- A 2-part *Greenwich Village Traffic Calming Study* demonstrating how European methods of pedestrian-oriented traffic management and street engineering can be translated to NYC neighborhoods.

This work helps to fill a vacuum of serious and creative analyses and design proposals for NYC transportation and land-use. In addition, it presents transportation issues and options within the broader context of community renewal and the revival of public life, lending a much-needed urban perspective to national transportation and "environmental" debates still limited to improving the private car.

#### **4. Outreach Publications**

T.A.'s bi-monthly newsletters, *City Cyclist* and *Auto-Free Press* (combined circulation of 22,000), inform and inspire New York-area constituencies for cyclists' and pedestrians' rights and automobile reduction. Along with our neighborhood- and issue-oriented brochures, such as those for auto-free Central and Prospect Parks, these publications manifest a grassroots ecological approach to issues of environment, energy and transport.

T.A. is frequently asked by print media to comment on urban environmental themes, and we have placed articles and opinion pieces in major New York newspapers on topics such as bike-pedestrian cooperation, urban auto-reduction and infrastructure renewal. T.A. spokespersons and events have also appeared on dozens of national and local television and radio programs. We testify at public hearings, speak before community boards, table at street fairs, and teach at area schools and colleges. T.A. places great importance on maintaining a community presence in our effort to create a public constituency for alternative transportation.

#### **5. Coalition-Building**

To implement new transportation strategies on the broadest possible scale, we are stepping up coalition work with neighborhood and civic groups, environmental organizations and supportive public officials. In early 1993, T.A. and

eleven other NY-area environmental and civic groups launched the Tri-State Transportation Campaign (tentative title). The Campaign will work to create a more equitable, economical and ecologically-based transport system by investing public transit, cycling and walking with levels of comfort, service and convenience comparable to those of private cars.

T.A. participates in the Gowanus Expressway Community Coalition — an alliance to reduce traffic impacts on Brooklyn neighborhoods and to promote long-term transportation change in the city's most populous borough. We are also working with greenway advocates to establish networks of auto-free recreational spaces throughout the metropolitan area.

#### **Transportation Alternatives Organization**

T.A.'s 17-member active governing board is composed of community activists, environmental organizers, transportation planners, nonprofit professionals, bicycle messengers, and other specialists such as economists and political advocates. In addition, an Advisory Board of environmental activists, national and local bicycling figures and long-time funders contributes to T.A.'s pool of expertise.

T.A. raises money from many sources:

- Our dues-paying membership, now 2,400
- Additional support from individuals
- Foundation grants and government contracts
- Special events, topped by T.A.'s annual NYC Century bicycle ride
- Newsletter ads, product sales and other earned income

This budget supports three full-time staff who manage volunteers and campaigns, develop strategy, run events and operate T.A.'s storefront office. It also supports a vast amount of outreach material and all of T.A.'s projects to forward a NYC environmental transportation agenda. **We invite all expressions of interest in furthering our work.**



# BICYCLE BLUEPRINT

Includes 151 immediate steps to  
increase bicycling in New York City.  
Here are 8 of them:



## Policy Declaration

**Mayor's Office:** Issue Bicycle Policy Statement declaring New York a pedestrian- and cyclist-friendly city, explaining how bicycling benefits New York City, and calling for a doubling in bicycling levels by year 2000.

## Bike Lanes

**NYC DoT:** Create a 500-mile on-street bicycle lane network throughout the five boroughs.

## Parking

**New York City Council:** Require new and renovating buildings to set aside indoor space for bicycle parking, and require all commercial buildings to allow employee-owned bicycles indoors.

## Bridges

**Port Authority, Triborough Bridge & Tunnel Authority, NYC DoT:** Install or rehabilitate cyclist-pedestrian paths on all major bridges.

## Trains

**Transit providers:** Install safe bicycle racks at all stations. **NY City and State DoT's, Local Governments:** Create bicycle-access routes to suburban train stations and major outer-borough subway stations.

## Taxis/Buses

**Taxi & Limousine Commission, NYC Transit Authority:** Require drivers to ride bikes in the central business district for sensitivity training.

## Incentives

**Mayor's Office and Private Sector:** Institute policy reimbursing employees for on-the-job use of private bicycles, at same rates applied to use of private auto.

## Power of Example

**Mayor's Office:** Establish regular no-driving days (e.g., Wednesdays) on which visible public officials bike-commute, walk or use transit.

*The bicycle offers the gains of advanced technology without threatening the environment. It stands not only for undamaged nature but also for unbroken autonomy. To attack the pedals may be strenuous over the short run, but it is an expression of trust in one's own powers, for with the bicycle everything depends on the self. Those who wish to control their own lives and move beyond existence as mere clients and consumers — those people ride a bike.*

— Wolfgang Sachs, *For Love of the Automobile*.

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