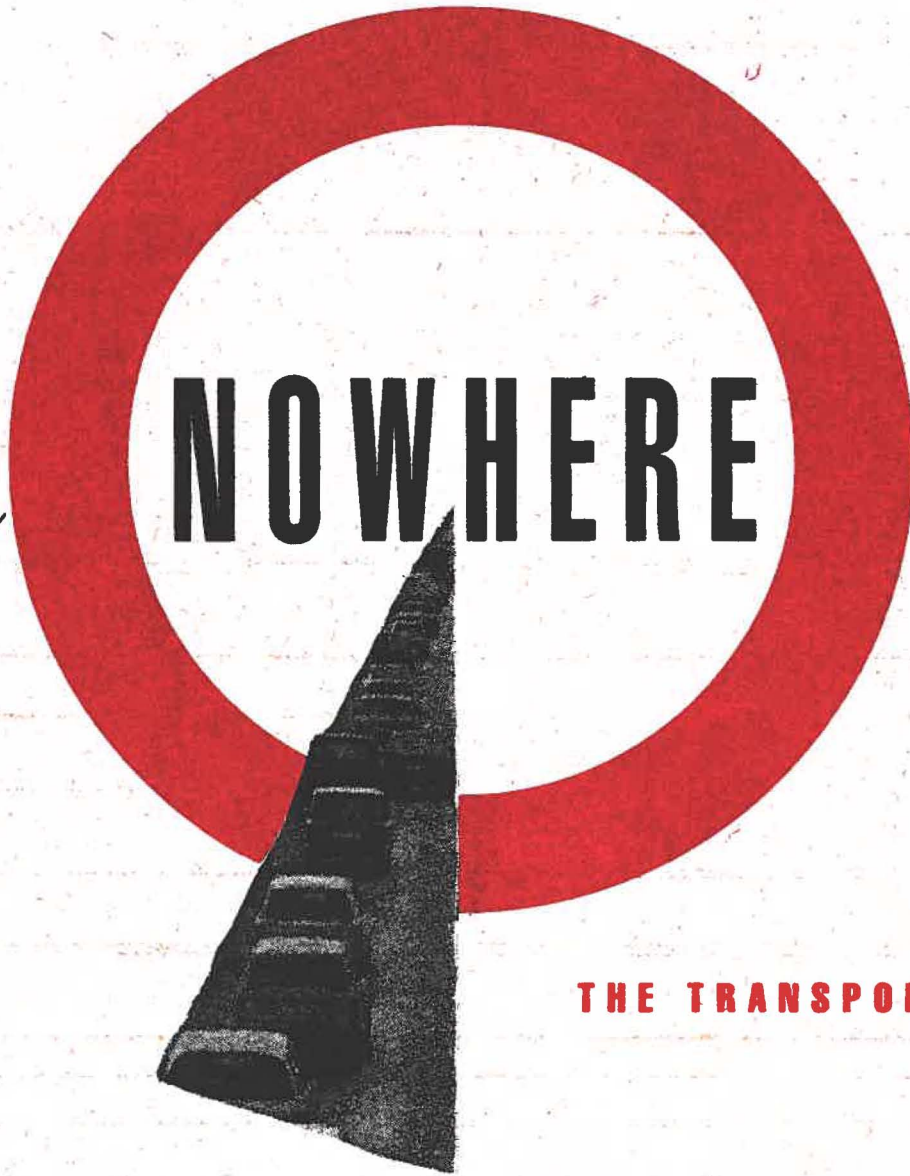


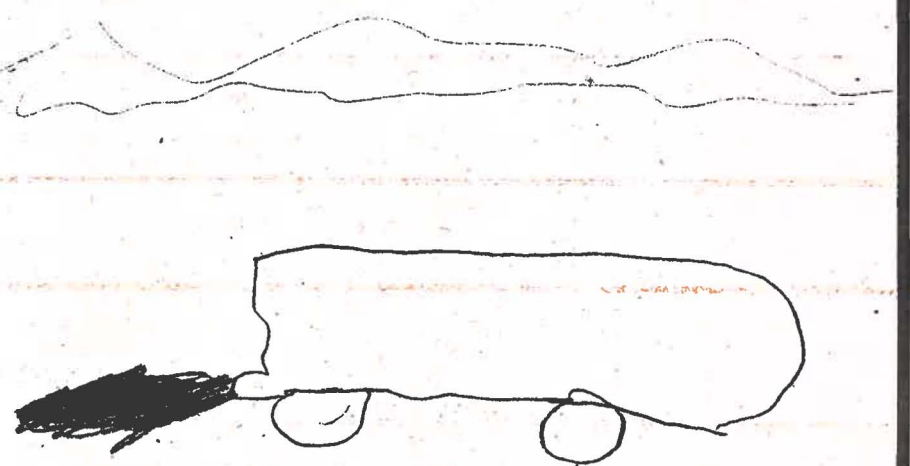
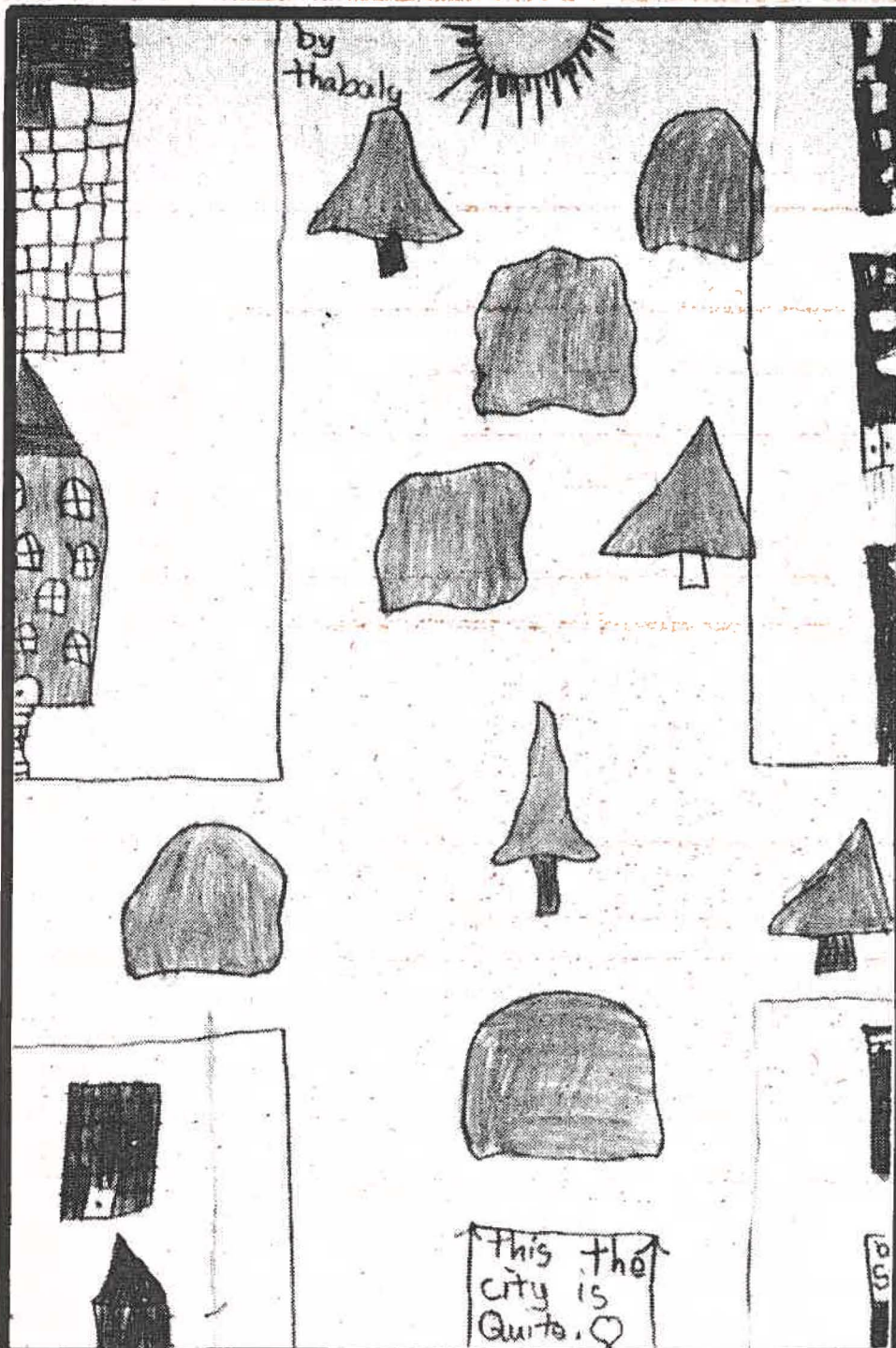
This special publication has grown out of the Municipal Art Society and Lightwheels exhibition "Going Nowhere Fast: The Transportation Show" which was on display at the Urban Center Galleries from July 10 through September 7, 1991.

SUMMER, 1991 \$1

Going **NOWHERE** Fast

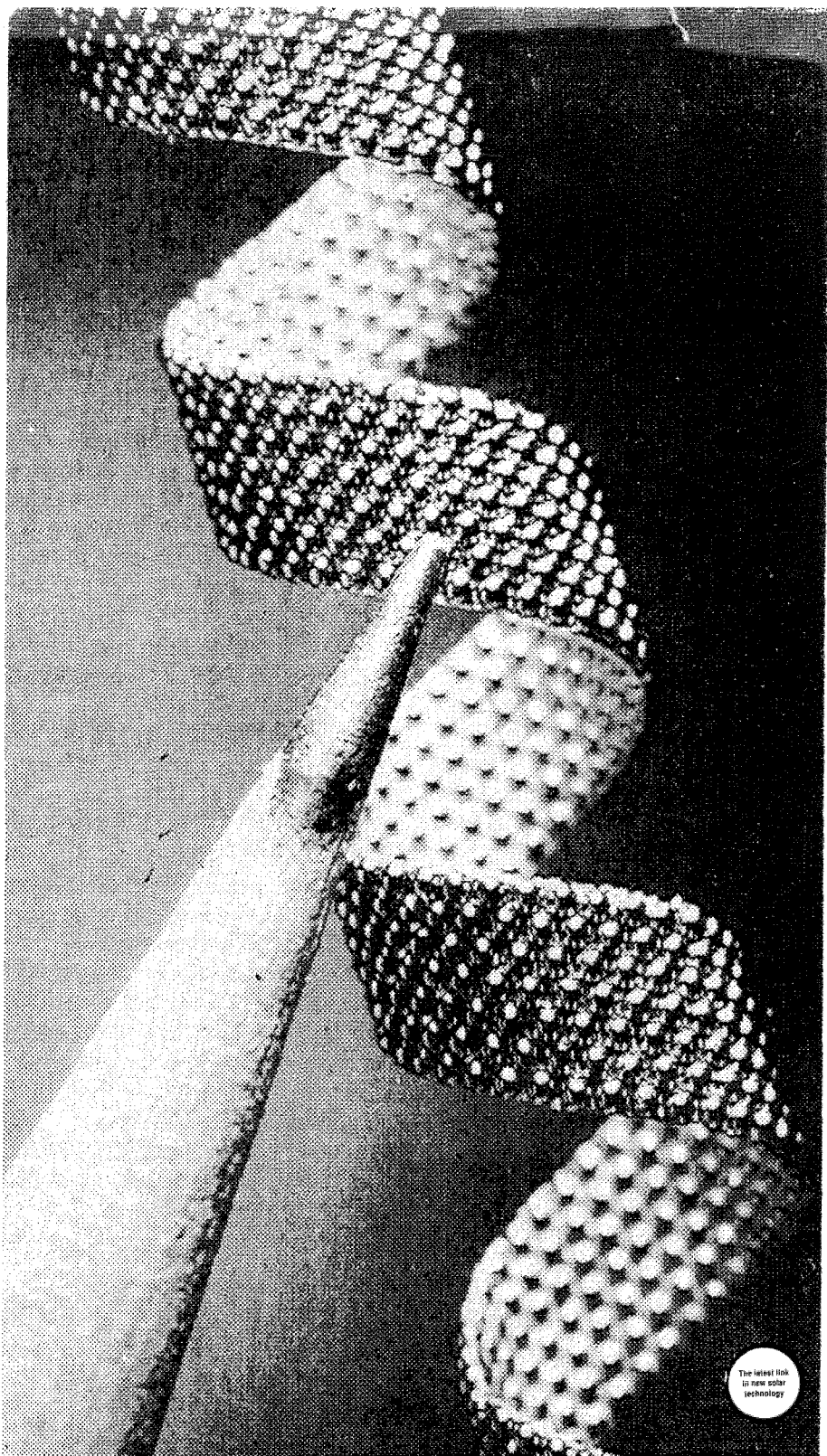


THE TRANSPORTATION SHOW

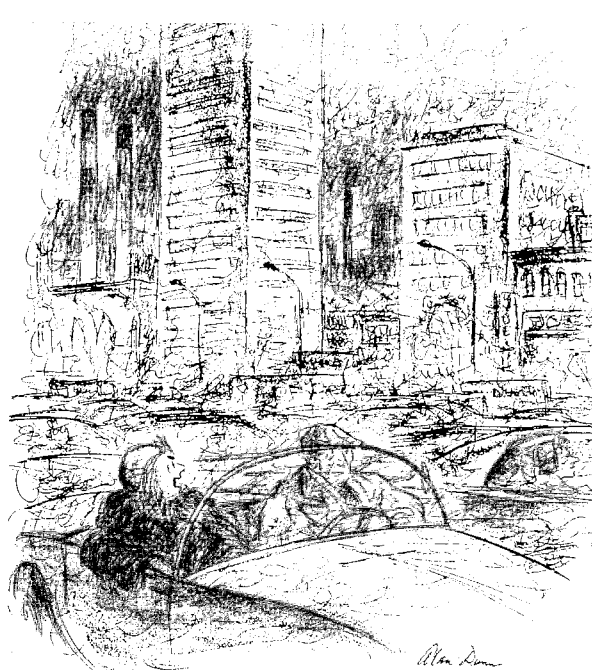


Now is the time to ask the question, "Are we Going Nowhere Fast?" There are many who know the answer: scientists who struggle to reverse the environmental damage caused by autos and trucks; politicians who see the urgent need to increase investment in mass transit; engineers and designers who are developing feasible alternatives to the internal combustion engine; and city planners who know that cities won't survive unless the infrastructure accommodates appropriate, environmentally-conscious methods of transportation. Now -- while these professionals find new approaches -- is the time to ask what all of us can do to transform our transportation system.

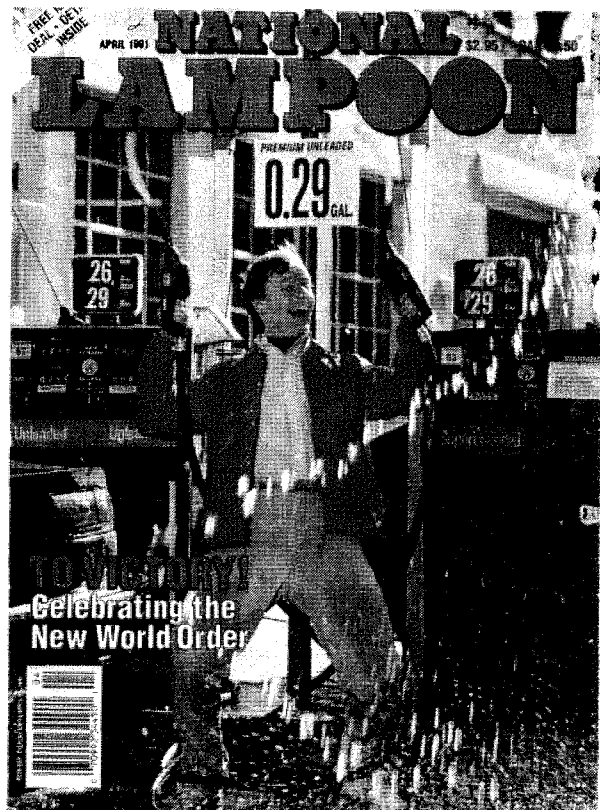
The exhibition, "Going Nowhere Fast: The Transportation Show" is curated by Lightwheels and presented by Municipal Art Society. Its contents point out the transportation crisis and the opportunity to improve mobility in the future. The enclosed statements represent the wide spectrum of facts which have been compiled on this topic, and the pages that follow give you some fresh insights to consider. Get informed, become involved and join us on the road to the future.



The latest link in new solar technology



"Once you promised me the world, and now look at it!"

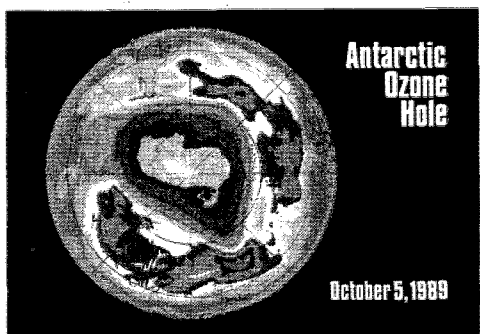
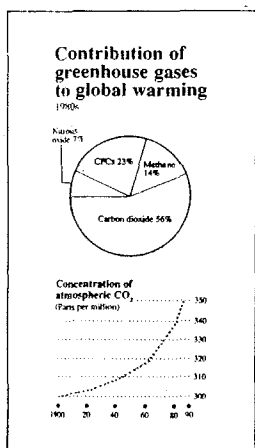
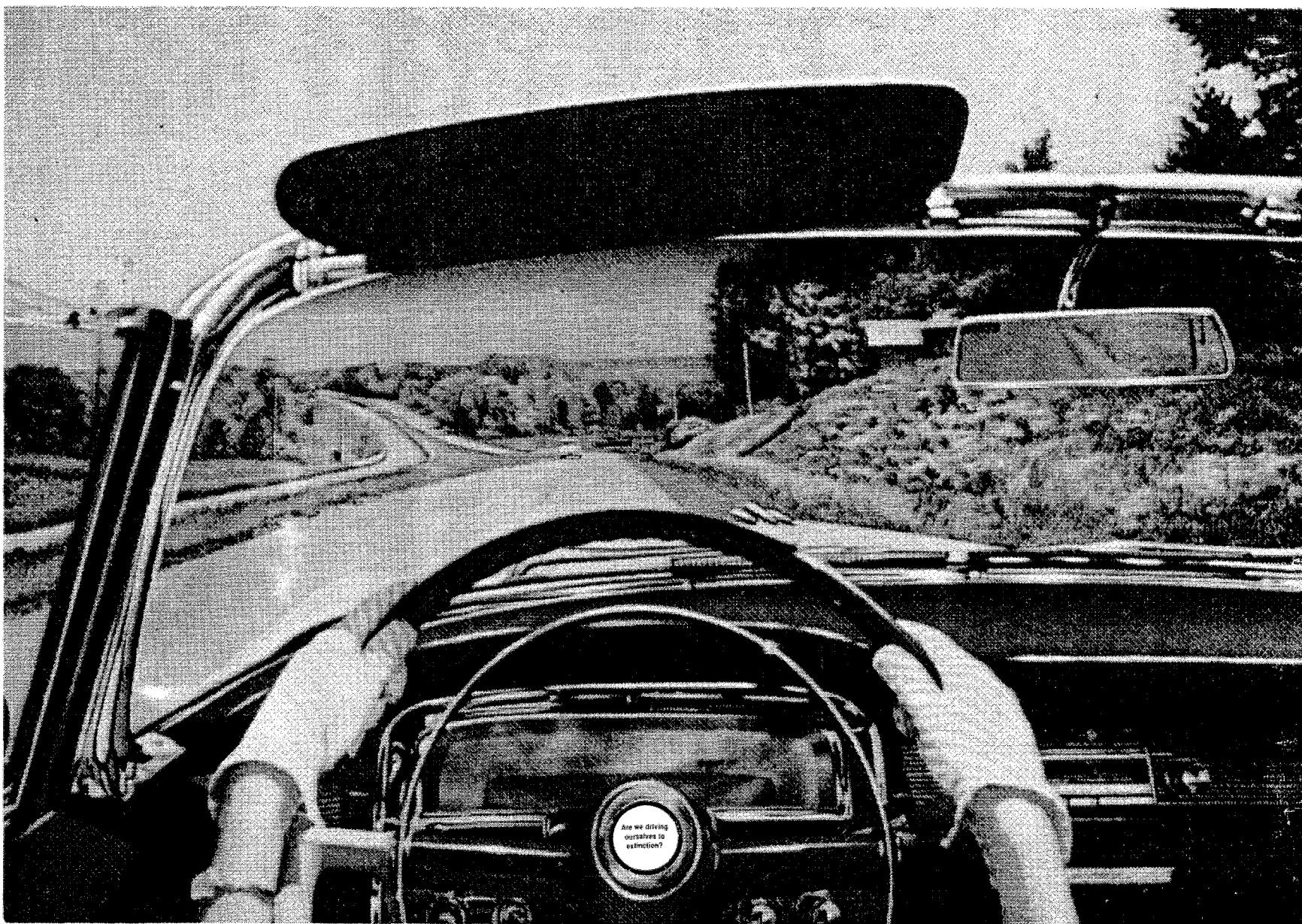


DNA's chain of life



"If ozone depletion continues to accelerate, crops may wither, animals may be blinded and ecosystems may be disrupted, threatening the very existence of life on this planet."

—Michio Kaku, Professor of Physics, CUNY



In this NASA computer image, the hole (center) is as big as Antarctica.

Pollution by Mode of Travel
(Grams/passenger mile for typical work commutes)

Mode	Hydrocarbons (HC)	Carbon Monoxide (CO)	Nitrogen Oxides (NO _x)
Rail transit	0.01	0.02	0.47
Transit Bus	0.20	3.05	1.54
Vanpool	0.36	2.42	0.38
Carpool	0.70	5.02	0.69
Single-occ. auto	2.09	15.06	2.06

Source: American Public Transit Association

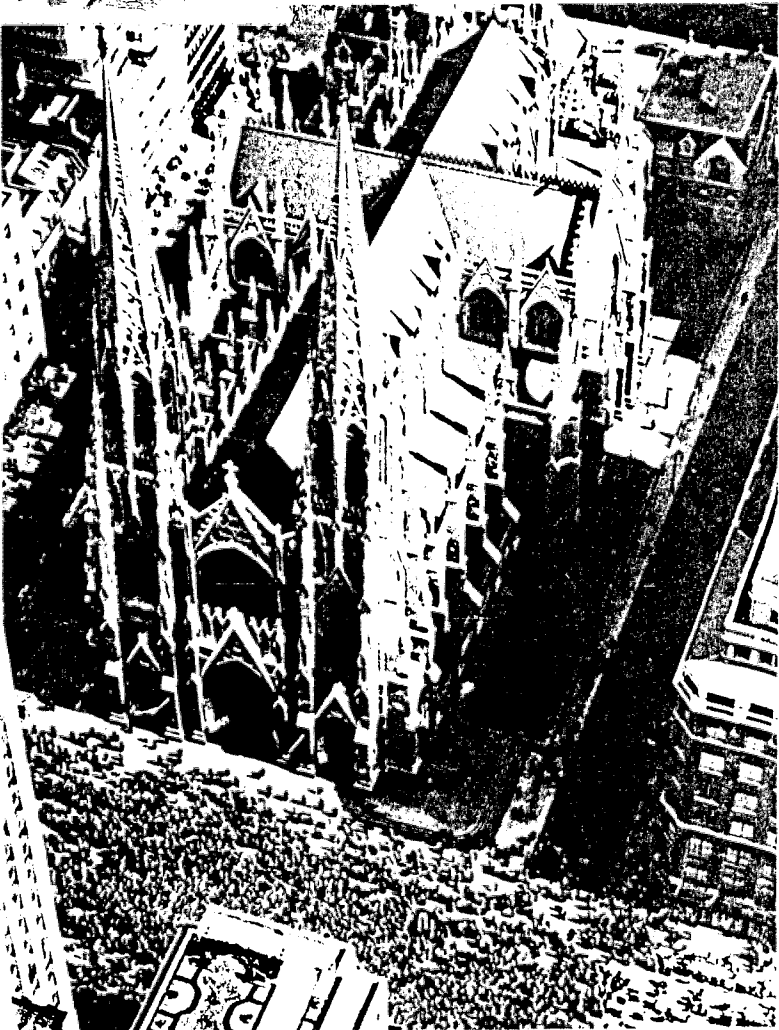
environment

- Automobile air conditioners are the single largest source of the chlorofluorocarbons (CFC's) that are destroying the Earth's protective ozone layer.
- Motor vehicles, says the EPA, are responsible for 55% of the total cancer incidence from air contaminants, 5 times greater than from any other air pollution source.
- Cornell University researchers estimate that energy related ozone emissions reduce U.S. crop yields by 30%.
- The average car pumps its weight in carbon into the atmosphere each year.
- Are we really willing to risk all life on earth for the sake of painted tin boxes?

The only real problem with the "environmental problem" is that people think it's just a problem, when in fact it's a catastrophe.

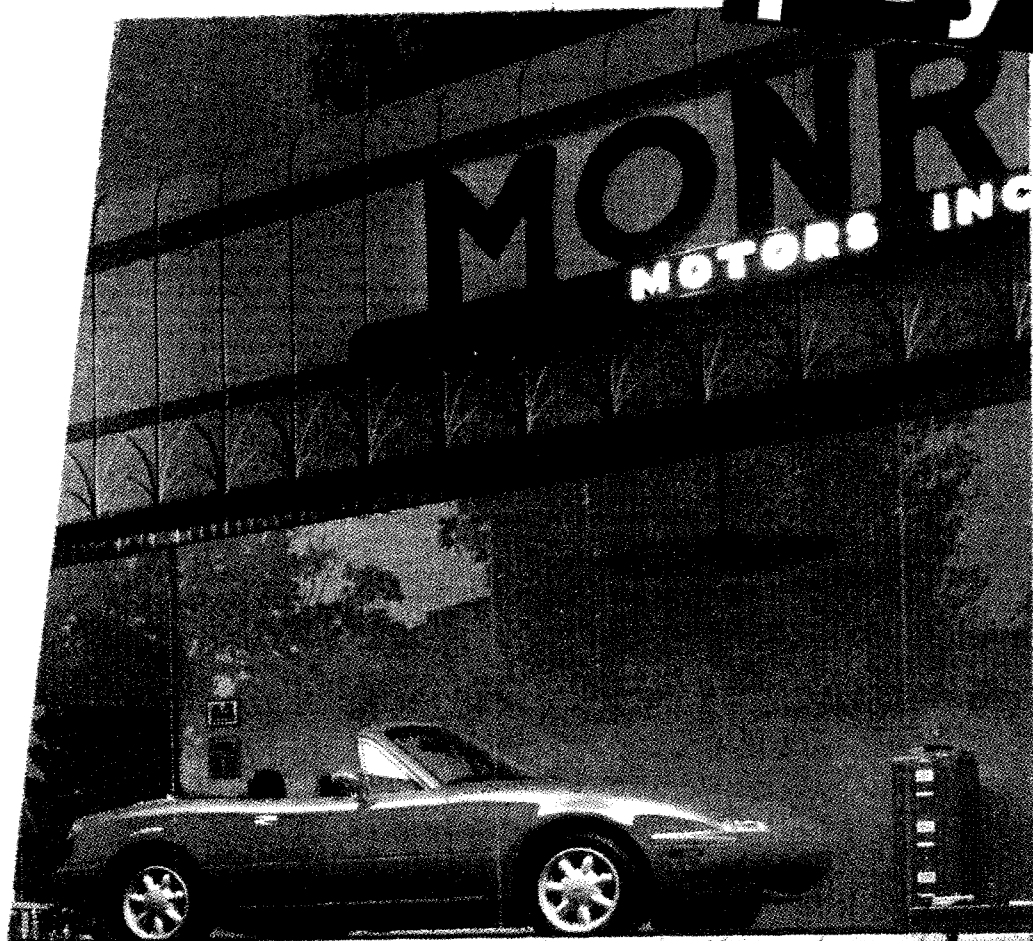
*Automobile air conditioners... "Steering Toward Ecological Disaster," by Andrew Kimbrell in The Green Lifestyle Handbook, J. Rivkin, ed., 1990.
*The average car pumps... Steve Stollman, Lightwheels

logo design by: © James Holcomb and Doug Clouse 1991
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promise cartoon: © 1973, Alan Dunn, The New Yorker Magazine, Inc. Reprinted by special permission. All rights reserved.
kids'n'bike: © Bernard Jeay, La Monde a' Bicyclette, 1979
vintage cartoon: © Antique Auto Show Catalog, 1948
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cover: courtesy National Lampoon Magazine
Solar Spiral: © Associated Press 1991



Going NOWHERE Fast ④

psychology



There was once a time when you considered driving a privilege rather than a necessity. Then something changed. Maybe the traffic got to you. Maybe it was the commute to work. Whatever it was, driving became a chore. Fortunately, things are about to change again. Introducing the SC400, a

There it was in all its brazen glory. Red paint shouting in the night, grabbing you by the scruff of the neck, pulling you to the showroo of a streetlight the glass, hypnotized.

The drive to work is almost an hour long. Which leaves you two choices: You can own a house closer to work. Or you can own the road in between.

You'll need more than your diploma to really go places in the world.

No piece of paper is going to get you over rocks, through mud and up a mountain. But this Nissan Pathfinder will. With four-wheel drive and a 153-horsepower V6 engine, it's versatile enough to get you just about anywhere you want to go. Be it Wall Street. Or an archaeological dig in Peru.

This advertisement is based on a concept submitted by Shelley K. for a commercial for Nissan. Call 1-800-NISSAN for more information and your nearest Nissan dealer.



Submerge Yourself In Luxury Without Drowning In Boredom.

Luxury is often defined in terms of rich, supple leather.

That's fine if you're designing sofas. But try negotiating

a hairpin turn on your living room divan. The Lexus ES250, on the

other hand, offers luxuries that go far deeper than the padding in the seats. A simple depression of the accelerator will demonstrate our point.

The responsive Four-Cam V6, coupled with a Vorlauf-inspired suspension, can turn the anguish of

Like leather trim pack, six-speaker audio, comfort of a driver's supplemental Restr

And, oh y luxurious fea with every F thrill of dri

The R

My MPC is BIGGER than Yours

IT NOT ONLY SAYS
YOU'VE ARRIVED. IT SAYS YOU'VE
BROUGHT THE WHOLE FAMILY.

American
rites of passage



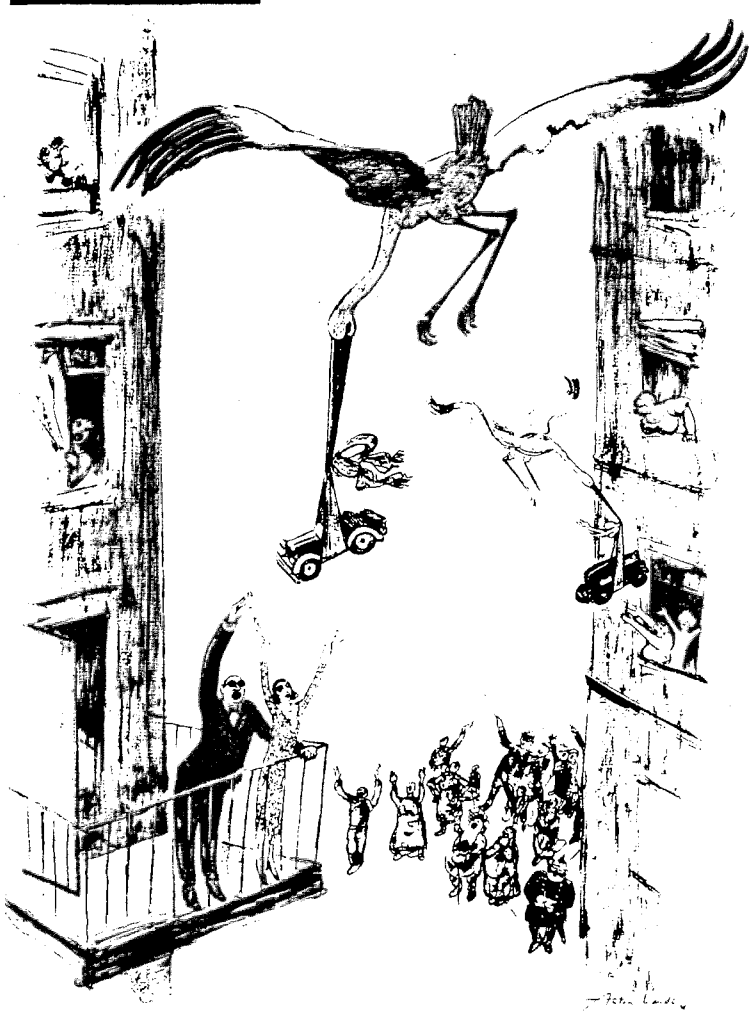
Advertising
changes our
perception, for
better or worse

THE OPEN GATE
THAT LEADS FROM WORK TO PLAY

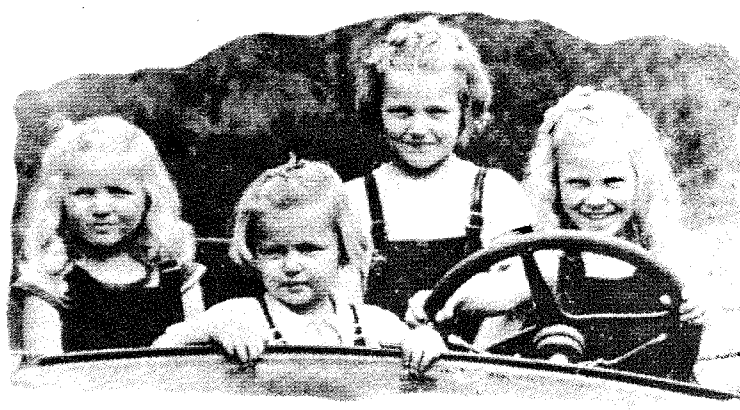
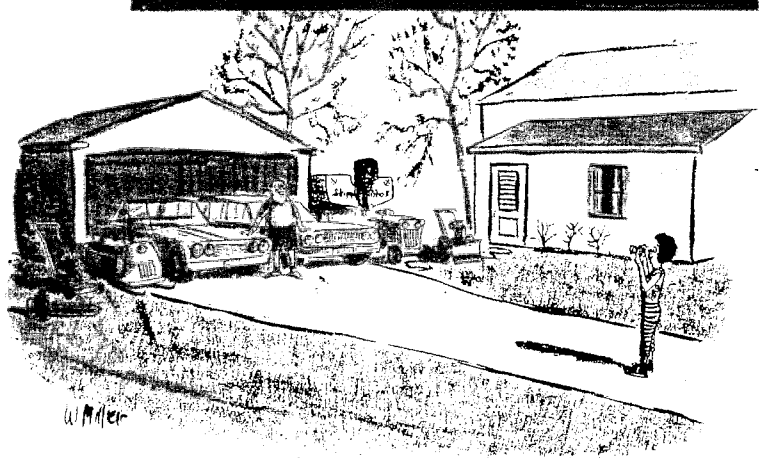
FOR PLEASURE PARTIES
FOR SCHOOL PICNICS
TRY LONDON'S
UNDERGROUND

Special arrangements at cheap fares for large parties. Illustrated Booklet giving full particulars on application to Commercial Manager, 45 Broadway, Westminster, S.W. Telephone Victoria 6800.

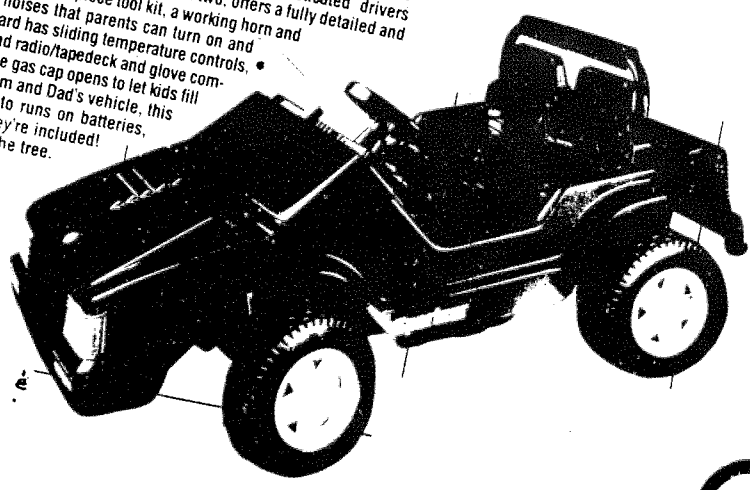
psychology



Der moderne Storch



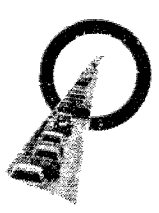
For the young and the restless, Fisher-Price introduces their new Sportcar, a realistic state-of-the-art roadster for sophisticated drivers aged three to seven. The 1990 model seats two, offers a fully detailed and accessible engine, a five-piece tool kit, a working horn and "turbo" engine noises that parents can turn on and off. The dashboard has sliding temperature controls, gauges, a pretend radio/tapedeck and glove compartment. And the gas cap opens to let kids fill 'er up. Unlike Mom and Dad's vehicle, this top-of-the-line auto runs on batteries, but gee whiz—they're included! Perfect for under the tree.



Tibet
following
the U.S. 3
model

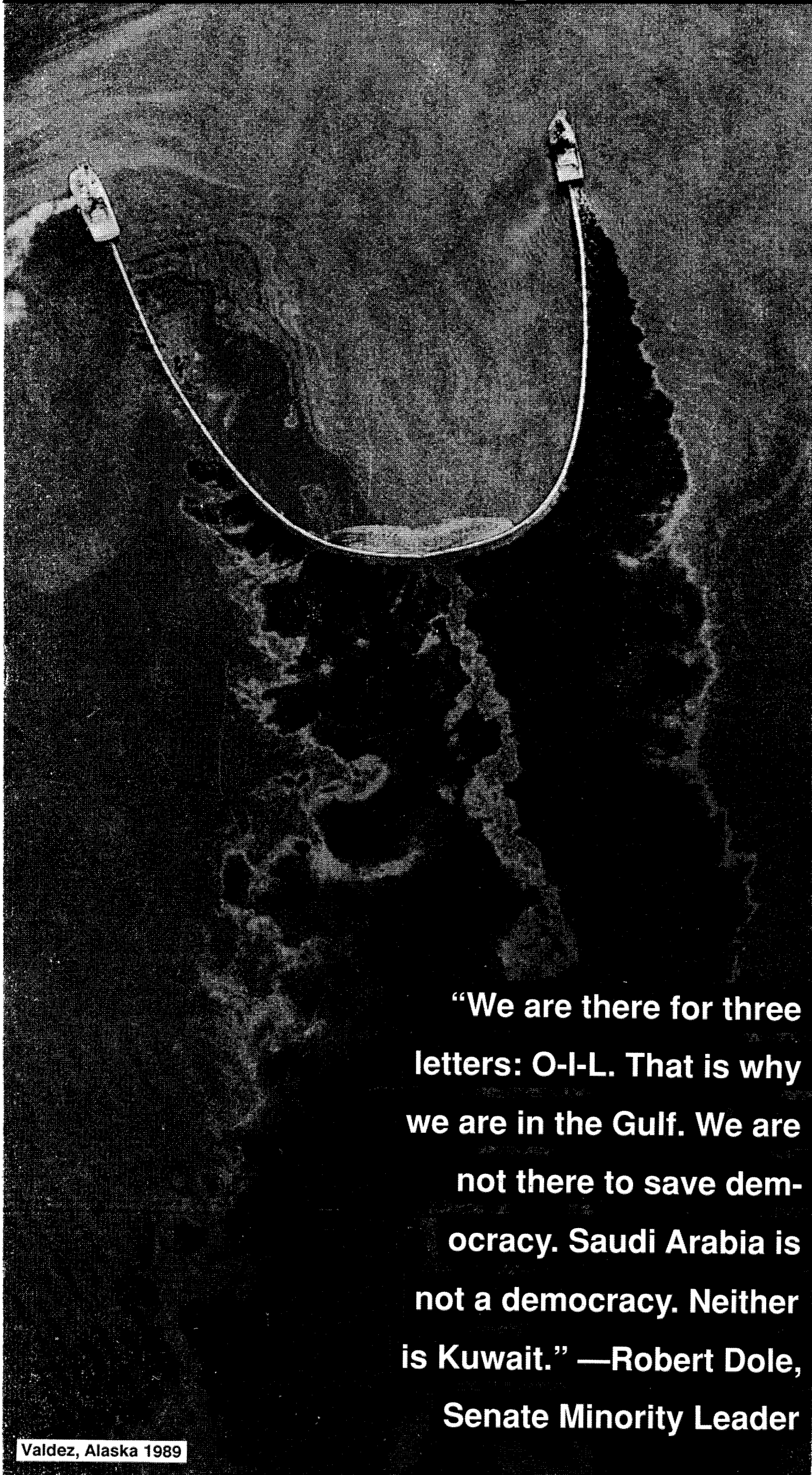
Actually, two weeks ago I had the bike in the car. Well, I were with me, out in N. Cal. & the car died. I kept thinking that if I hadn't had Will with me, I would've abandoned the car & ridden away forever on the bike.

cartoon: © 1973, W. Miller, The New Yorker Magazine, Inc.
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bumpersticker: © C.U.R.E.S. 1991
letter: from the collection of James F. Holcomb, June 19, 1991



Going NOWHERE Fast ©

oil and auto politics

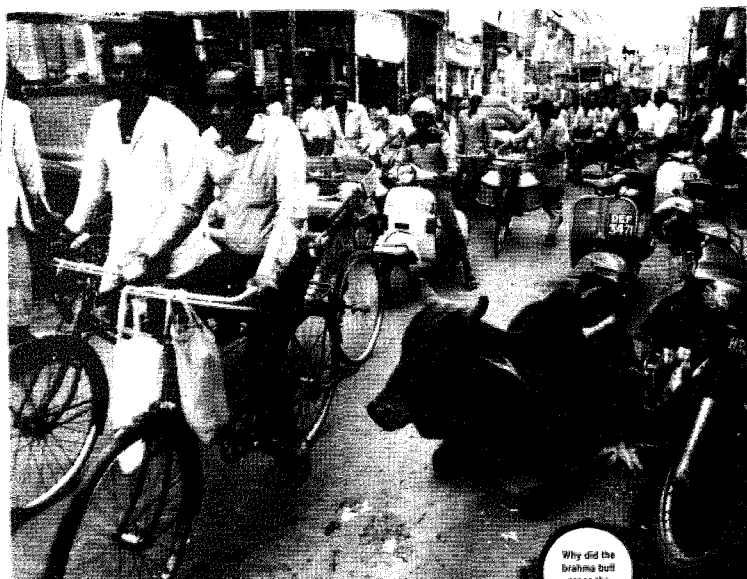
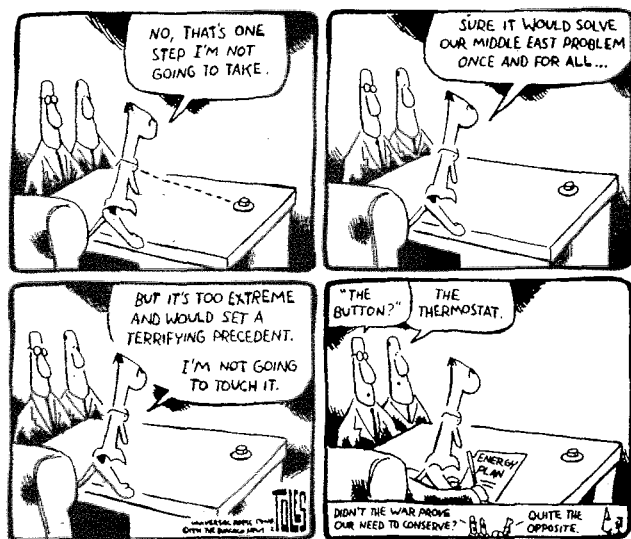
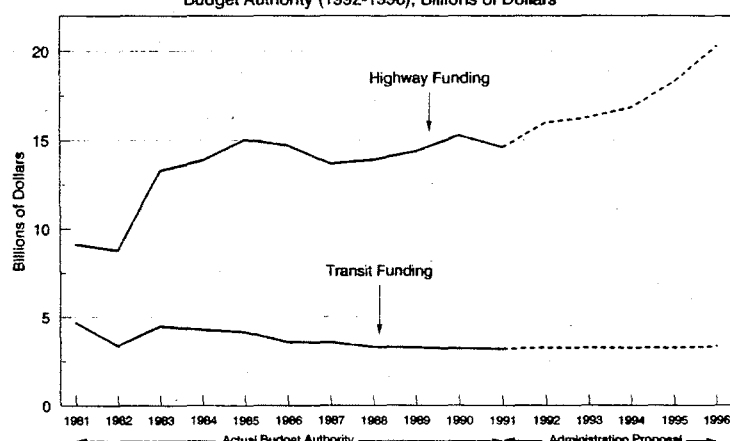


“We are there for three letters: O-I-L. That is why we are in the Gulf. We are not there to save democracy. Saudi Arabia is not a democracy. Neither is Kuwait.” —Robert Dole, Senate Minority Leader

Valdez, Alaska 1989



The Divergence of Federal Transit and Highway Funding, Actual Budget Authority (1981-1991) and Administration Proposed Budget Authority (1992-1996), Billions of Dollars



"The Japanese use one-seventh the energy...." John Pucher, Department of Planning, Rutgers University, First International Conference on Auto-Free Cities, May 3-4, 1991, NYC.

"If we had continued conserving...." Amory Lovins, VP Research, Rocky Mountain Institute, First International Conference on Auto-Free Cities, May 3-4, 1991, NYC.

"83% of voters favor...." "The Global Warming Debate," Union of Concerned Scientists, 1990.

"In developing countries, bank lending biases...." "Alternatives to the Automobile: Transport for Livable Cities," by Marcia D. Lowe, Worldwatch, 1990.

"During the decade of 1936-46...." "Steering Toward Ecological Disaster," by Andrew C. Kimbrell in The Green Lifestyle Handbook, J. Rivkin, ed., 1990.

"Car ads comprise...." anonymous New York local news advertising executive.

chart: courtesy Campaign for New Transportation Priorities, Washington, D.C.
cartoon: courtesy Manhattan Comic News

oil and auto politics

- The Japanese use one-seventh the energy we use per capita for urban transportation, and the Germans use one-fifth.
- If we had continued conserving oil after 1985 at the same rate as before that year, we could have eliminated the need for any oil from the Gulf.
- 83% of voters favor a proposal that cars be required to get 45 miles to the gallon, even if a new car would cost \$500 more.
- In developing countries, bank lending biases have for decades ignored public and non-motorized transit in favor of road building.
- During the decade of 1936-46, a holding company called National City Lines (consisting of General Motors, Standard Oil, Firestone Tire, Mack Truck, and many other corporations) cozied up to city officials across the nation and conspired to buy up and destroy the inter-urban rail, railroad and the trolley car systems. Trolley systems were destroyed in over 45 municipalities. By 1955 almost 95 percent of trolley cars were gone from our cities. In 1947, the conspirators were brought to trial. After almost ten years of litigation they were found guilty. An accommodating judge fined individual defendants \$1 each, and corporate defendants \$5,000 each.
- Car ads comprise the single largest category of advertising on television news—about 30-35%.

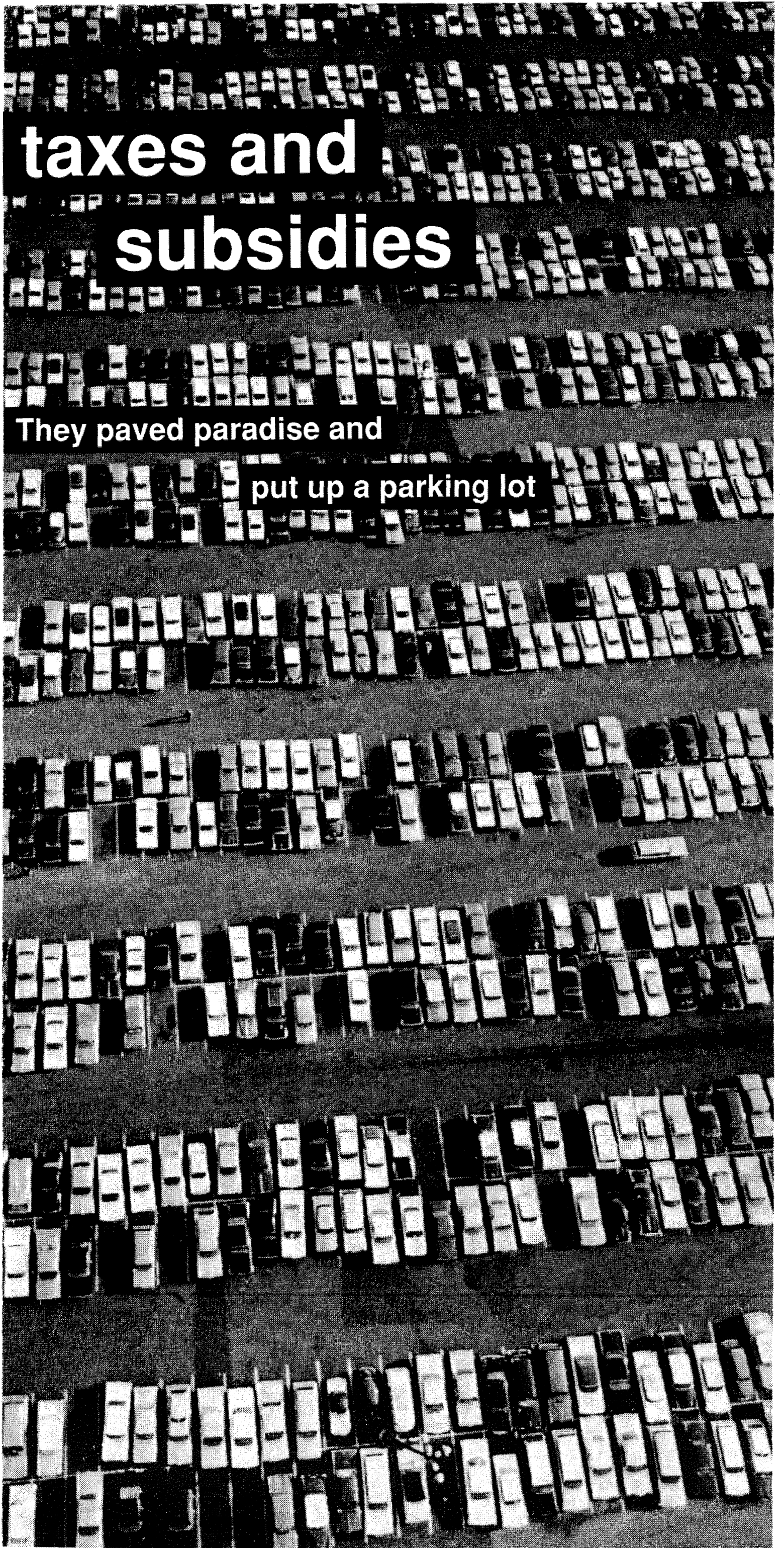
- Do oil and car companies' advertising and political leverage inhibit meaningful debate about their costs and other liabilities?

Institute a "carbon tax" to encourage oil conservation.

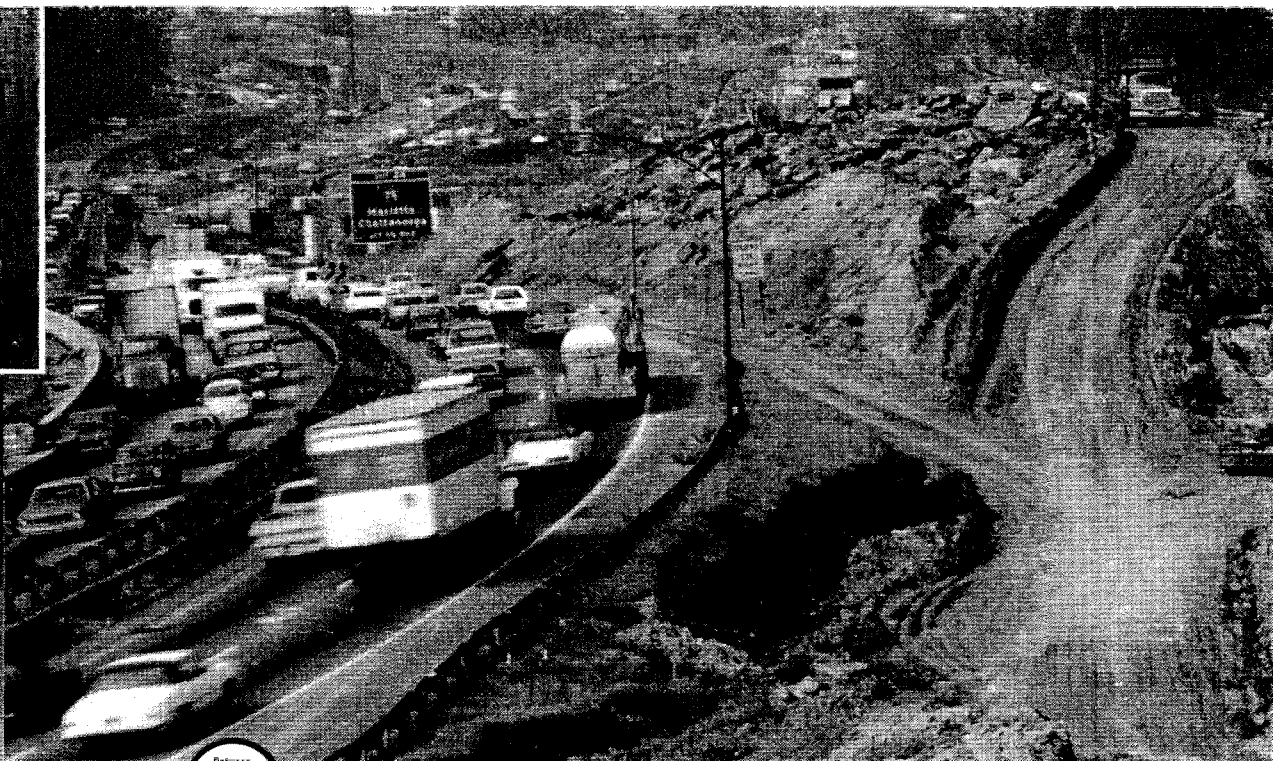


taxes and subsidies

They paved paradise and
put up a parking lot



H HUDSON PKWY
UNDER RECONSTRUCT
EXPECT DELAYS AHEAD
TOTAL COST \$55,000,000
SCHEDULED COMPLETION: 1991
RICHARD M. CUOMO



Between 1981 and 1991, federal highway spending nearly doubled.



A true price per gallon.

taxes and subsidies

- Americans pay only a fraction of the true cost of gasoline. Environmental damage, infrastructure, health care, military, traffic congestion, and countless other expenses related to our use of gasoline impose a burden that consumers don't pay for at the pump. Though difficult to quantify, the real cost of gasoline to America is estimated to be from two to four times the price per gallon we pay today.

- Between 1981 and 1991, federal spending for highways nearly doubled and transit funding fell by 5%.

- For every \$1.50 spent on education by the U.S. government, \$6.50 is spent on auto subsidies.

- 60% of motorists receive subsidies for their commute from their employers in the form of parking, gasoline, and other benefits. Parking is a tax-free benefit worth between \$200 to \$400 per month in large U.S. cities. Those commuting by transit are only allowed \$15 per month.

- The peak-hour commuter enjoys a particularly large government subsidy since he/she pays no more for the use of the highway system than the driver travelling in less congested off peak hours.

- Are current tax laws preventing changes in transportation habits?

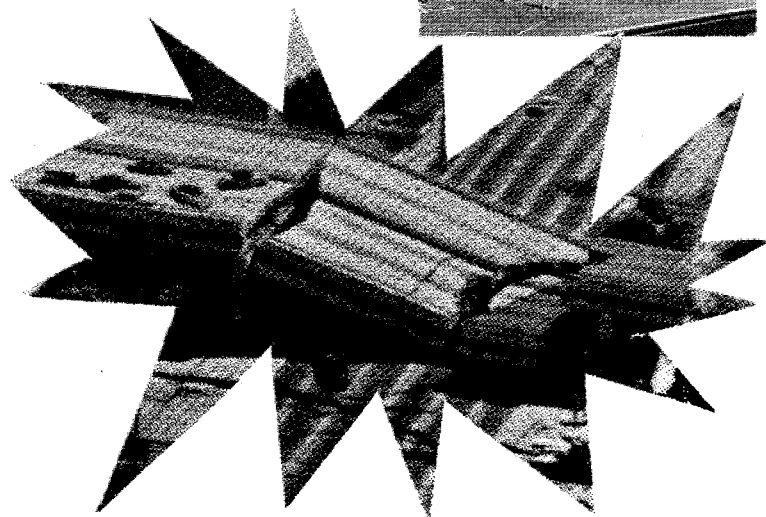
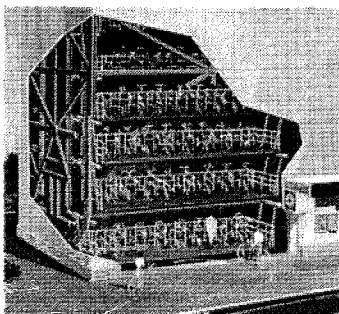
Reward economically and environmentally beneficial behavior.



Avenue of the Americas bike lane, 1991-7.



The high rise parking lot of the future...in Japan today.



"Americans pay only a fraction..." compiled from "The Real Cost of Energy," by Harold M. Hubbard, Scientific American, April 1991; "Planes, Trains, and Automobiles," by Daniel Lazare, Village Voice, October 23, 1990; and "Cars are evil: Automobiles and the Environment," by Stephanie Pollack, Conservation Law Foundation of New England, July 1990.

"Between 1981 and 1991..." "Acting in the National Interest: The Transportation Agenda," Surface Transportation Policy Project.

"For every \$1.50 spent..." "Air Pollution and Alternative Fuel Vehicles," Inform, Inc., April 1991.

"60% of motorists..." "An Approach to Reducing Vehicle Congestion in New York City," report by Ross Sandler, Commissioner of Transportation, 1986; "Cars are Evil: Automobiles and the Environment," by Stephanie Pollack, Conservation Law Foundation, July 1990.

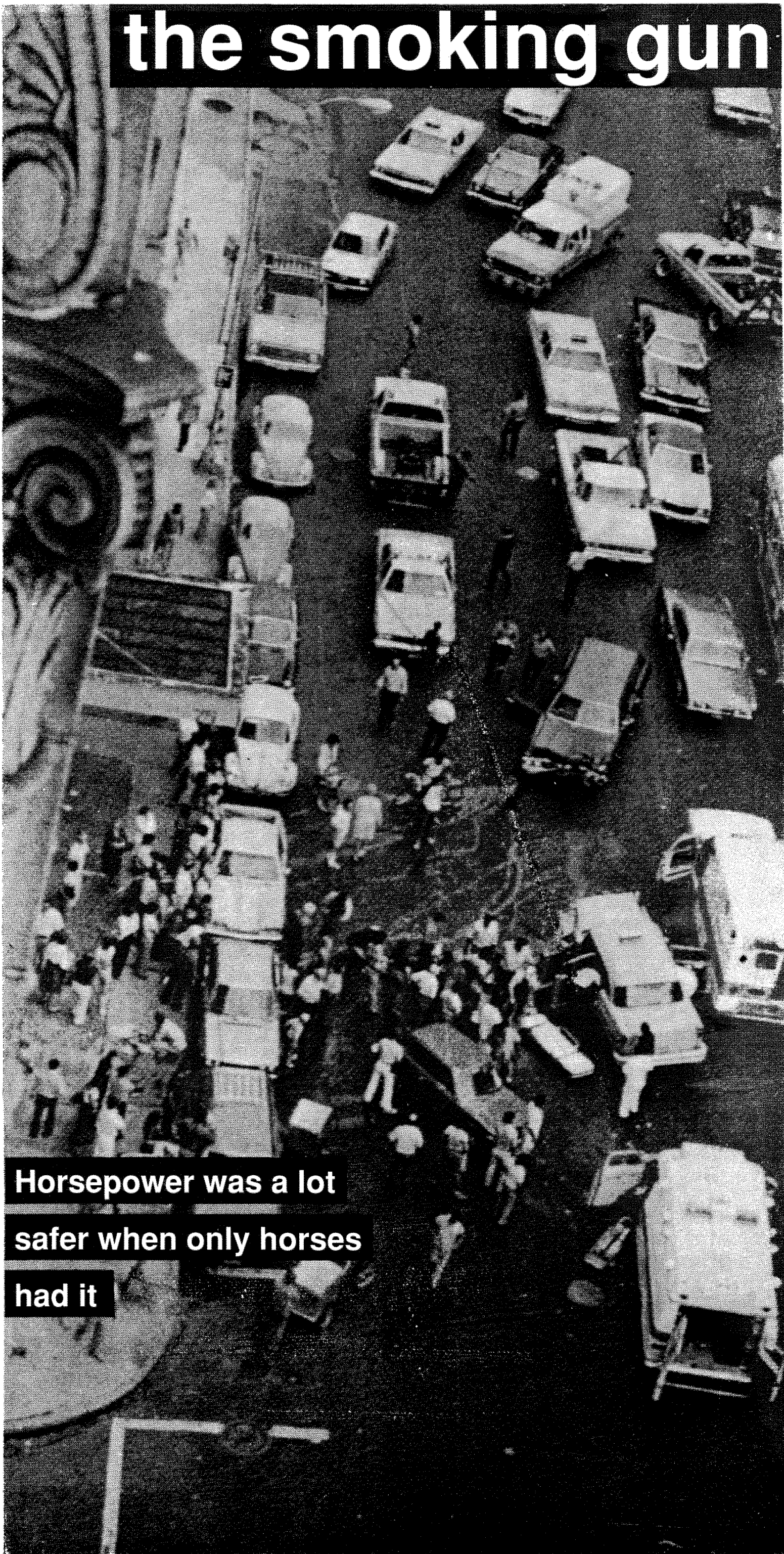
lyrics: © Joni Mitchell, Big Yellow Taxi, 1969
plecharts: courtesy Surface Transportation Policy Project
6th Ave.: © James Holcomb 1991
limo: © Andru Eron 1991

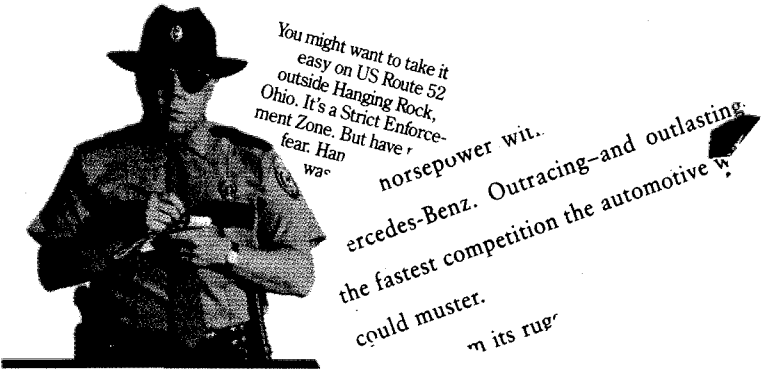
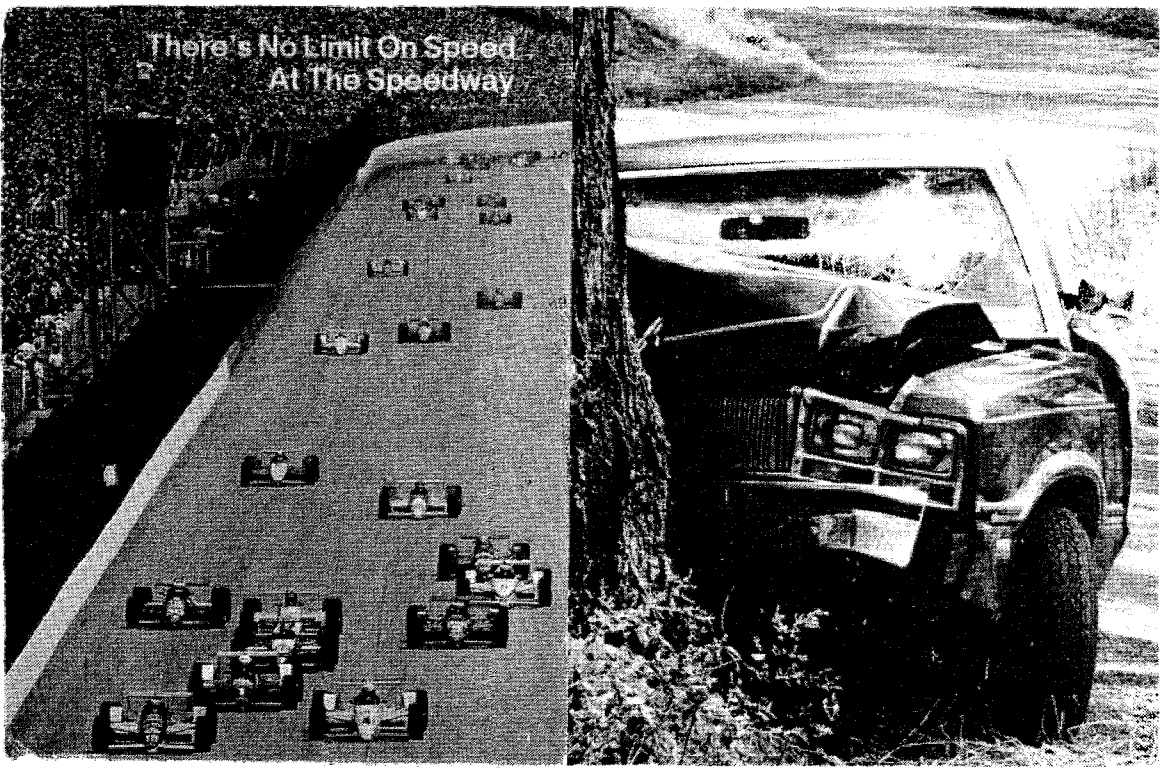


Going **NOWHERE** Fast ©

the smoking gun

Horsepower was a lot
safer when only horses
had it





"This is a war of engines and octanes. I salute the

American oil industry. I salute

the American auto industry."

—Joseph Stalin

the smoking gun

- Twice as many deaths have been caused by motor vehicle accidents than all the wars we have fought.
- The full name of the original highway bill is "The National System of Interstate and Defense Highways."
- The chief attribute of conventional motor vehicles may be the ease with which factories that produce them can be converted to the production of armaments.
- Annually, 50,000 Americans die in road accidents and 280,000 are seriously injured.
- Texas is planning on selling "coupons" to pay for speeding tickets on the spot. Violations would not show up on records.
- Three states give no points to drivers who are convicted of the dangerous criminal offense of reckless driving.
- If human beings made deafening noises, blew poisonous gas into other people's faces, and threatened to crush them on the sidewalk, they would be arrested. Yet out on the street, motor vehicles do all of this and no one raises an eyebrow.
- In 1990, 366 pedestrians died in traffic accidents in NYC alone.

- Have we accepted cars, like cigarettes and alcohol, as deadly, but uncontrollable?

Insult or injury become no less so because of the frequency with which they are endured.

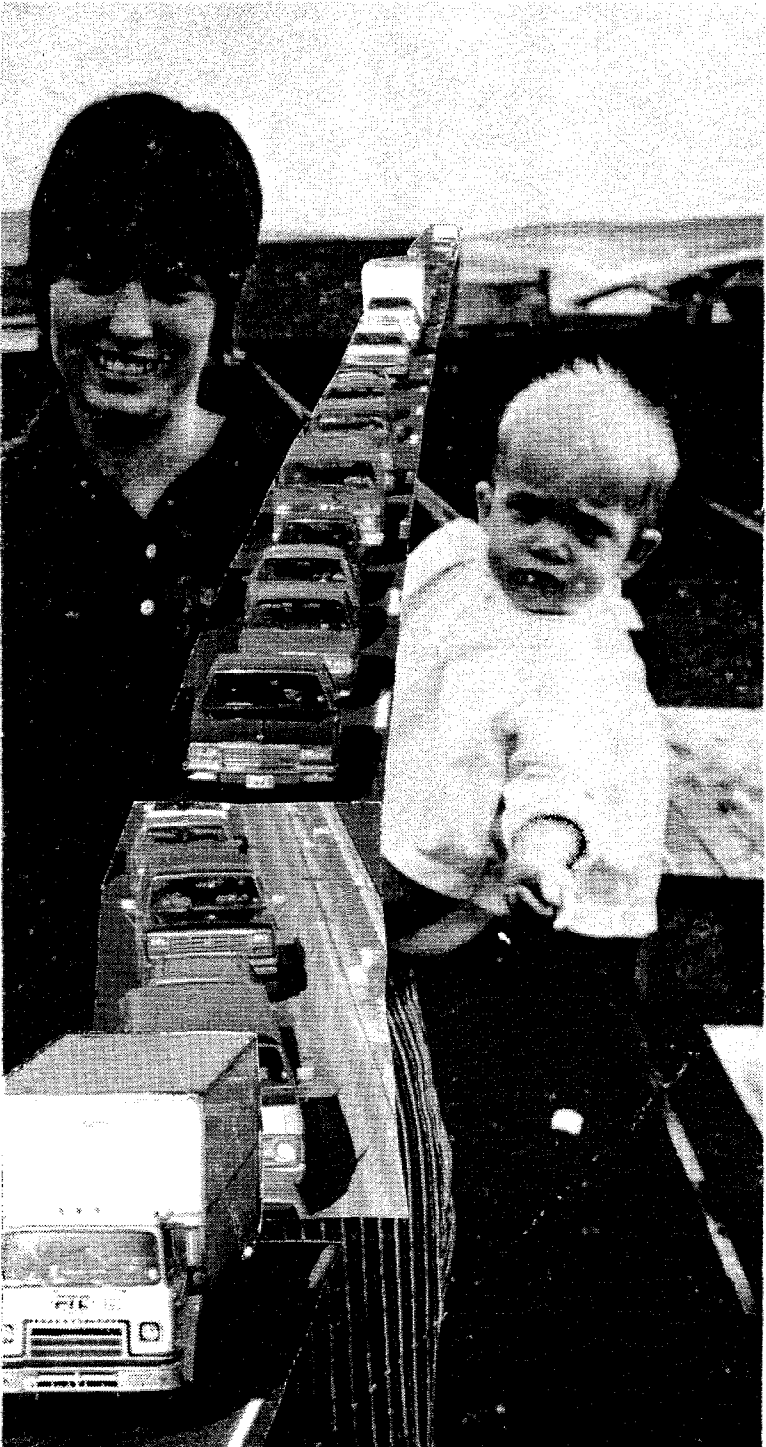
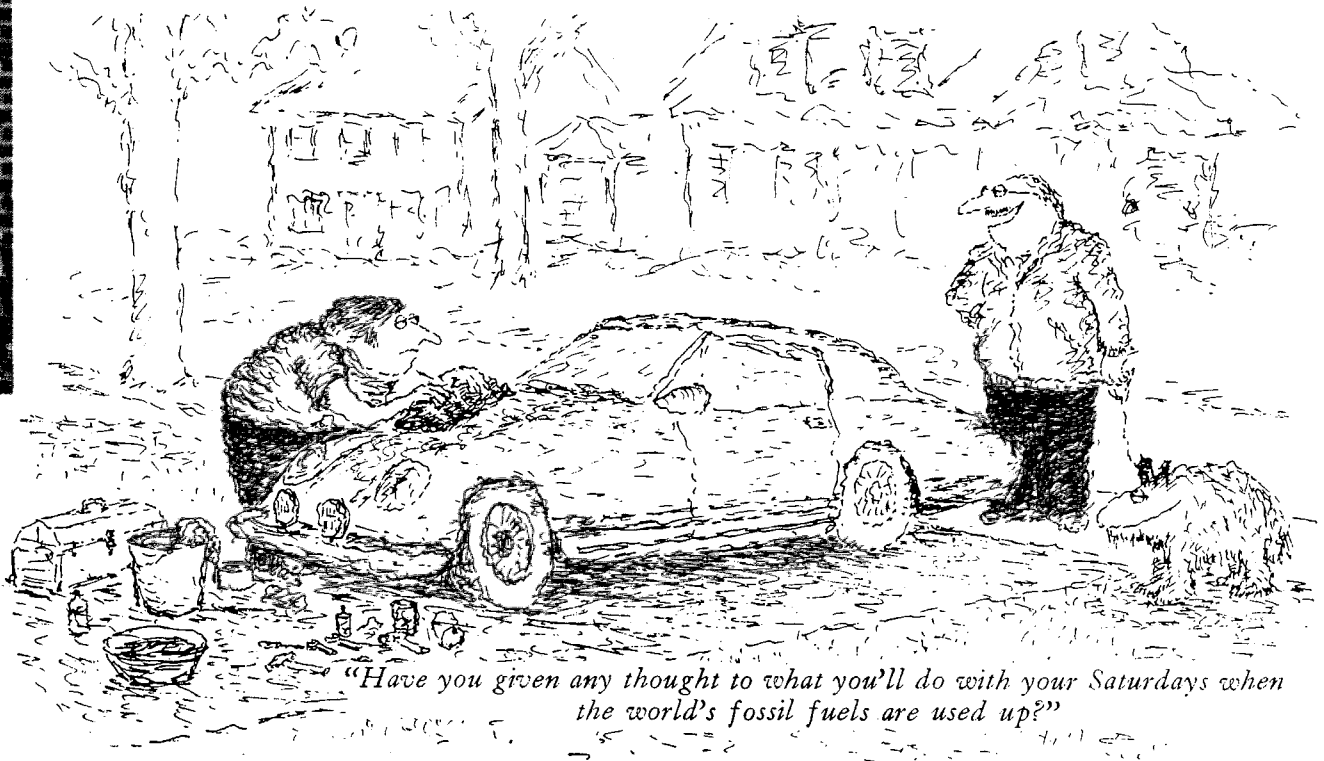
"Twice as many deaths...." Solar Mind, No. 3, January-February 1991, by Joe Stevenson, publisher.
"The chief attribute of conventional motor vehicles...." Steve Stollman, Lightwheels.
"Annually, 50,000 Americans die...." "Mobilopathy," by Professor Ralph Slovenko, Journal of Psychiatry Law, Summer 1984.
"Texas is planning on selling...." "Pay Now, Speed Later," Newsweek, May 27, 1991.
"Three state give no points...." "Point System Comparison," Traffic Laws Commentary, February 1979.
"In 1990, 366 pedestrians died...." New York City Department of Transportation, Safety Division.

cartoon: © Will Farrow 1931
military ad: © American Trucking Industry 1962



the high cost of transportation





the high cost of transportation

- We work one-and-a-half days a week for taxes and one day for transportation.
- When all the hidden costs are added in, Americans spend more for transportation than for food or housing.
- Ten years ago, drivers spent twice as much for gas than they do today when you account for inflation.
- 25% of our Gross National Product goes into transportation costs, including almost 18% in direct costs and 8% in externalities, such as road construction and maintenance, traffic regulation and policing, loss of land, and health costs.
- The "rush hour" in Seoul lasts 12 hours, in Rio 14.
- The average Boston commuter will have spent four years sitting in traffic jams by retirement.
- Some estimate that gasoline would cost at least \$4.50 per gallon if all the hidden costs—road construction and maintenance, traffic regulation and policing, loss of land to roads, health costs for accidents—were added into the price.
- New York City has the lowest per capita energy consumption of any city in the U.S. because of its extensive mass transit system.

• Do our cars work for us or do we work for them?

Get the car off welfare.

"We work one-and-a-half days...." interview with Brian Ketcham, Konheim and Ketcham, May 16, 1991.

"When all the hidden costs are added in...." and "Ten years ago...." Brian Ketcham, Transportation Engineer, Konheim and Ketcham, First International Conference on Auto-Free Cities, May 3-4, 1991, NYC

"25% of our Gross National Product...." interview with Brian Ketcham, Konheim and Ketcham, May 16, 1991.

"The 'rush hour' in Seoul...." "Alternatives to the Automobile: Transport for Livable Cities," by Marcia D. Lowe, Worldwatch Institute, 1990.

"The average Boston commuter...." "Interstate Highway Project in Boston may Face a Court Challenge with National Implications," by David Stipp, Wall Street Journal, June 25, 1991.

"Gasoline would cost...." "Cars are Evil: Automobiles and the Environment," by Stephanie Pollack, Conservation Law Foundation of New England, July 1990.

"New York City has the lowest...." Albany Report by James Tripp, January-February 1991.

Madonna: courtesy Forrest Wilson, *Recycling Cities for People*
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cartoon: © 1973, Koren, The New Yorker Magazine, Inc. Reprinted by special permission. All rights reserved.



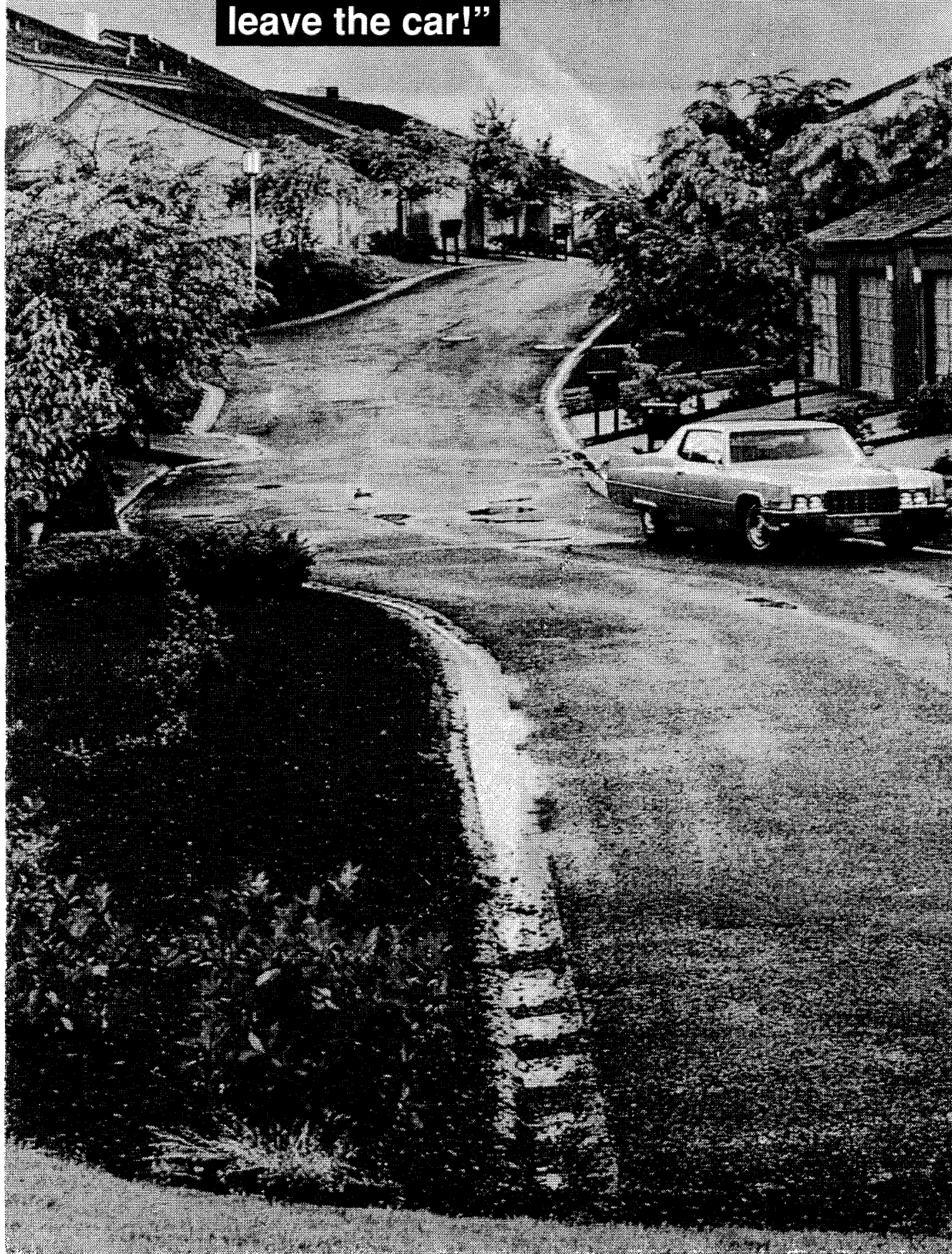
land-use

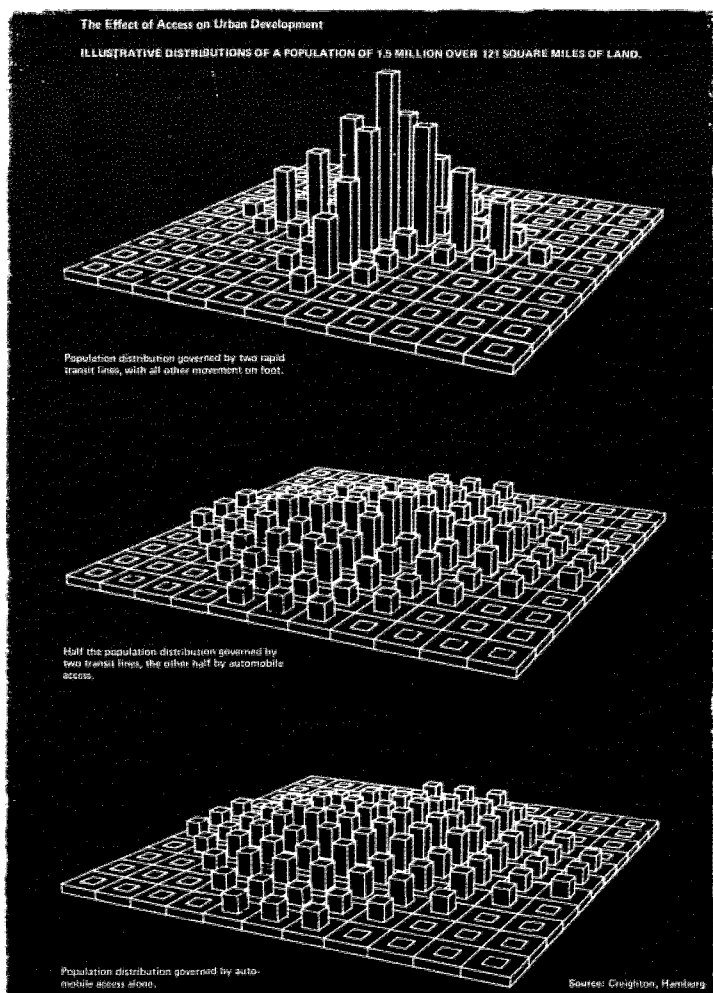
“Hey, you’re blocking

traffic. Can’t you go any faster?”

“Yes, but I don’t want to

leave the car!”



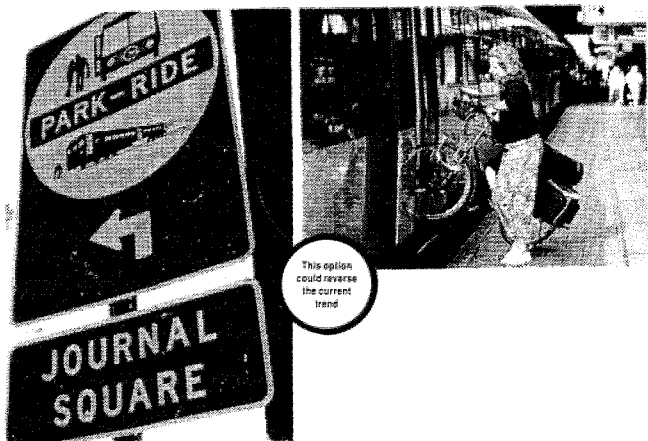
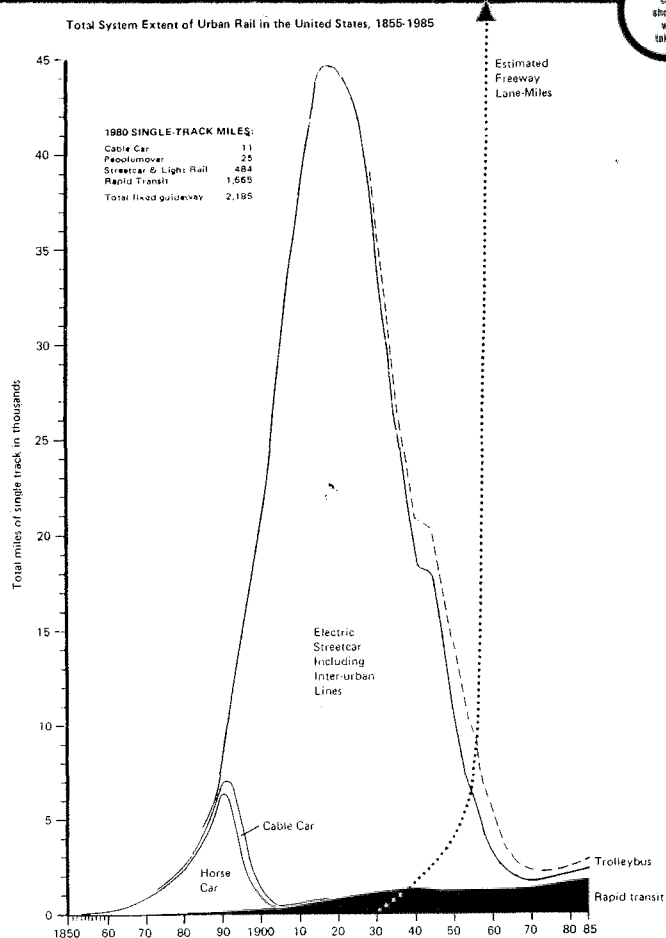


land-use

- Close to half of the land in a typical American city is devoted to infrastructure needed to support the automobile.
- Car parking requires twenty times more space than bike parking.
- Toronto's zoning and incentives concentrate projects near subway stops. One-half of all apartments built since 1954 in Toronto are within walking distance of rapid rail transport, and 90% of all new offices are adjacent to stations.
- Two railroad tracks have the hourly passenger carrying capacity of 16 highway lanes.
- The percent of Americans who commute by transit has dropped from 12.6 to 6.4 percent between 1960 and 1980 because of a rise in car ownership and changing land use patterns.
- Building highways is known to increase vehicle volume and not necessarily relieve congestion.
- Traffic jams on suburban highways are approaching the crisis proportions of big-city bottlenecks.
- Tokyo residents must prove they have an off-street parking place before they can buy a car.

- How can we change land use policies, particularly near mass transit terminals?

Mandate density planning and mass transit interconnections.



"Close to half of the land..." "Automobile Index," Conservation Law Index of New England.

"Car parking requires..." "Alternatives to the Automobile: Transport for Livable Cities," by Marcia D. Lowe, Worldwatch, 1990.

"Toronto's zoning and incentives concentrate..." "Alternatives to the Automobile: Transport for Livable Cities," by Marcia D. Lowe, Worldwatch, 1990.

"Two railroad tracks..." "A New Transportation Vision," Campaign for New Transportation Priorities.

"The percent of Americans who commute by transit..." "Cars are Evil: Automobiles and the Environment," by Stephanie Pollack, Conservation Law Foundation, July 1990.

"Building highways is known..." "Agency Must Consider Environmental Cost of Transportation," by Lewis Milford and Stephanie Pollack, Washington Free Press, August 20, 1990.

"Traffic jams on suburban highways..." Steve Stollman, Lightwheels.

"Tokyo residents must prove..." First International Congress on Auto-Free Cities, May 3-4, 1991, NYC.

sprawl: courtesy Regional Plan Association
density graphs: Urban Rail in America, Regional Plan Association
driveways: Ray E. Sage 1991
transport graph: courtesy Creighton, Hamburg Inc.



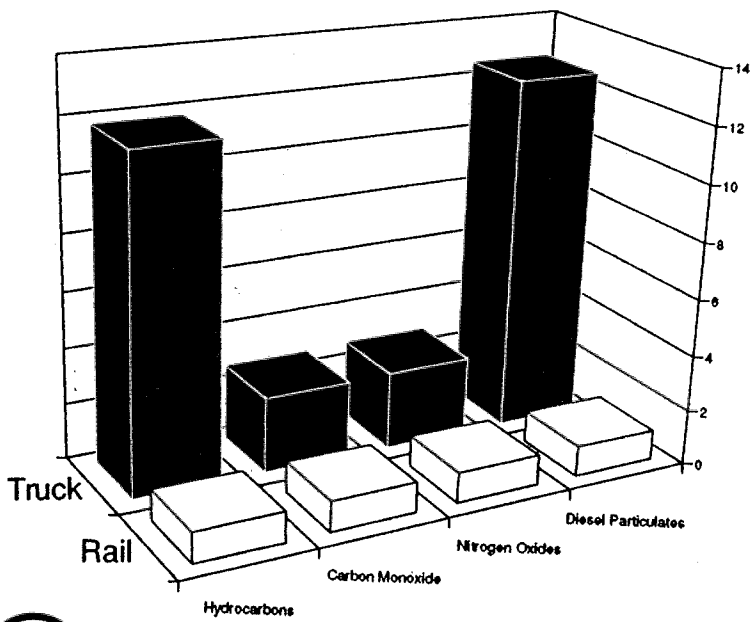
Going NOWHERE Fast ®

trucks & trains

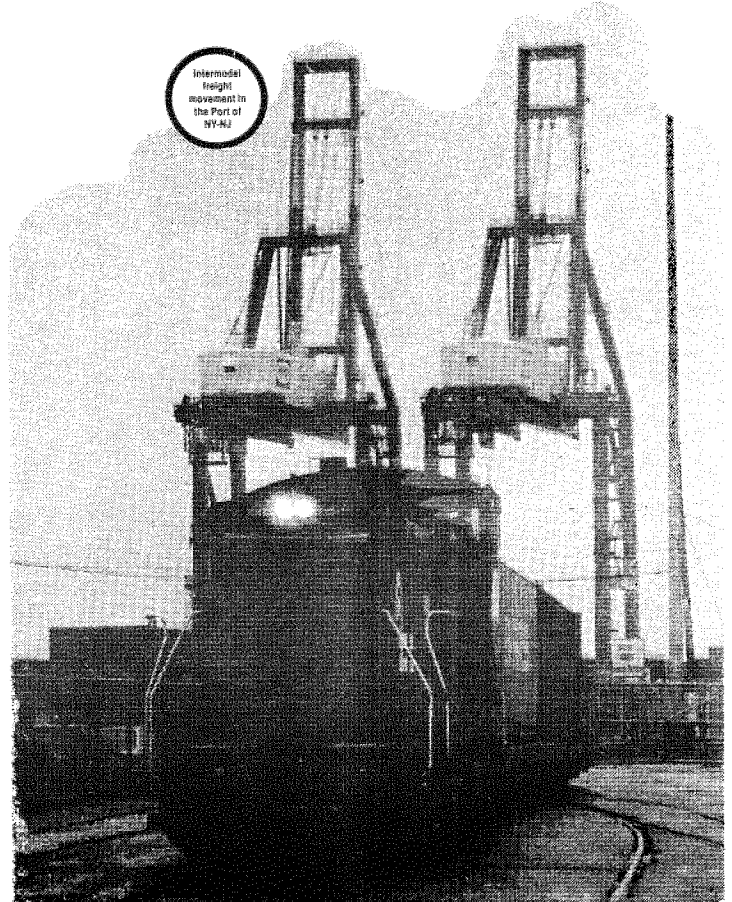
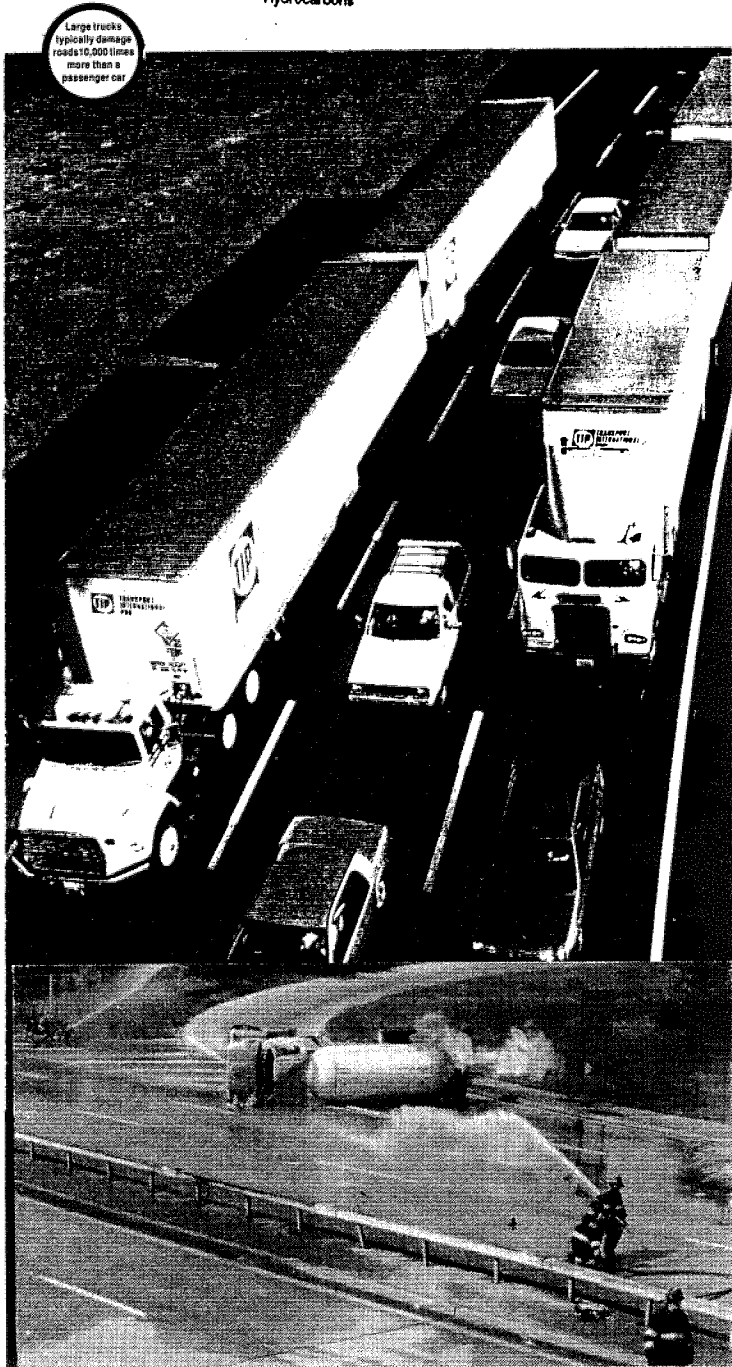
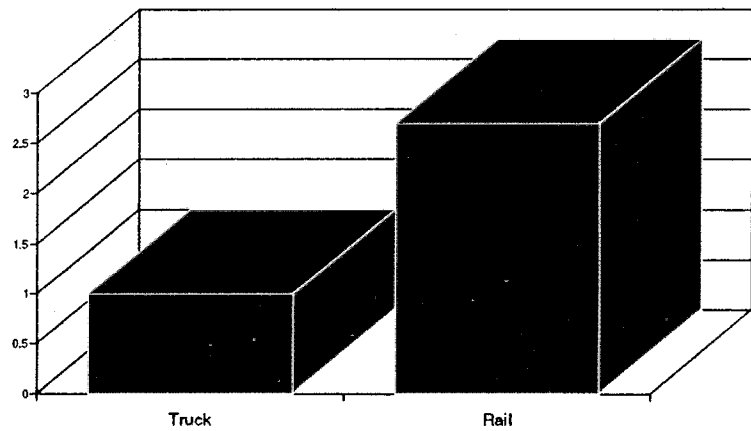
Every year, another 3,000
miles of railroad tracks
are dismantled in America



Truck and Rail Pollution
(Relative Pollution Factor per RevenueTon Mile)



Truck and Rail Relative Energy Efficiency
(Vehicle Ton Miles/Gallon)



trucks & trains

- Freight trains are four times more fuel efficient than trucks per ton mile of freight. Today, railroad companies are abandoning over 3,000 miles of tracks per year.
- Trucks cause enormous damage to the nation's roadway infrastructure (about \$50 billion a year) but pay only about \$20 billion in user fees.
- Roadway damage from a single truck is typically 10,000 times greater than that from a passenger car.
- West Germany, France, and Japan have over ten times as many competing manufacturers of buses and rail vehicles than the U.S.
- Heavy trucks are 85 times as noisy as passenger cars due to tires, mechanical and exhaust noise, and horns.
- In New York State, trucks pay 12.7% of road use taxes and fees, while in Texas, they pay 36.6% of them.
- NYC is the only major city in the country that does not have a passageway for freight trains to enter. All that's needed is a trestle in the Bronx—once planned, contracted, and then abandoned. A trestle would mean 80,000 fewer truck trips per year into the city. It would mean a \$100 million savings to businesses.
- Why is it that the only freight trains we ever see are under a Christmas tree?

The rail system must be preserved and expanded and trucks must pay their actual costs.

"Freight trains are four times..." interview with Bob Lipkind, Conrail Public Affairs.
 "Restoring Life to Abandoned Railroad Corridors." Rails to Trails brochure, 1990.
 "Trucks cause enormous damage..." Letter to Senators, Brian Ketcham, May 15, 1991.
 "Roadway damage from a single truck..." "Dim Vision," by Andrew Hamilton and Margrethe Winslow, Habitat: Journal of Maine Audubon Society.
 "West Germany, France, and Japan..." "American Ground Transport: A Proposal for Restructuring the Automobile, Truck, Bus, and Rail Industries," by Bradford C. Shill for the U.S. Senate Judiciary Committee, 1973.
 "Heavy trucks are 85 times..." "Some Background on the Real Costs of Transportation," Konheim and Ketcham, May 1991.
 "In New York State..." "Facts and Figures '90," Motor Vehicles Manufacturers Association of the United States, Inc., 1990.
 "NYC is the only major city..." "Gassing Up Engines of War," by Jim Dwyer, Newsday, January 16, 1991.

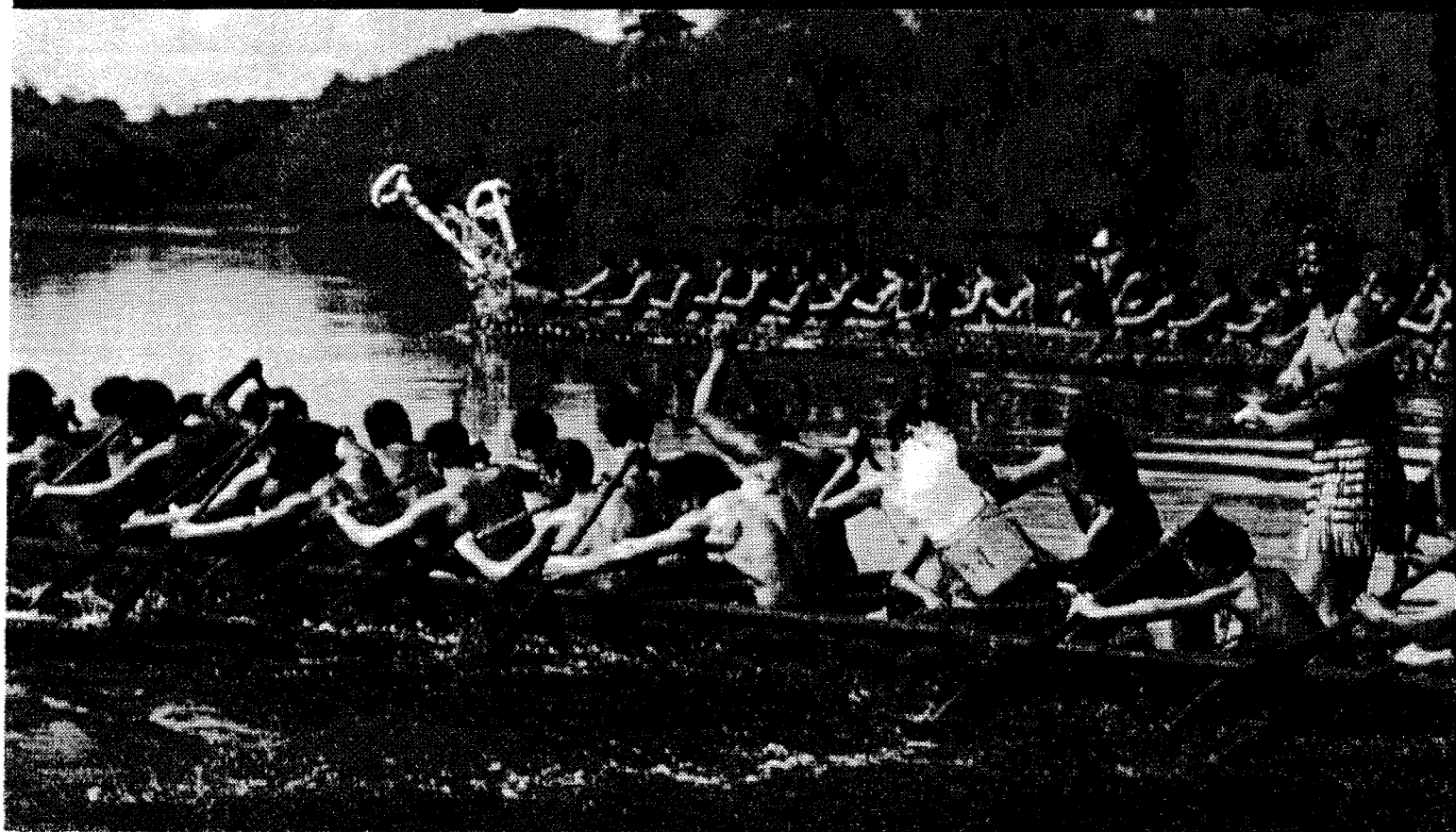
graphs: courtesy Urban Rail in America, Regional Plan Association
 3000 mile quote: courtesy Rails to Trails Conservancy
 roadway damage quote: courtesy Habitat, Maine Audubon Society
 intermodal yard: courtesy Port Authority of New York-New Jersey

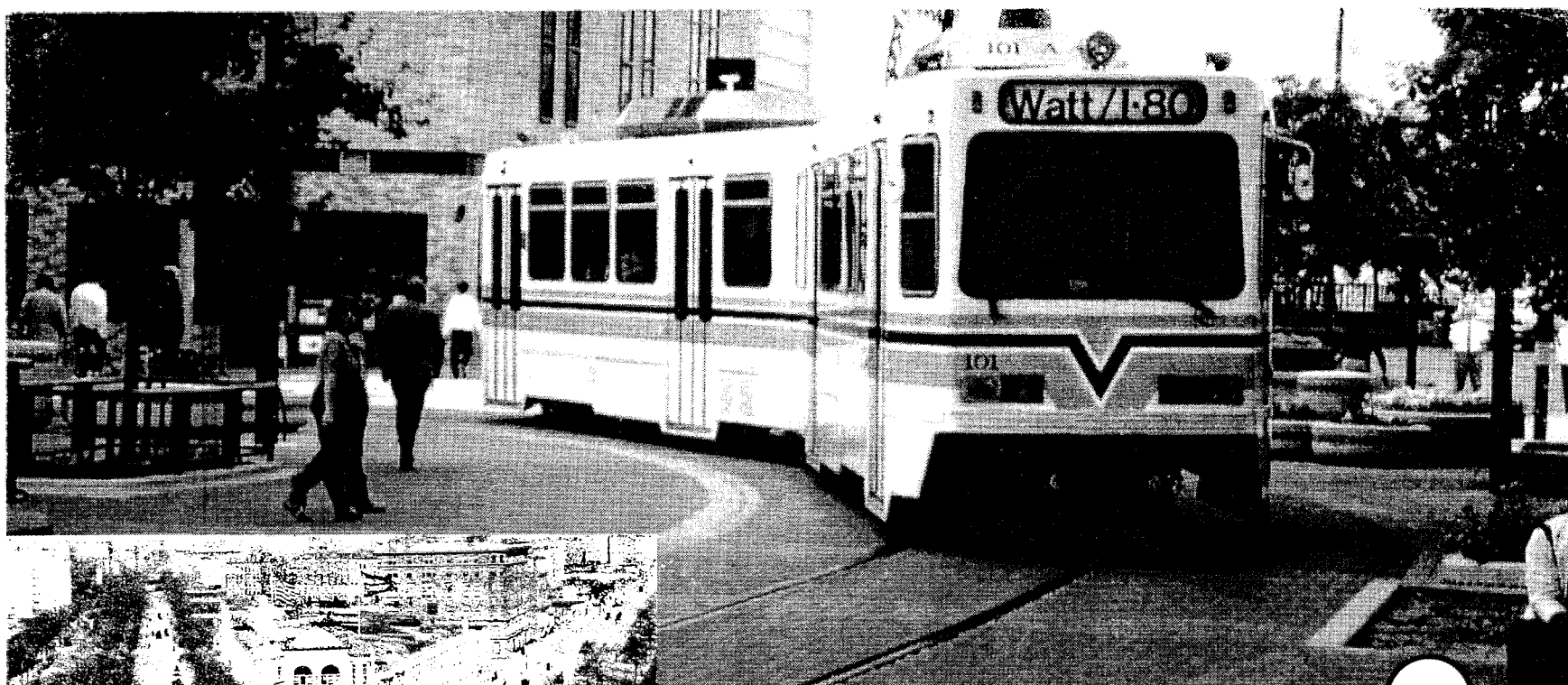




mass transit

Japan's mass transit
system: the more you
have the more you need

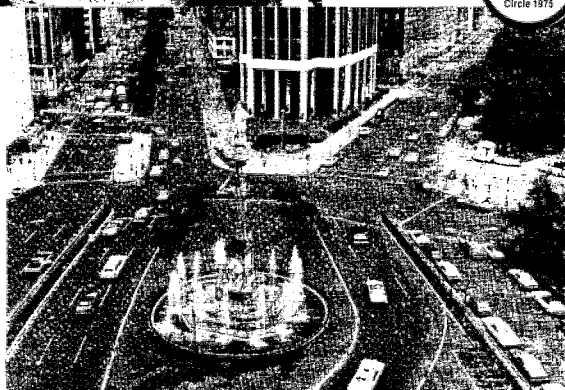




Light rail in San Francisco



Columbus Circle 1989...



Columbus Circle 1971

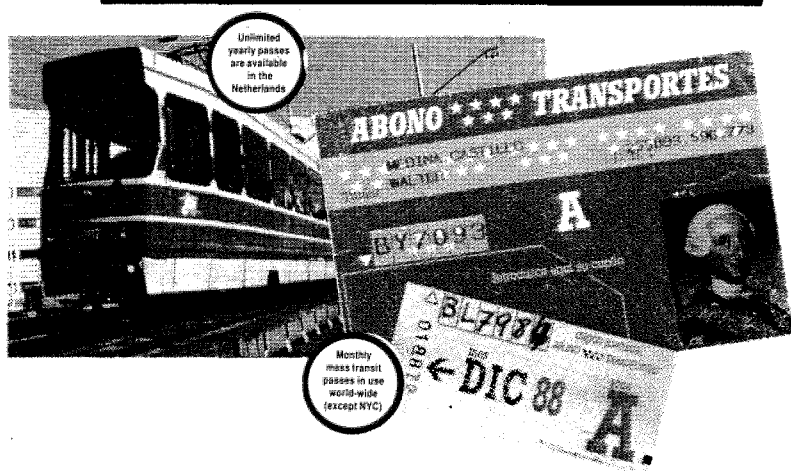
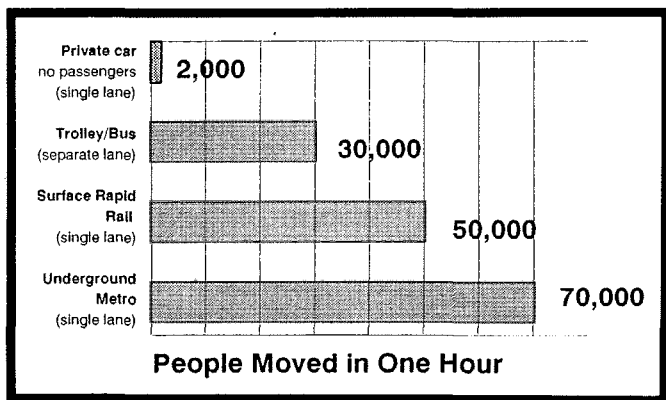
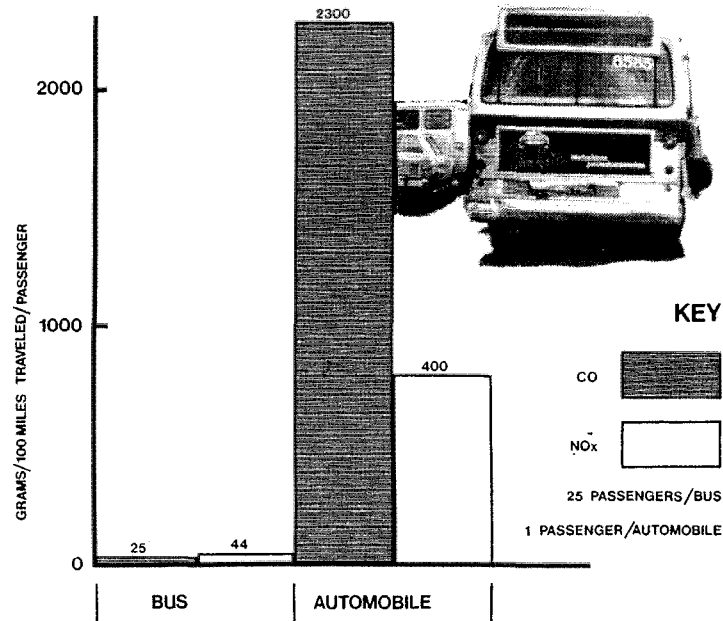
mass transit

- 72% of Americans support increased investment in and incentives for a wide range of public transit options.
- Among the world's major cities, those in Australia and the United States make the least use of alternatives to the private automobile.
- Moving someone a mile in a subway takes one-sixth the energy of moving them in a car.
- Public transportation in Europe accounts for 20-30% of passenger kilometers.
- In Hong Kong, public transport accounts for 9 of 10 million daily passenger trips.
- According to the California Energy Report, in Southern California, car users pay 10% of the real cost of driving, but mass transit users pay 25%.
- During the 1930's, National City Lines holding company, the creation of GM and Standard Oil, succeeded in dismantling the mass transit systems in over 45 municipalities.
- Austin, Texas temporarily instituted free public transportation within the downtown area for the fifteen months ending in January, 1991. There was an 80% increase in ridership during this time.
- 40% of the mass transportation in the United States is in New York City.

How can we improve mass transit so everyone will use it again?

Mass transit has to be of such high quality that people will use it by choice, rather than by necessity.

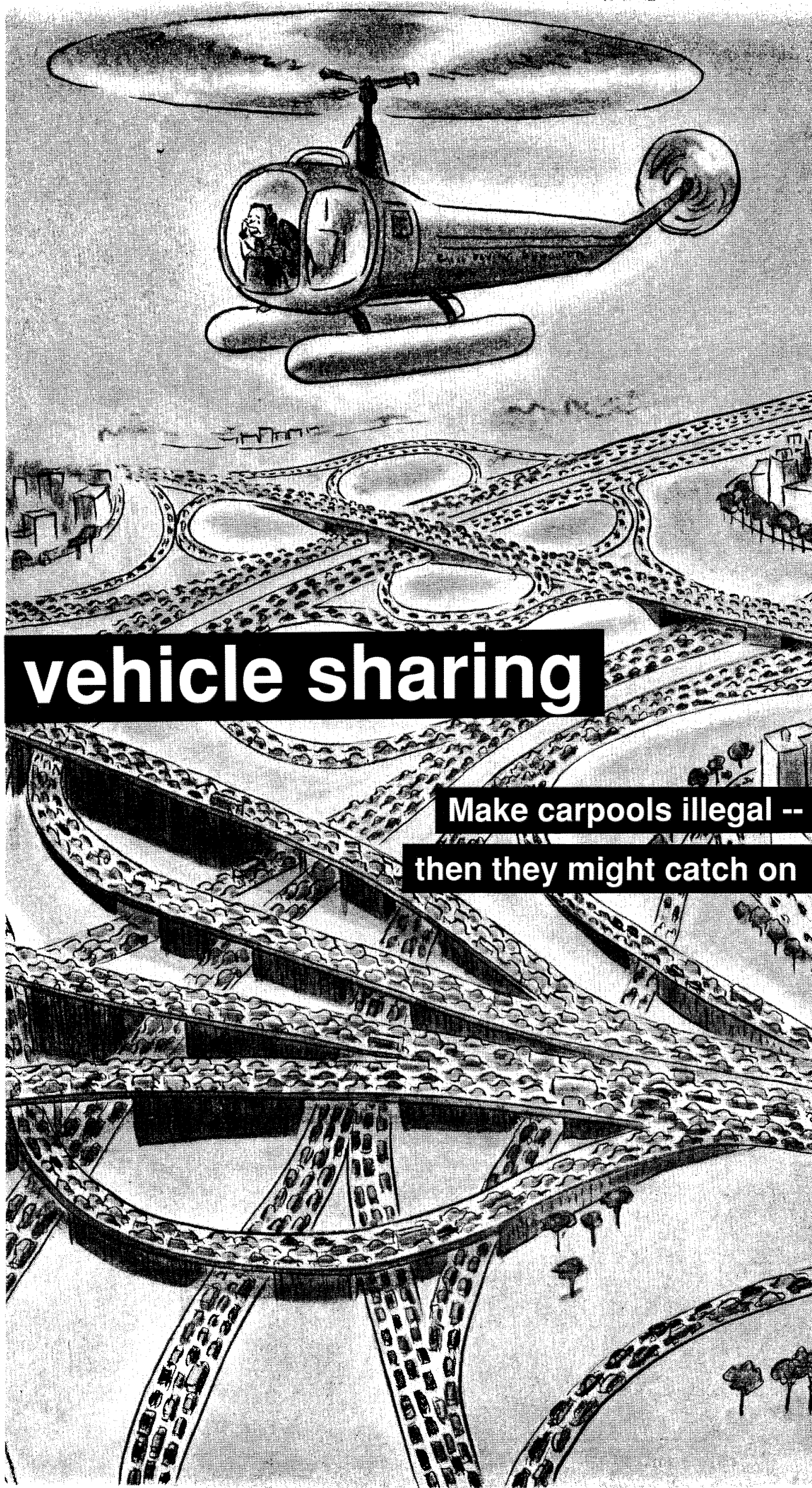
POLLUTANTS BY MODE PER PASSENGER



"72% of Americans support increased investment..." "Urban and Suburban Transportation," The Campaign for New Transportation Priorities.
 "Among the world's major cities..." "Alternatives to the Automobile: Transport for Livable Cities," by Marcia D. Lowe, Worldwatch, 1990.
 "Moving someone a mile in a subway..." "Alternatives to the Automobile: Transport for Livable Cities," by Marcia D. Lowe, Worldwatch, 1990.
 "Public transportation in Europe..." "Alternatives to the Automobile: Transport for Livable Cities," by Marcia D. Lowe, Worldwatch, 1990.
 "In Hong Kong, public transportation..." "Alternatives to the Automobile: Transport for Livable Cities," by Marcia D. Lowe, Worldwatch, 1990.
 "During the 1930's, National City Lines..." "Steering Toward Ecological Disaster," by Andrew C. Kimbrell in The Green Lifestyle Handbook, J. Rivkin, ed., 1990.
 "Austin, Texas temporarily instituted..." interview with Debra Edington, Marketing Supervisor, Capitol Metro, Austin, Texas.
 "40% of the mass transportation..." "New York Could Lose Big in U.S. Transit Plan," by Calvin Sims, The New York Times, February 14, 1991.

Columbus Circle: Edmund V. Giffon, Jr., New York City Then & Now, Dover Publications
 Light rails: Project for Public Spaces
 Graph: courtesy Urban Rail in America, Regional Plan Association



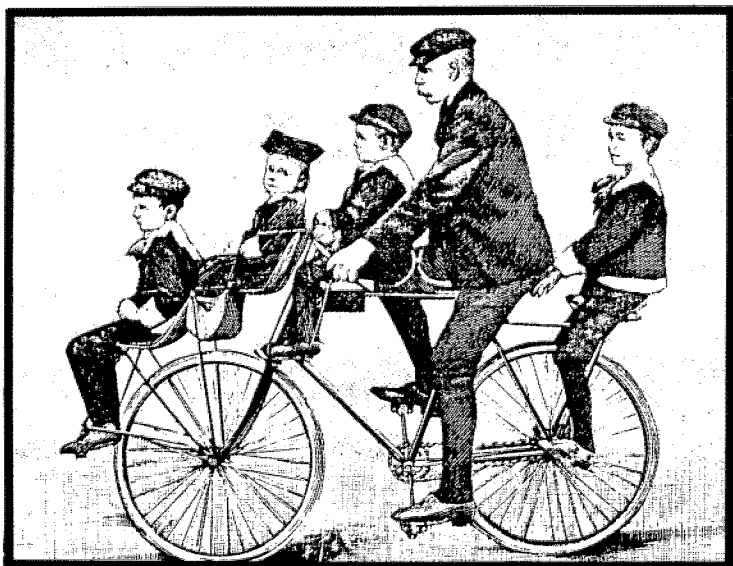


vehicle sharing

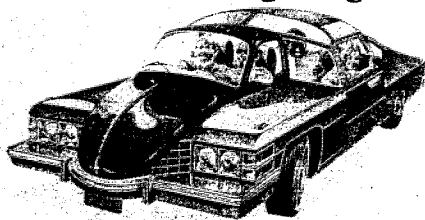
Make carpools illegal --
then they might catch on

"This is your flying traffic reporter.

Traffic is normal in all directions."



Joining a carpool is like getting a \$500 raise



Ask your employer about COMMUTERCOMPUTER. 



Company supported carpooling

Computerized ride sharing service in Los Angeles



Pick up point for carpools benefiting from HOV policies



vehicle sharing

- HOVs are High Occupancy Vehicles, cars and vans with three or four or more passengers, and buses.
- Seattle's successful HOV program boasts 50 miles of HOV lanes, with 45 miles more under construction. Support facilities, including park-and-ride lots, HOV bypass ramps, and transit facilities have also been built. HOV lanes achieve from 2 to 20 times more person movement during peak hours, at speeds averaging from 45 to 60 mph.
- Several apartment complexes across the country have successful car-sharing programs. Participants sign up for "car time."
- HOV operators on the San Francisco Bay Bridge lane are not required to pay tolls.
- The average savings in commuting time by adding an HOV lane to congested highway: 45-50%.
- In Singapore, cars with fewer than three passengers are charged a fee. Rush-hour traffic in central areas has been reduced by half.
- Americans drive half of all miles driven in the world, and half of those miles are driven with no passengers.
- A 12 mile stretch of new HOV lanes is planned for the Long Island Expressway.

- Is vehicle sharing a form of mass transit?

Put in HOV lanes on more of New York's bridges and highways.

"Seattle's successful HOV program...." "Status Report on High Occupancy Vehicle (HOV) Facilities and Activities in the Puget Sound Region," State of Washington DOT, March 1991.

"HOV operators on the San Francisco Bay Bridge...." conversation with employee of San Francisco Department of Transportation.

"The average savings in commuting time...." "The Automobile Index," Conservation Law Foundation of New England.

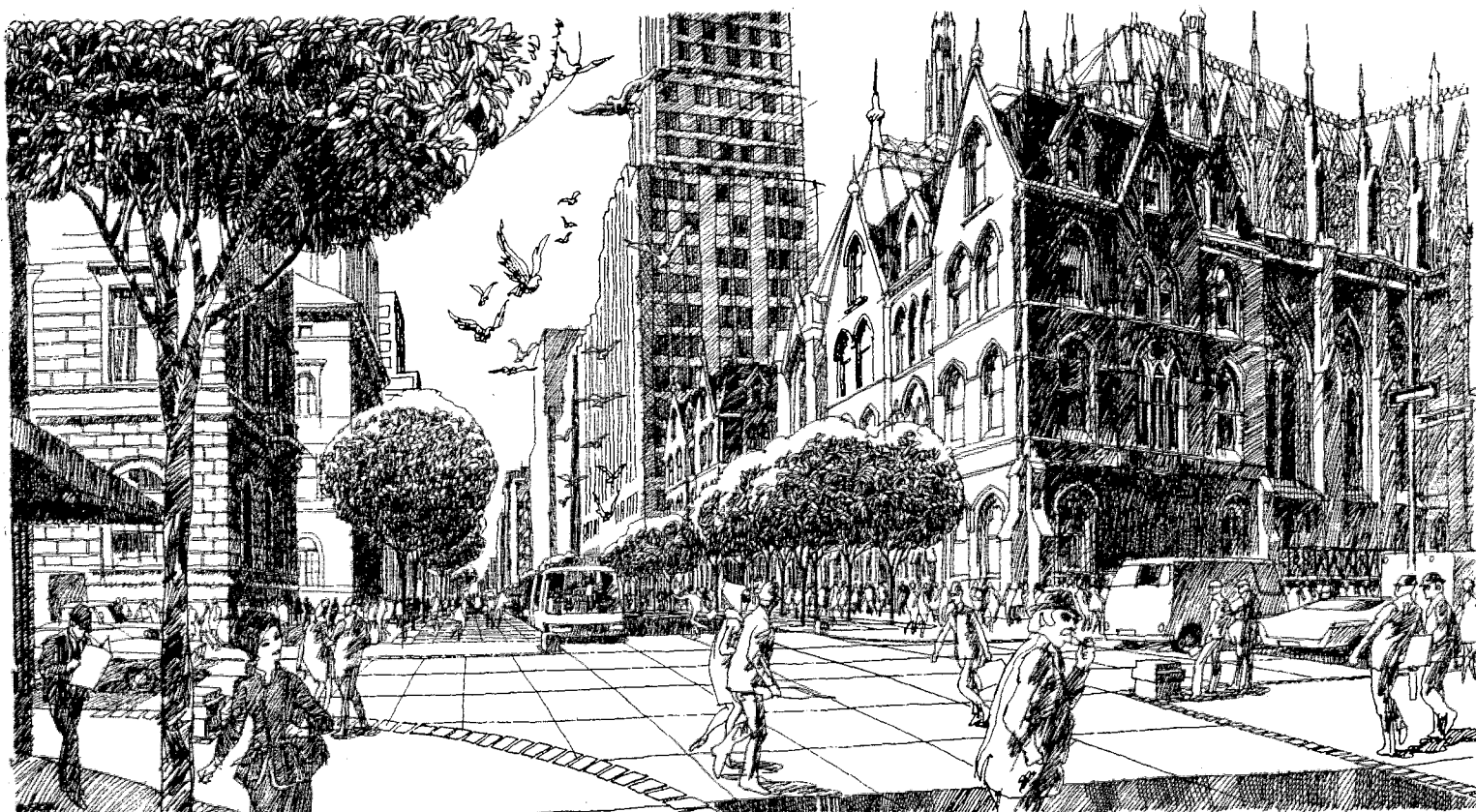
"In Singapore...." "Alternatives to the Automobile: Transport for Livable Cities," by Marcia D. Lowe, Worldwatch, 1990.

"Americans drive half of all miles...." Michael Renner, Worldwatch Institute, First International Conference on Auto-Free Cities, May 3-4, 1991, NYC.

"A 12 mile stretch of new HOV lanes...." "Long Island Expressway to Add a Fourth Lane for Ride Sharers," by Sarah Lyall, The New York Times, January 3, 1991.

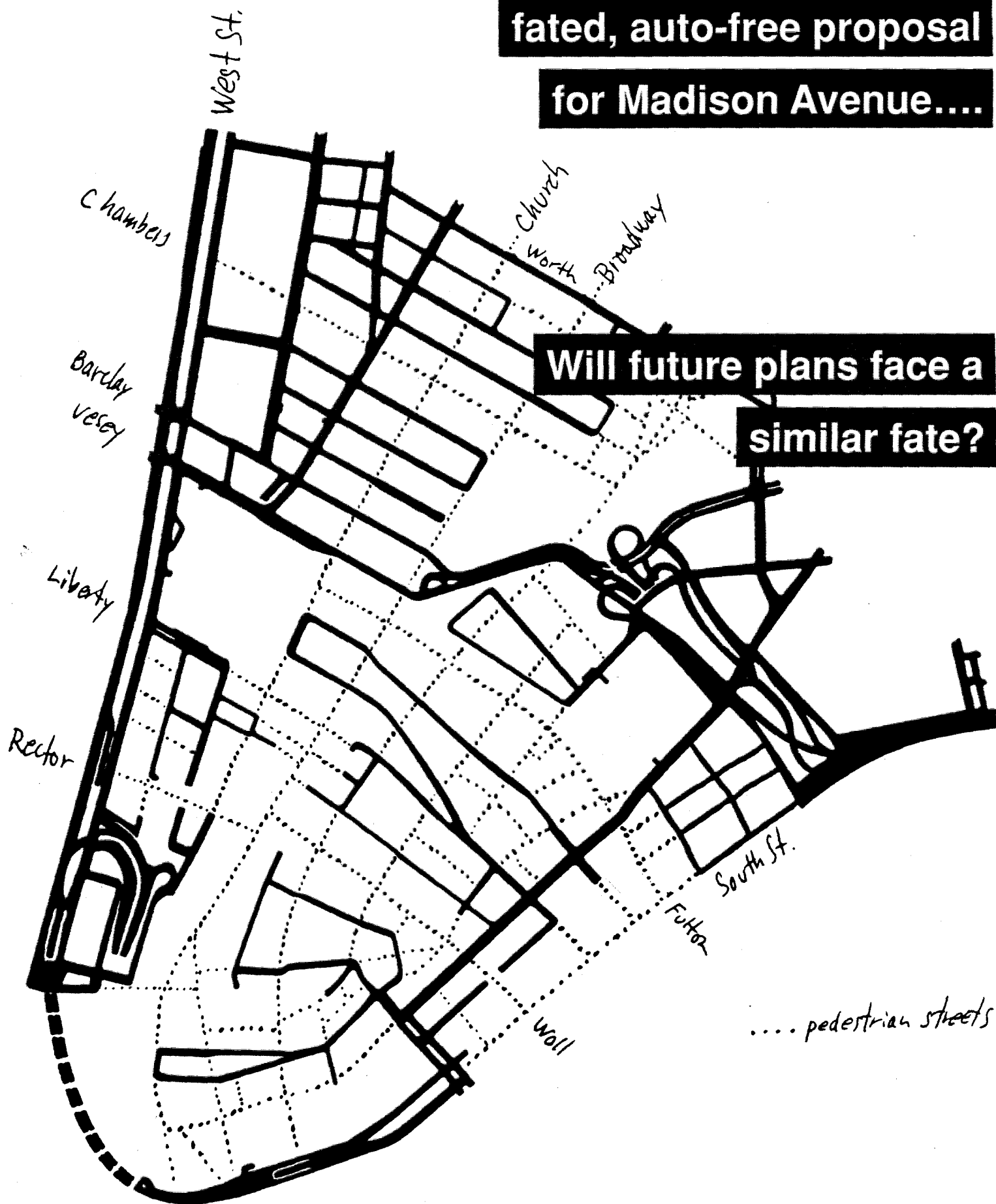
cartoon: 1970, Robert Day, The New Yorker Magazine, Inc.
Reprinted by special permission. All rights reserved.
ad: courtesy The Computer Commuter
van: courtesy 3M Corp.





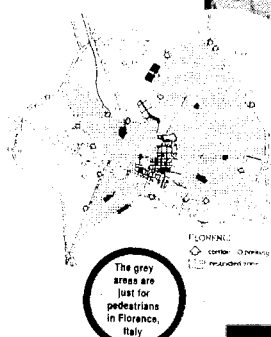
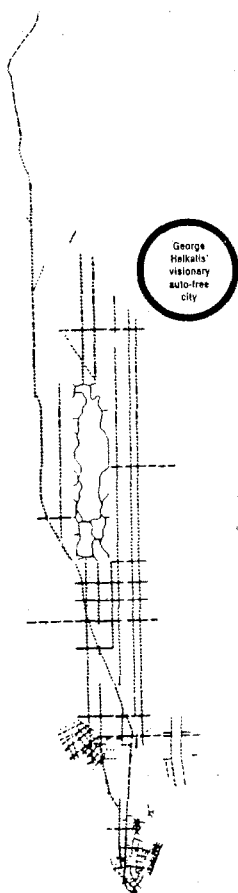
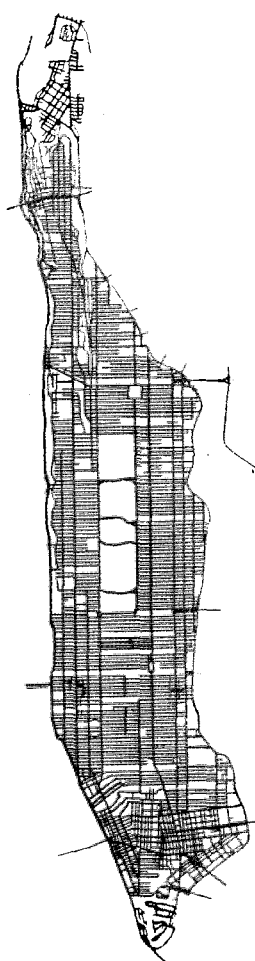
walking

Mayor Lindsay's 1971 ill-fated, auto-free proposal for Madison Avenue....



PAVEMENT FOR VEHICULAR MOVEMENT

PAVEMENT FOR PEDESTRIAN USE



walking

• Walking is the healthiest form of exercise, and the safest streets are the ones filled with people. Community-based facilities for pedestrians: bike rental stations, beautiful newsstands and appropriately designed bus stations all help to integrate the sidewalk into the transportation system.

• One technique for traffic calming that has achieved widespread popularity is the Dutch "woonerf." Through landscaping and other techniques, people are encouraged to use the entire roadway, while cars must drive at a walking pace.

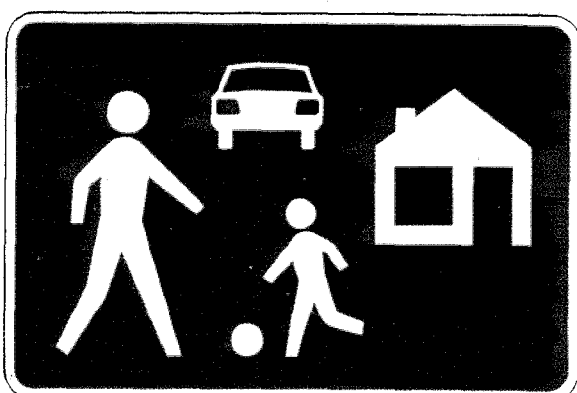
• In cities throughout the world, sidewalks are designed to be more than passageways. Cover them with colored chalk, leave room for musicians, and our most plentiful public spaces turn into amenities.

• In most cities in Europe, pedestrians are given more space. For example, within the historic 337-acre core of Munich, a 60-acre network of streets, once the domain of motor vehicles, is now exclusively designed for pedestrians.

• On Fulton Street, in lower Manhattan, the ratio of pedestrians to vehicles is 20 to 1. Yet over 60% of this street is set aside for the movement and storage of vehicles.

• Shouldn't the simple pleasures be the ones we work hardest to preserve?

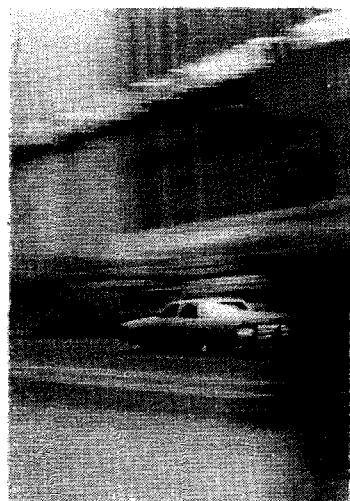
Re-allocate roadway space to encourage walking, playing, planting and community activities.



woonerf



Woonerf auto-free sidewalks in Europe



Speed bumps calm traffic

"One technique for traffic calming..." "The Granite Garden," in Spinn Magazine, 1984.

"In most cities in Europe..." George Haikalis, Auto-Free New York.

"On Fulton Street..." George Haikalis, Auto-Free New York

Madison Ave.: courtesy Office of Midtown Planning, 1971
auto-free maps: courtesy Auto-Free New York committee of Transportation Alternatives, developed at Tri-State Planning Commission, 1973-74
Taxi: © James Holcomb 1991
Florence: courtesy Brian Richards

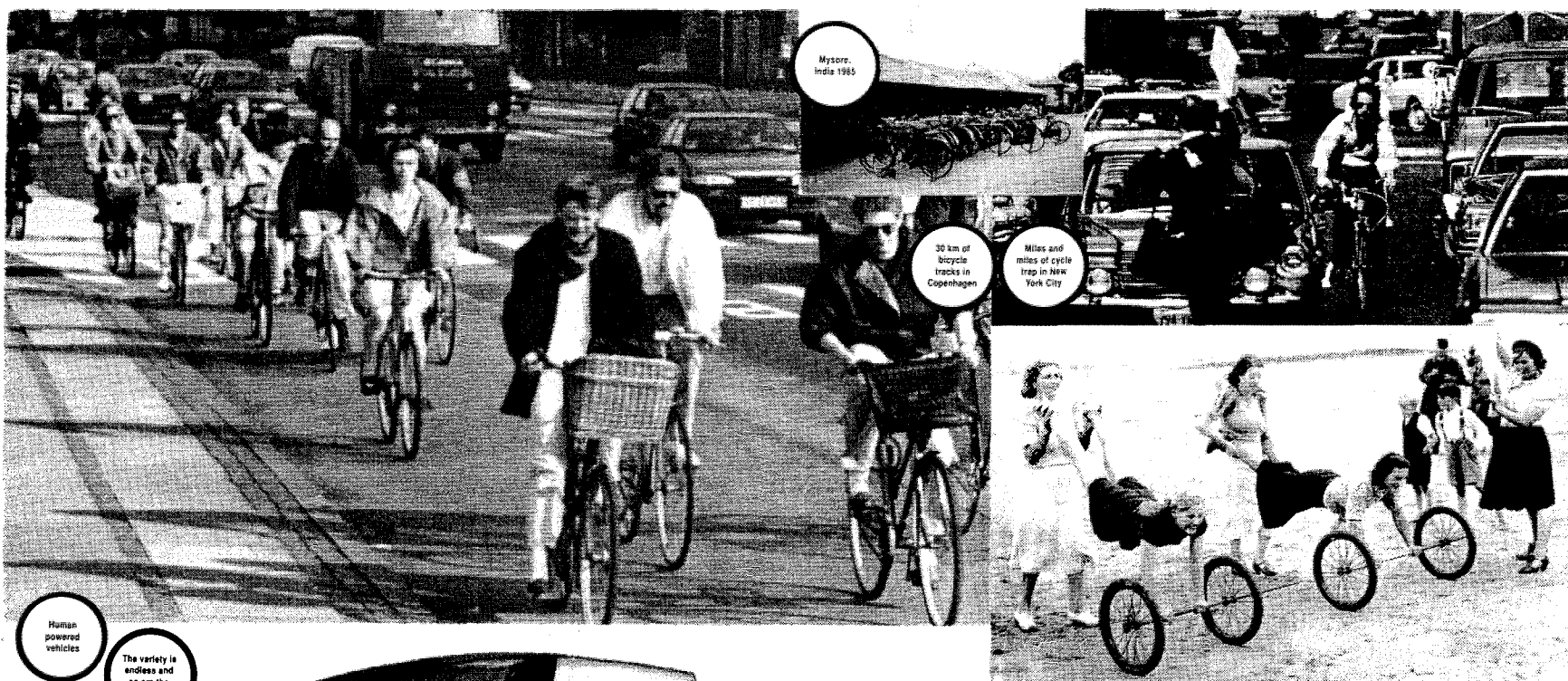




One of George
Bliss' unusual
creations

One solution with no
pollution.





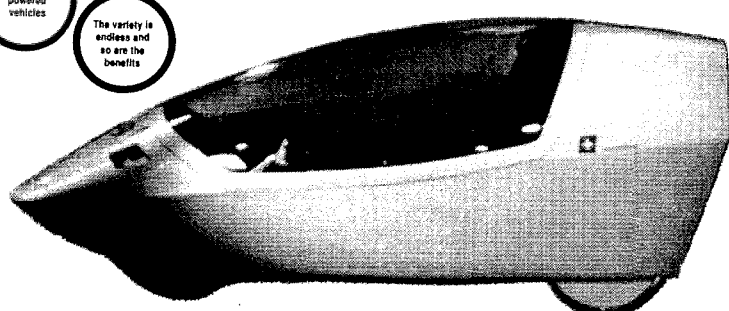
Mysore, India 1985

30 km of bicycle tracks in Copenhagen

Miles and miles of cycle trap in New York City

Human powered vehicles

The variety is endless and so are the benefits

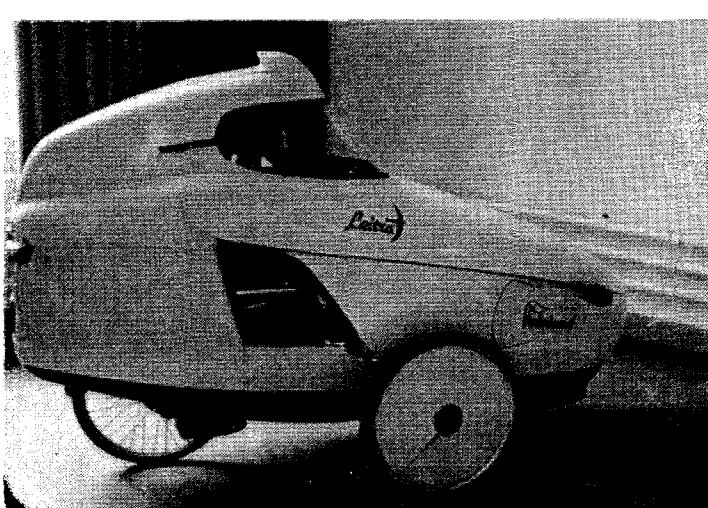


human powered vehicles

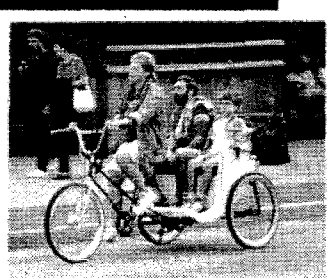
- In the world today, there are 400 million cars and 800 million bicycles. More people commute by bike than by car.

Bicycle use has doubled in Copenhagen since special lanes were added along most main roads. 500 free bikes were recently put on that city's streets, with small ads on them to pay for their cost.

- Human-powered vehicles can replace many taxis and delivery vehicles. They can be designed to provide weather protection and be equipped with small electric motors and for added flexibility.
- A U.S. Department of Transportation study compared the safety of cars and bikes by vehicle miles traveled, and found them equally safe.
- It costs \$1000 to build a space in a bike parking structure vs. \$10,000 for a spot in a car parking structure.
- The City of Seattle installs bicycle racks in neighborhoods and business districts for free.
- Wheelchairs are one type of human-powered transportation.
- Five NYC DOT traffic inspectors are now traveling by bike, saving about \$5,000 per inspector.
- Bike lanes in NYC are most often poorly designed. They are too narrow and their placement on the road makes them dangerous. They are also used as a means to prevent bicycles from riding on the rest of the road.



Together, bikers and pedestrians reclaim the streets



Peter Reich's recumbent bicycle will soon sport a "full-body" (covering)



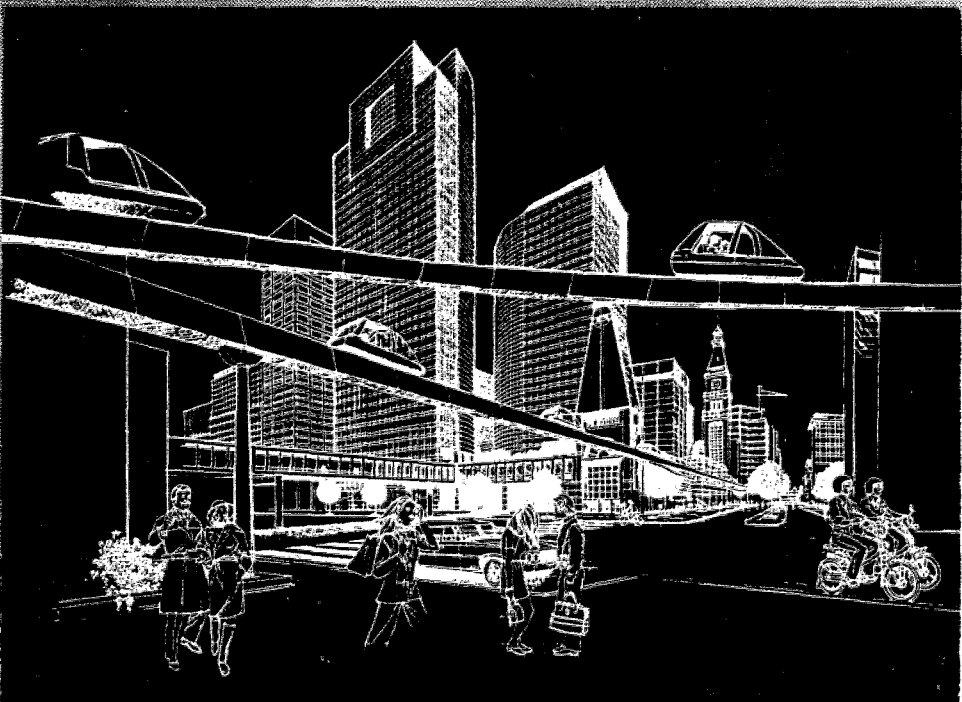
- How can bicycling be encouraged?

Give bikes exclusive use of key streets and one-third of all roads.

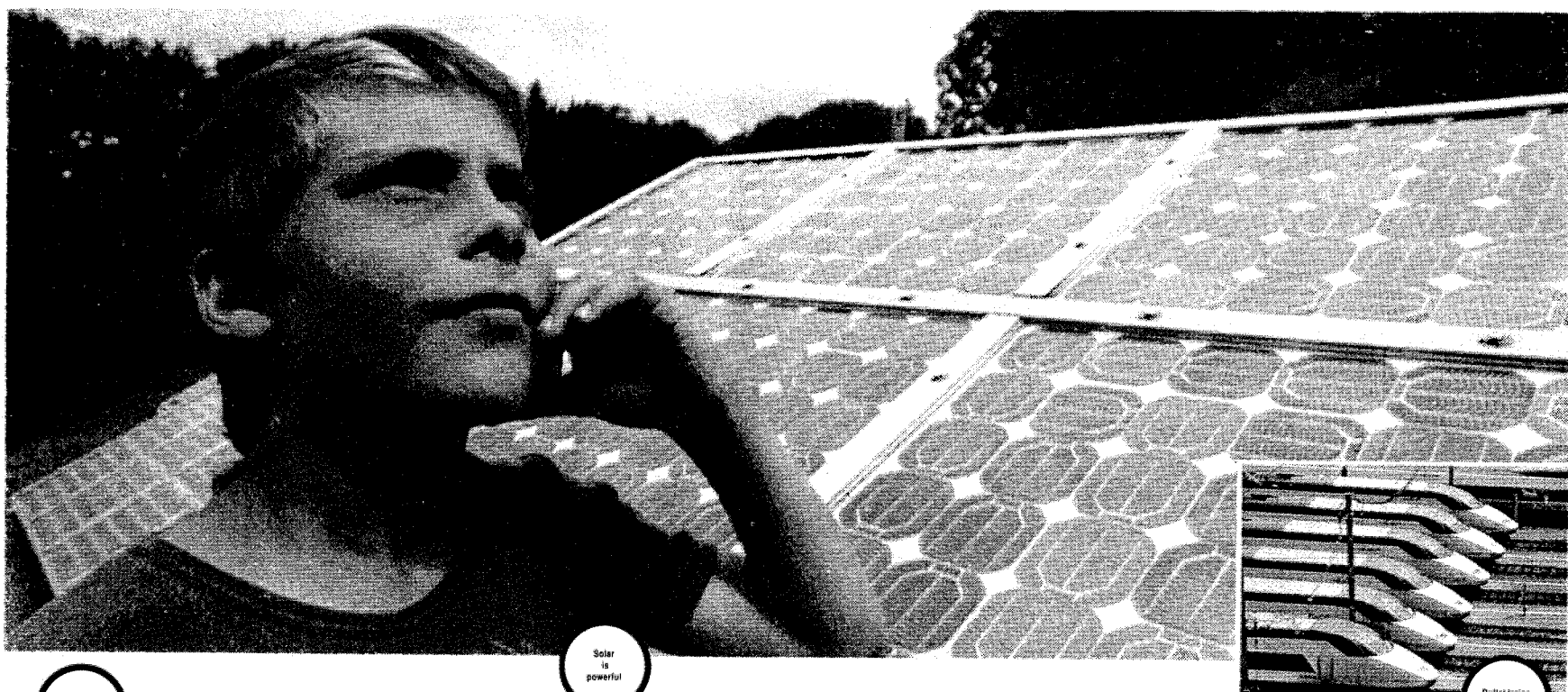
"In the world today..." First International Congress on Auto-Free Cities, May 3-4, 1991, NYC.
 "Bicycle use has doubled in Copenhagen..." "Alternatives to the Automobile: Transport for Livable Cities," by Marcia D. Lowe, Worldwatch, 1990.
 "A U.S. Department of Transportation study..." Michael Renner, Worldwatch Institute, First International Congress on Auto-Free Cities, May 3-4, 1991, NYC.
 "It costs \$1000 to build..." "Morris, Ketcham Show Way to Auto-Free Cities," Auto-Free Press, July/August 1991.
 "The City of Seattle installs..." Seattle Engineering Department Bicycle Program brochure, 1991.
 "Five NYC DOT traffic inspectors..." "DOT Inspectors Take a Bike," by Dean Chang, Daily News, April 18, 1991.
 Copenhagen: courtesy Brian Richards
 artwork: Nicole, Nelson, Shaneque, Jose, Adi, Clifford and Evangeline, P.S. 75, 1991



new technology



Ecotopian technology



Electric G-Van from New York Power Authority

Solar is powerful

Bullet trains for Texas



new technology

- Experimenters with aluminum-air, hydrogen, zinc-air and polymer fuel cells have been announcing major breakthroughs in recent months in units suitable for auto use. The more rapid introduction of these new environmentally friendly, economically accessible power sources for transportation requires accelerated research and investment by the government.

- Renewable energy sources are forced to compete in a rigged market because calculations fail to account for the damages caused by the various energy technologies.

- Specially built experimental vehicles have achieved thousands of miles per gallon. We can produce conventional cars which obtain 70 to 140 miles per gallon.

- Composite materials are enabling vehicles to be lightweight and more economical while providing a higher standard of safety.

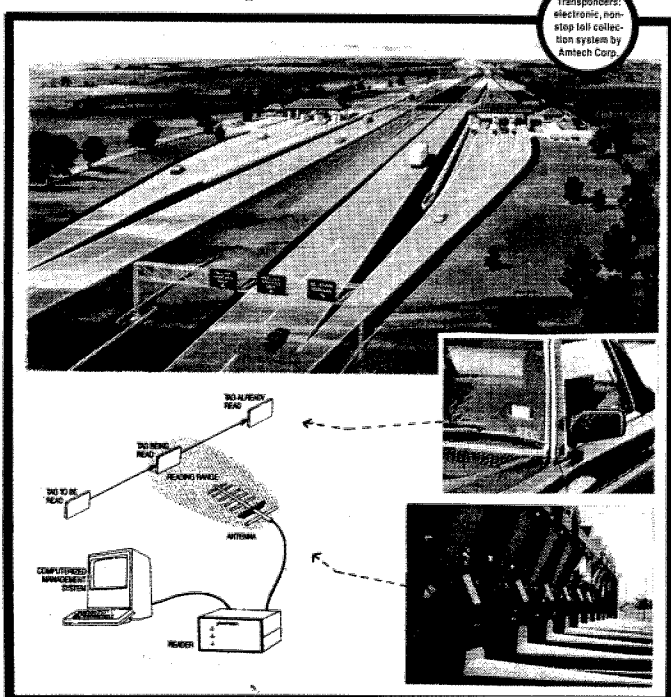
- Regenerative braking, computer controls, and more efficient solar cells, batteries, and motors are all making the use of alternative vehicles a more practical reality.

- Currently, transponders are being studied in the New York region. These electromagnetic devices transmit information between the toll booth and a small tag attached to the driver's vehicle, allowing tolls to be collected on the East River bridges without cars having to stop.

- In New York City, 10 experimental natural gas UPS vans have reduced emissions without sacrificing performance. Brooklyn Union Gas is about to open the city's first natural gas service station. The city is assembling a fleet of 385 alternative cars.

- Can we reduce our dependence on oil?

Set, as a national goal, the virtual replacement of highly polluting fuels by the year 2000.



Transponders: Electronic, non-stop toll collection system by Amtech Corp.

Toll Pace

Average number of cars that can pass through each type of toll gate in an hour.

Manual collection	250
Exact change, manual	350
Exact change, coin machine	500
New electronic system, with gate in place	800
New electronic system, without gate (gate will be removed after system has been fully tested)	1,500



"Renewable energy sources are forced...." "Cool Energy," Union of Concerned Scientists, 1990.

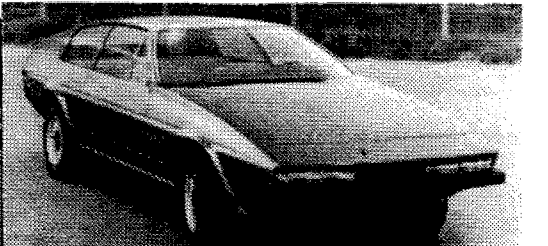
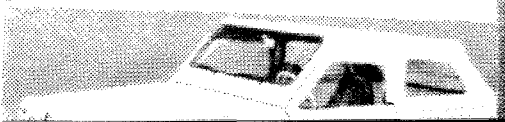
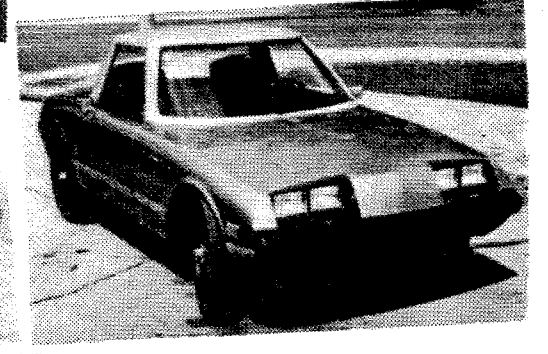
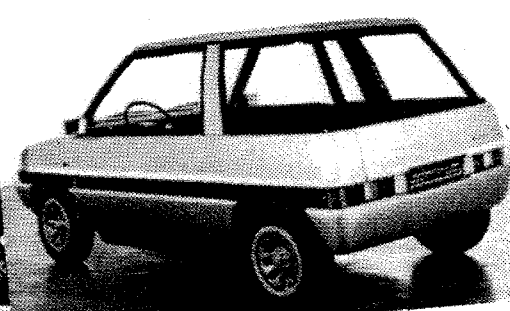
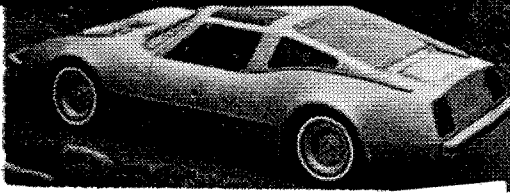
"Currently, transponders are being studied...." "News," The Port Authority of NY and NJ, October 22, 1990.

"In New York City...." "Alternative Fleets can Clean the Air and Fuel Economy," Crain's New York Business, April 1, 1991.

G-Van: courtesy Electric Vehicle Development Corp. and New York Power Authority
transponders: courtesy Amtech Corp.

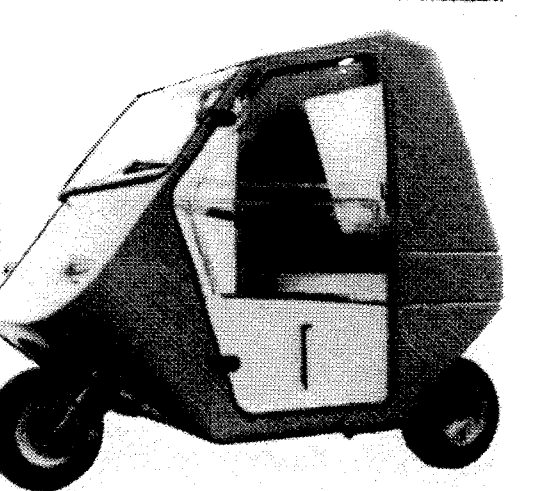
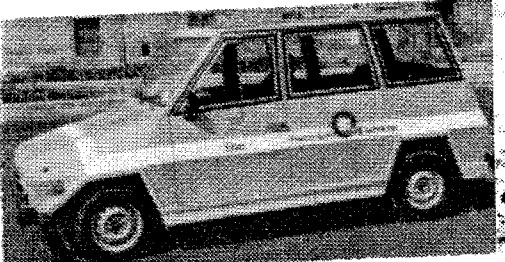
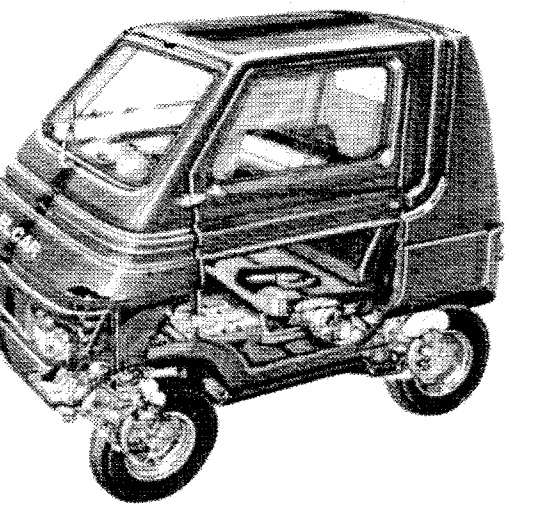
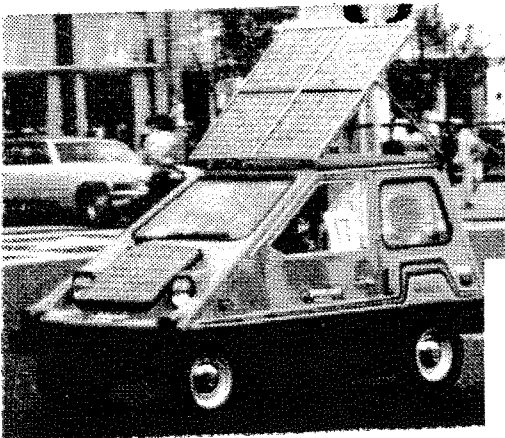
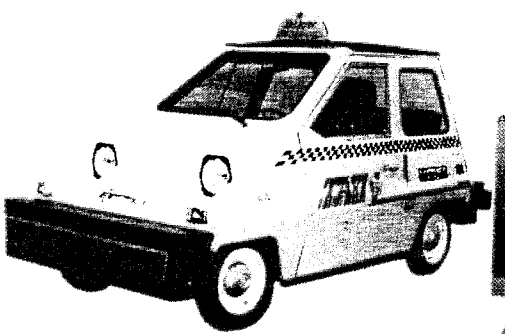
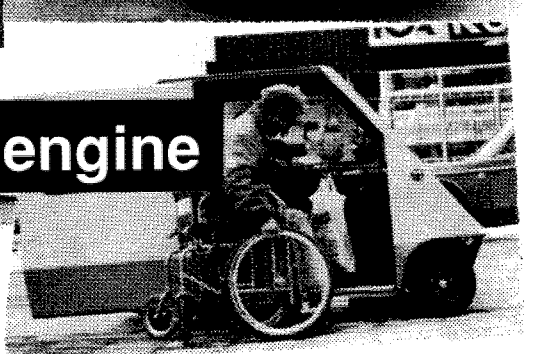
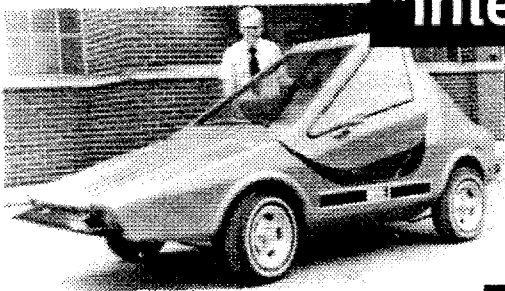


electric cars

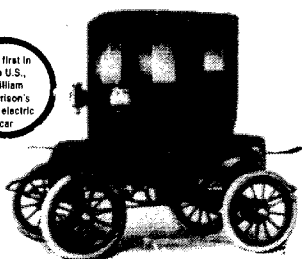


The end of the ICE* age.

*internal combustion engine



The first in the U.S., William Morrison's 1892 electric car.



electric cars

- There are over 50 companies in the world manufacturing "on-road" electric vehicles.
- Electric cars can reach speeds of 70 mph and ranges of 100 miles per charge. The average driving speed for all vehicles in Manhattan is less than 8 mph. 90% of the cars in America travel less than 25 miles per day.
- Inherently greater mechanical simplicity and fewer moving parts mean much less maintenance and far longer life.
- Lightweight models have been made quiet, non-intimidating, smaller, yet comfortable and safe.
- Most electric cars in the U.S. are being built today by converting conventional cars.
- Recent tests show that the use of vehicle-mounted solar cells can multiply the life-span of the batteries by over 100%.
- Although New York is signing on to California's plan to impose more pollution-control requirements, we have yet to adopt their progressive regulations on the introduction of non-polluting (electric) vehicles.

• Are electric cars practical today?

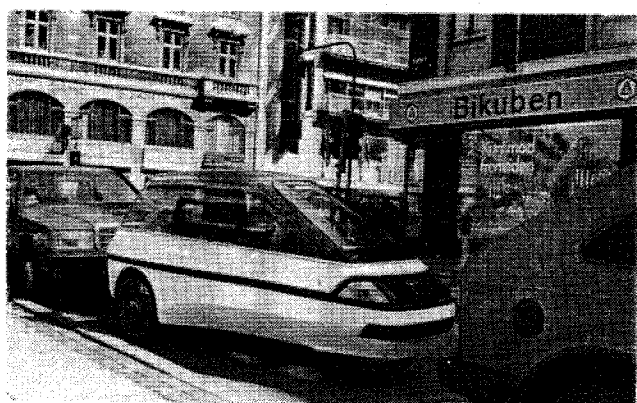
Provide tax and other incentives for least polluting vehicles.

"There are over 50 companies..." Electric Vehicle Progress, Larry Alexander, publisher.

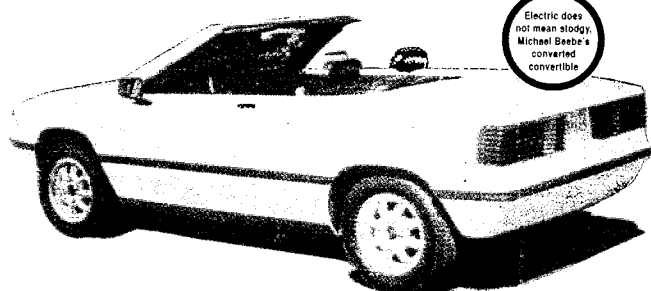
"Electric cars can reach speeds..." Why Wait for Detroit?" ed. by S. McCrea, South Florida Electric Auto Association, 1990.

"Although New York is signing..." "New York will Adopt Tough Rules on Auto Emissions," by Susan Benkelman, New York Newsday, March 1, 1991.

collage: World Guide to Battery-Powered Road Vehicles, 1980, McGraw-Hill



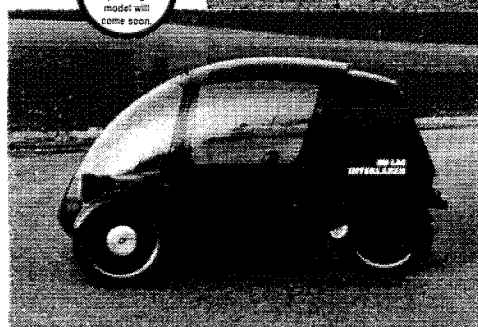
Electric does not mean sluggish. Michael Beale's converted convertible.



John Bendall's human-power electric hybrid combines the best of both worlds.

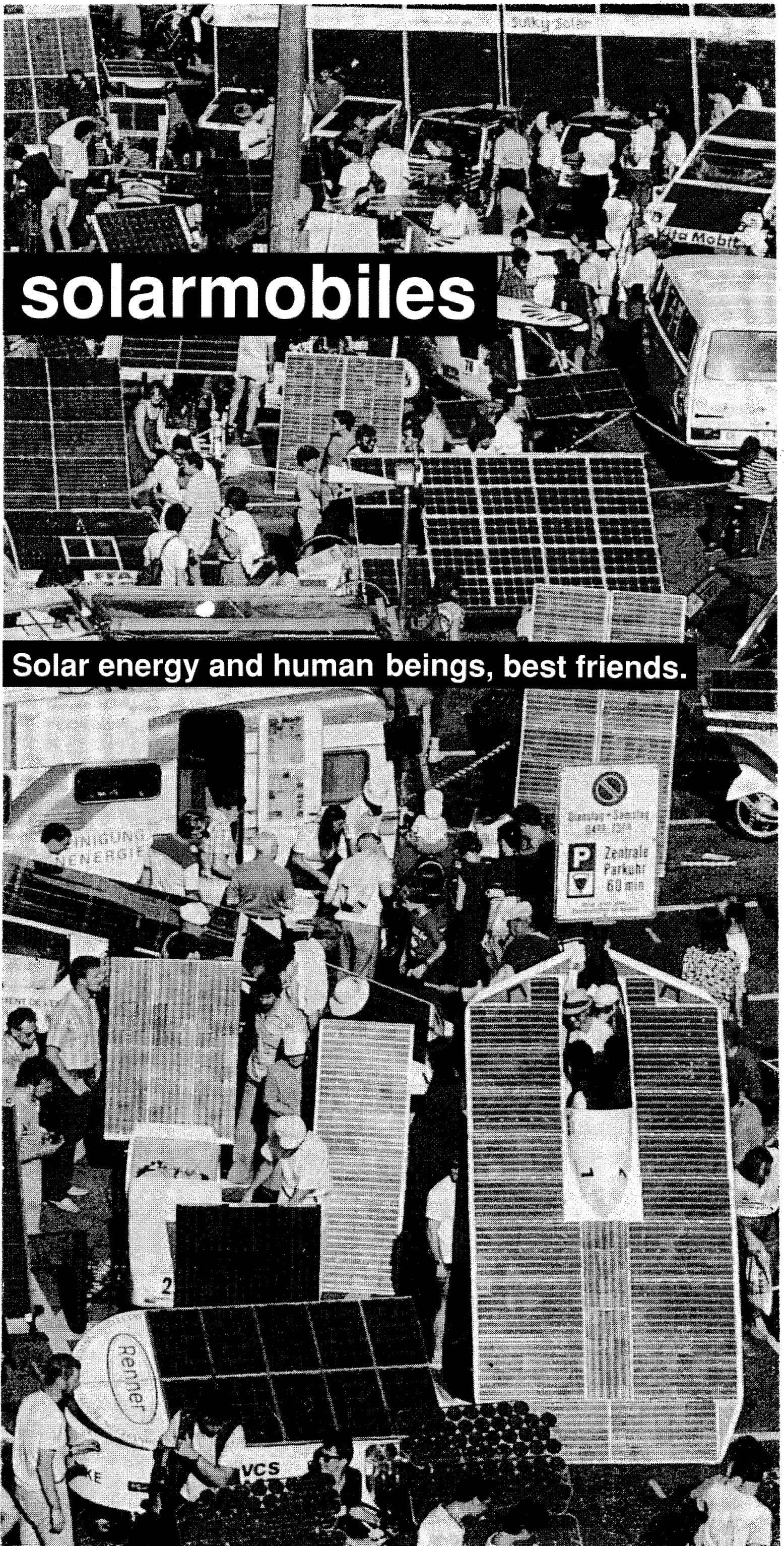


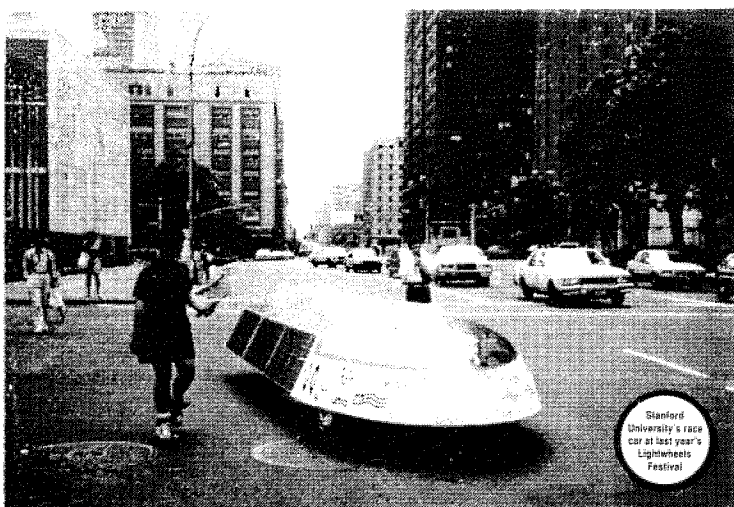
Horlocker: 90 mph, 80-mile range, 4 passenger model will come soon.



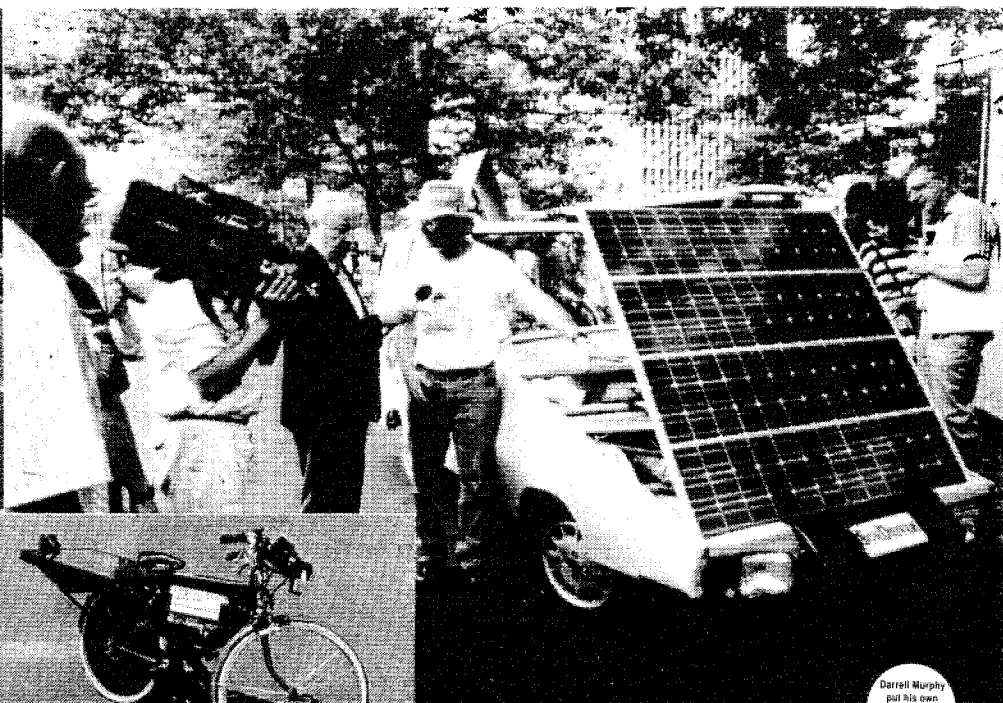
Electric mini-trucks used for deliveries on traffic-calmed streets.







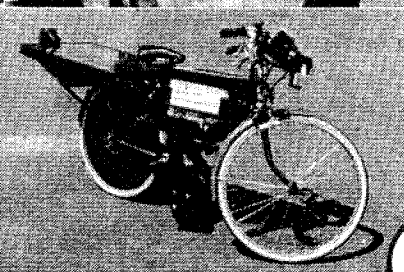
Stanford University's race car at last year's Lightwheels Festival



Darrell Murphy put his own all-solar car together for under \$7,000



A decade of development is beginning to show results



"Ecotopian technology" solar adapted by Dick Stadler

The Swiss "Tour De Sol" began the modern era of solarmobiles

solarmobiles

- Solarmobiles are lightweight battery-electric vehicles which charge their batteries through photovoltaic cells. Energy is produced through the chemical processes triggered by sunlight. It is possible to use ordinary wall current to supplement or replace sun-charging, so these vehicles may be used in any weather.
- In Switzerland and Germany, park-and-ride facilities have photovoltaic charging systems to supply power to the vehicle batteries while the drivers and passengers are at work.
- Solar cells may also be mounted on garage roofs or workplace parking lots rather than on the vehicle itself.
- The recent introduction of thin, efficient, flexible and low-cost solar cells increases their usefulness in solar vehicles.
- Light weight and good aerodynamic design make it possible to use this quiet, clean, sustainable technology, and there is still time for the U.S. to develop the new industries which will soon be producing solarmobiles.

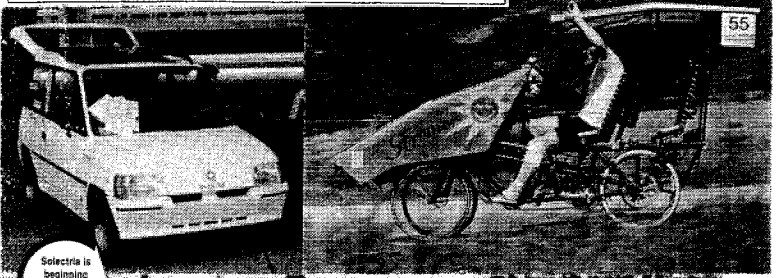
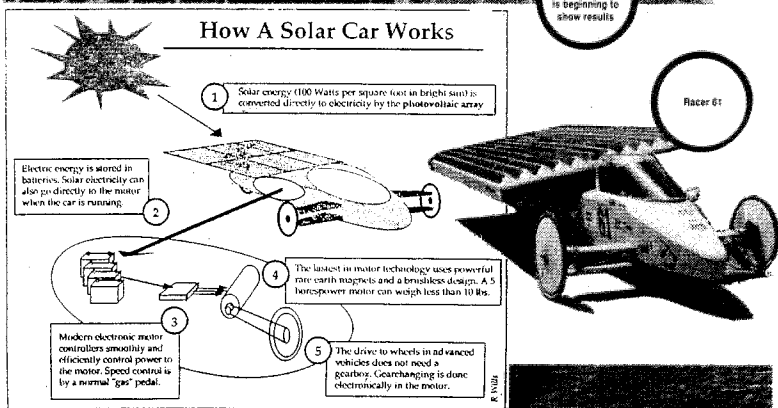
- Are solar cars usable in cities today?

Change energy pricing to reflect the true costs, including the environmental costs, of each fuel's production.

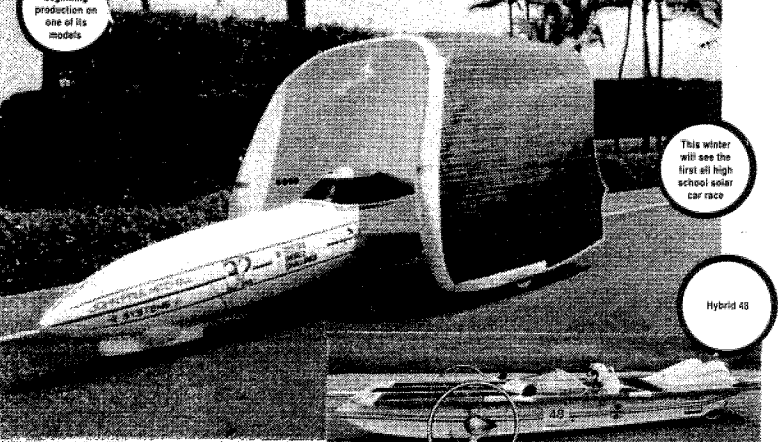
"In Switzerland and Germany...." Solar Mind, No. 3, January- February 1991, by Joe Stevenson, publisher.

"The recent introduction...." Bell Becker, Sun Wise Industrial Design.

solar diagram: courtesy R. Willis, North East Solar Energy Association



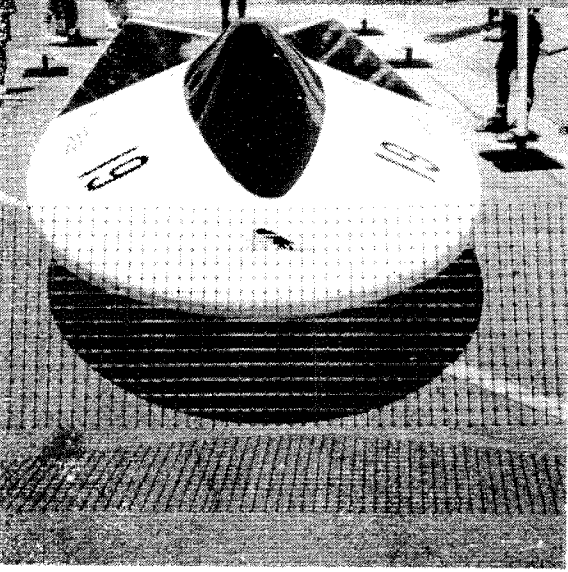
Solectria is beginning production on one of its models



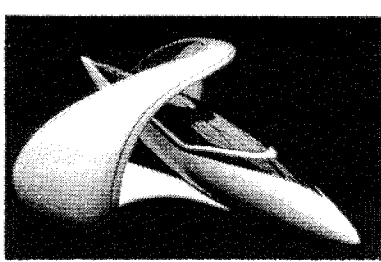
This winter will see the first all high school solar car race

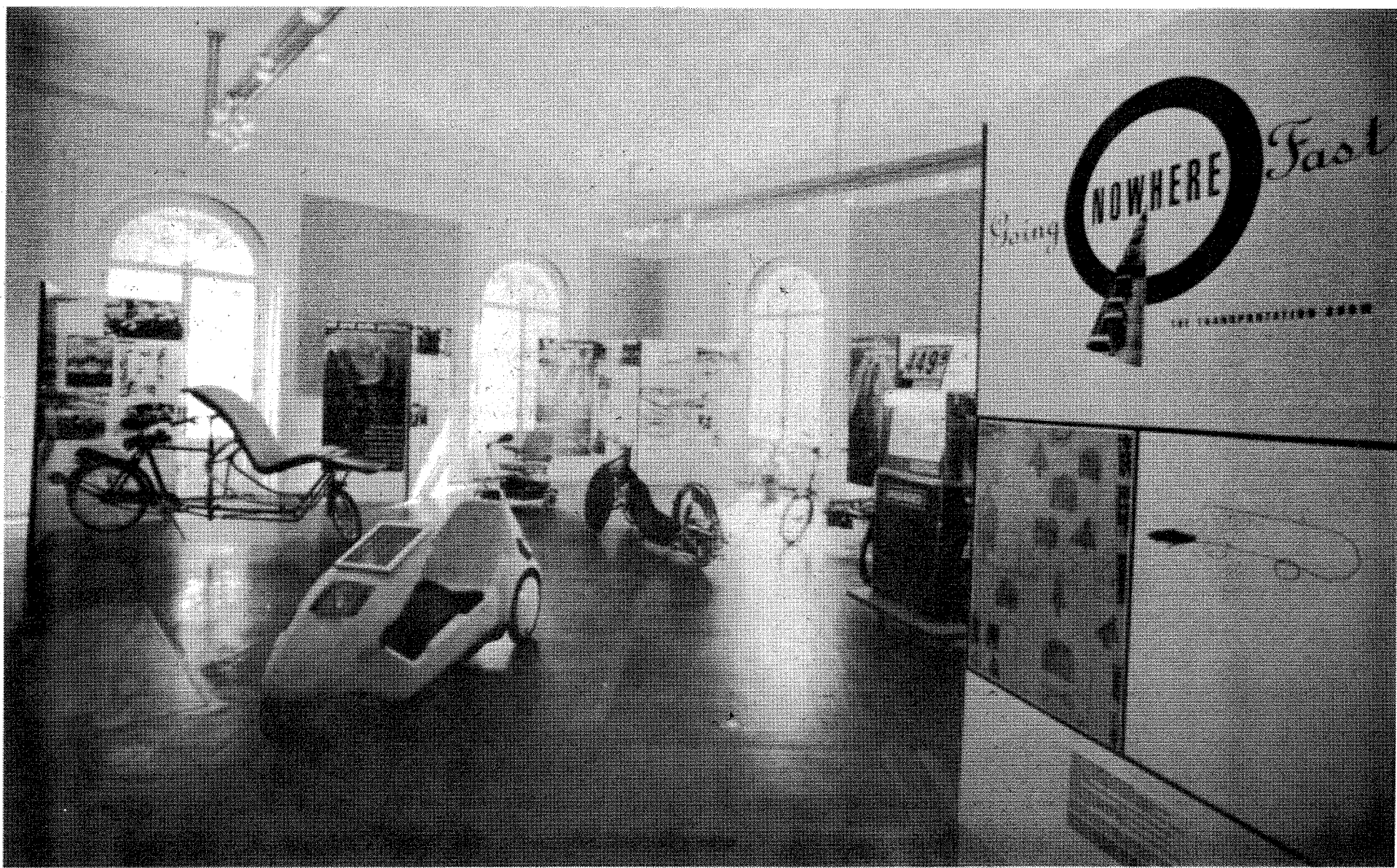


Hybrid 48

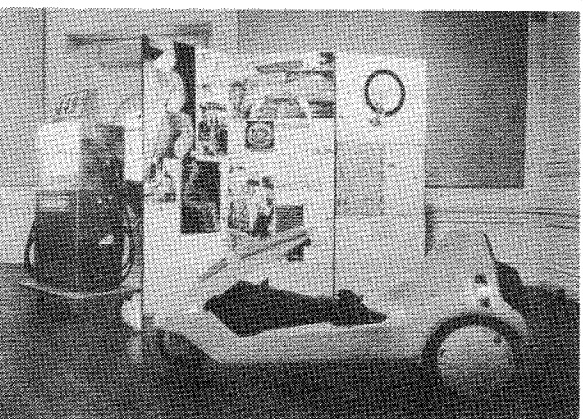


Solar-charged Electric Express: 70 mph, 50 mile range





Photographs by Tom McWilliam



Some groups working to improve our transportation systems:

- **Alliance for a Paving Moratorium** PO Box 8558 Fredericksburg, VA 22404
- **Amalgamated Transit Union** 5025 Wisconsin Avenue NW Washington, DC 20016
- **American Council for an Energy-Efficient Economy** 1001 Connecticut Avenue, NW Suite 535 Washington, DC 20036
- **American Pedestrian Association** PO Box 624 Forest Hills, NY 11375
- **Auto Free New York** 1 Washington Square Village New York, NY 10012
- **Bicycle Federation of America** 1818 R Street NW Washington, DC 20009
- **Campaign for New Transportation Priorities** 900 Second Street, NE Suite 308 Washington, DC 20002
- **Carrying Capacity Network** 1325 G Street, NW Suite 1003 Washington, DC 20005
- **Center for Auto Safety** 20001 S Street NW Washington, DC 20009
- **Citizens Advisory Committee to MTA** 347 Madison Avenue New York, NY 10017
- **Committee for Better Transit** PO Box 3106 Long Island City, NY 11103
- **Community Transportation Association of America** 725 15th Street NW, Suite 500 Washington, DC 20036
- **Electric Auto Association** 4040 Watertown Street Newton, MA 02158
- **Electric Transportation Coalition** 1050 Thomas Jefferson Street, NW Sixth Floor Washington, DC 20007
- **Electric Vehicle Progress** 1133 Broadway Suite 1407 New York, NY 10010
- **Energy and Environment Study Institute** 122 C Street Washington, DC 20001
- **Environmental Action Coalition** 45 East 89th Street New York, NY 10128
- **Environmental Action Foundation** 1525 New Hampshire Avenue NW Washington, DC 20036
- **Fossil Fuels Policy Action Institute** PO Box 8558 Fredericksburg, VA 22404
- **Friends of the Earth** 218 D Street SE Washington, DC 20003
- **Greenhouse Crisis Foundation** 1130 17th Street Suite 630 Washington, DC 20036
- **High Speed Rail Association** 206 Valley Court, Suite 800 Pittsburgh, PA 15237
- **Institute for Transportation and Development Policy** PO Box 58538 Washington, DC 20011
- **League of American Wheelmen** 67070 Whitestone Boulevard Baltimore, MD 21207
- **Lightwheels** 49 E. Houston St. New York, NY 10012
- **National Association of Railroad Passengers** 900 2nd Street NE, Suite 308 Washington, DC 20002
- **National Association of Transit Consumer Organizations** 442 Summit Avenue #2 St. Paul, MN 55102
- **Natural Resources Defense Council** 40 West 20th Street New York, NY 10011
- **Northeast Sustainable Energy Association** 23 Ames Street Greenfield, MA 01301
- **Pedestrian Federation of America** 1818 R Street NW Washington, DC 20009
- **Public Citizen** 215 Pennsylvania Avenue SE Washington, DC 20003
- **Positive Transportation, Inc.** Box 21190 NW Washington, DC 20009
- **Rails to Trails Conservancy** 1400 16th Street NW, Suite 300 Washington, DC 20036
- **Rocky Mountain Institute** 1739 Snowmass Creek Road Snowmass, CO 81654
- **Sierra Club National Transport Committee** 730 Polk St San Francisco, CA 94109
- **Solar Mind** 759 South Street #81 Ukiah, CA 95482
- **Surface Transportation Policy Project** 1785 Massachusetts Avenue NW Washington, DC 20036
- **Straphangers Campaign** 9 Murray Street New York, NY 10007
- **Transit Now** 1317 F Street, NW 6th Floor Washington, DC 20004
- **Transportation Alternatives** 494 Broadway New York, NY 10012

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