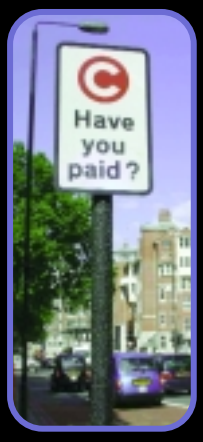
sustainabletransport

Winter 2004 • Number 16

Helping to Win the Fight Against Aids p.8

Congestion Charging In London

Can it Work in Sao Paulo? p.12



ITDP *Institute for Transportation & Development Policy*

Celebrating ITDP's 20th Anniversary

Two Decades of Growth

One of life's greatest satisfactions is to help give birth to something, nurture it, struggle with its growing pains, and to see it take wing and soar on its own. I've enjoyed that experience with the Institute for Transportation and Development Policy (ITDP).

Little did I realize in June 1984, that a few phone calls to other bike activists could – in less than 5 years – result in the recycling of over 10,000 bicycles to bolster health and education projects and capitalize a bicycle assembly industry in Nicaragua that thrives to this day. The Bikes Not Bombs campaign gave thousands of Americans a positive way to oppose U.S. militarism and imperialism while strengthening sustainable development.

Less than a year later, on May 1, 1985, a dozen environmental and bike activists gathered in a Takoma Park, Maryland, living room to launch ITDP. We were witness to the export of America's car-dependent sprawl development worldwide. We saw the need to assert a different vision for America – at home and abroad – a dream for sustainable global development, attentive to impacts of transportation choices on the environment and on the equity of economic and community development.

Formed to support efforts promoting transportation for low-income people in Nicaragua, Haiti, Mozambique, and worldwide, ITDP worked for years out of the basement of my home, where Walter Hook labored as an intern in 1989. Since 1992, when we hired him as Executive Director and moved our headquarters to New York, Walter has been a most able steward of the organization.

Thanks to that leadership, ITDP has grown into a true global player, making a difference in the lives of millions of people worldwide. With a staff of 19 and an annual budget of $1.6 million, ITDP exercises influence far disproportionate to its resources, as it did in its early days. Countless volunteers, staff, board members, and supporters who have allowed ITDP to grow and prosper with such success deserve our heartfelt thanks. Our influence is due in no small part to the fact that ITDP has for two decades attracted and cultivated the involvement of innovative social entrepreneurs who have gone on to be key players in relevant institutions around the world, including the UN, World Bank, leading transportation and environmental NGOs, transportation agencies, and governments.

ITDP is needed more than ever. Worldwide motor vehicle ownership and use is soaring, spurring $50 a barrel oil and an appalling toll in lives and environmental destruction. Yet the number of people worldwide lacking access to private motor vehicles – and dependent on walking, bicycling, and public transportation – continues to grow faster still. Global pressure for transportation reform grows, with the Kyoto Protocol now coming into force

continued on p. 4

contents

Winter 2004 Number 16

Articles

8
Using Bicycles to Save Lives

12
Congestion Charging:
Can it Work in Sao Paulo?

16
The California Bike Coalition Comes of Age

18
Countering Car Culture, One Trip at a Time

22
What to Do about Urban Highways:
Lessons from Mexico City

24
BRT's Great Leap Forward

Features

2
Twentieth-Anniversary Letter
from ITDP's President, Michael Replogle

5
Letter From the Executive Director
Automobile Dependency and the Global Culture War: Lessons from Bogotá

6
New Titles

30
News Briefs

31
Bulletin Board

cover photos:
Top: With bicycles, health workers at Worcester Hospice in South Africa now reach 15 times more patients - by Trevor Samson
Bottom: Congestion charging sign, and bus in London - by Lloyd Wright

sustainabletransport 1

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All views expressed in the articles in this publication are the views of the authors and not necessarily the views of ITDP. *Sustainable Transport* welcomes submissions of articles about non-motorized transportation and information about sustainable transportation activities worldwide.

ITDP is a non-profit advocacy, research and project-implementing agency which seeks to promote the use of non-motorized vehicles (NMVs), improve public transit and support the broader implementation of sustainable transportation policies worldwide. ITDP is registered in the United States as a charitable agency eligible for tax-deductible contributions under the Internal Revenue Service code. Members include bicycle activists, transportation planners, economic development specialists, small businesspeople, environmentalists and other professionals, primarily but not exclusively U.S. citizens.

continued from p. 2

and with governments facing rising demands for transparency in transportation decision-making and accountability for environmental, health, and fiscal impacts.

While many trends still run the wrong way, ITDP is playing an increasingly important role in changing the course of worldwide transportation and urban development policies. ITDP has spurred global interest in bus rapid transit (BRT), advancing initiatives in a dozen cities worldwide in the past several years that promise to quickly improve the efficiency and effectiveness of urban transportation for tens of millions of people. Mayors and transport officials are clamoring to adopt the successful practices of Bogotá and Curitiba to improve life in cities from Jakarta, Hyderabad and Chengdu in Asia to Dar es Salaam and Capetown in Africa.

With BRT, we are bringing the other keys to effective urban transportation – managing street space and traffic to encourage walking and bicycling.

Car-Free Days are spreading worldwide, helping communities recognize their capacity to manage growth in traffic that - left unchecked - harms urban livability.

Road and area pricing policies are coming into vogue, spurred by ITDP's outreach and the recent experience of London where a road user fee has cut congestion, traffic, and vehicle air pollution in the central area by 30 percent, 15 percent, and 12 percent respectively, and peak hour bus use has increased 38 percent.

Bicycle and pedestrian friendly policies are increasingly recognized as core transportation strategies by transportation decision-makers, thanks to ITDP's global promotion of non-motorized transportation planning. Bogotá's experience under former Mayor Enrique Peñalosa – a member of ITDP's board – shows how in three years, bicycle use can be increased eight-fold (to 4 percent) by reclaiming public space from parked cars, providing safe walkways, cycle paths, and curb cuts, and linking these to bus rapid transit system improvements.

ITDP's work to organize and improve non-motorized transportation vehicle production and design continues to grow in its impact. Our California Bike cooperative marketing efforts in Africa are respected by the global industry, which is taking notice and joining in support. Our improved cycle rickshaw designs in India continue to spread among more manufacturers, resulting in nearly one hundred thousand modernized vehicles now in use, showcasing sustainable transportation for Taj Mahal tourists and spurring sustainable mobility in cities across Asia, with improved working conditions and higher incomes for rickshaw drivers.

ITDP's leadership in adaptive reuse of brownfields and management of suburban hypermarkets in central and eastern Europe has helped slow the spread of sprawl in several countries where rising motor vehicle use and abandonment of contaminated sites threatens urban vitality.

In this era of globalization, with rising tensions between America and the rest of the world over the impacts of U.S. policies on the environment and human rights, it is increasingly more important to strengthen linkages among groups world-wide working for more sustainable development. A year ago, we helped launch ITDP Europe/SUSTRAN, a Berlin-based non-governmental non-profit organization with a common mission to that of ITDP, but with a predominantly European base of support. And we continue to strengthen networks like SUSTRAN that help link local reform initiatives into a regional and global movement.

On its twentieth birthday, ITDP's mission remains more timely than ever. And with your help, its capacity to meet that mission will continue to grow. ❖

Automobile Dependency and the Global Culture War:

Lessons from Bogotá

For the 20th Anniversary of the Institute for Transportation and Development Policy, *Sustainable Transport* brings our readers up to date on exciting current projects, but in the context of two decades of efforts.

After twenty years of struggle, it is clear to me that sustainable transport isn't only about getting people to ride their bikes and take public transit. The problem of automobile dependence runs much deeper. It is a symptom of the degradation of our communities for the sake of profit, the transformation of our everyday life into a commercial transaction, and the means by which working people have been turned against one another. Switching to hydrogen cars isn't going to solve this.

America is a country divided not between rich and poor but between 'red' automobile-dependent communities and 'blue' urban communities. But Americans in both 'red' states and 'blue' states are reacting to the same domination of our culture by corporations and crass consumerism.

Growing up in a modest Post War Washington DC suburb, before I could afford a car, I felt completely trapped. Without an automobile, I couldn't go to a store, visit a friend, or go to school. So I worked long hours at a mindless job to pay for the car. In the US, to have full citizenship, you're forced to own a car, forced to be a consumer, endlessly buying gasoline, car parts, oil changes, parking spaces. Americans spend one dollar in five, and hours of our spare time, keeping our cars running. When the oil came from Texas and the cars from Detroit, maybe this wasn't so bad. But increasingly, our oil comes from Saudi Arabia, Russia, and other 'thriving democracies'. In ten years, no doubt the US auto industry will be outsourced to China.

With a bicycle, I can go almost everywhere without paying anything. I can at least partly escape the control over my life by the marketplace. But US traffic engineers have done everything they can to make bicycling unsafe, to force me to become a full-time consumer of automobile culture. That's why for me, the bicycle is a symbol of freedom.

Where I grew up, if you wanted to hang out with other people, you had two main options: the shopping mall and the church. At the shopping mall, you are what you can afford. People know where you stand just by looking at the shoes on your feet, the clothes on your back, the watch on your wrist, the latté you drink, the car you drive. At church, you can sing songs, hang out with girls, and you don't have to pay anything. You aren't constantly reminded that the other guy is richer than you. If you didn't go to Harvard, didn't get a great job, the church is more comfortable than the shopping mall.

While suburban culture was born in America, it is one of our most successful exports.

In much of the developing world, cities were historically the outposts of colonial control, and 'indigenous' culture was primarily village culture. Urban architecture was a testament to the cultural superiority of colonial powers. Urban space was a space of oppression, where foreign colonialists and their local partners huddled behind walls topped by concertina wire. Only recently, after colonialism ended, as late as the 1960s in Africa, has it been possible for an indigenous urban culture, an indigenous architecture, to emerge. Only now are developing countries beginning to mould their cities around their own cultures.

But the allure of foreign money is powerful. Today, American-style shopping malls, gas stations, and residential subdivisions are spreading across the world's cities from Dar es Salaam to Budapest to Delhi to Beijing. The domination of these cities by the motor vehicle and the shopping mall, the restructuring of public space around the needs of soulless global capitalism and the few that can afford it, rather than human needs, has been only too easy, leaving more and more cities degraded, hostile, crime-ridden, and automobile-dependent.

Just as in the United States, this is giving birth to a cultural reaction. But while in the US this reaction is (mis)directed at 'liberal elites,' in the developing world, global capitalism and automobile dependence are spelled Wal-Mart, Ford, GM, Exxon, Pizza Hut, and McDonalds. There, the cultural reaction is directed against the United States.

Enrique Peñalosa, the former mayor of Bogotá, is an urban visionary. He fundamentally transformed the culture of fear and violence that dominated the city of Bogotá. His leader-

continued on p. 31

NEWS BRIEFS

China's Traffic Law Falls Short for Pedestrians and Cyclists

Faced with an explosive growth in automobile use and a "survival of the fittest" approach to driving, China's Government enacted their first Law on Road Traffic Safety last October, taking effect from May 1. While it has far fewer automobiles than the United States (80 per 1000 people compared to 779 per 1000 in 2003), China's death rate per capita from traffic crashes is 8 times worse. The Chinese Center for Disease Control found that 90 percent of traffic problems are due to driving against traffic regulations.

The new law, however, brings mixed blessings for pedestrians and cyclists. While laws on liability for crashes, drunk driving, and compulsory third party insurance are aimed at improving pedestrian safety, the same legislation also requires pedestrians to use bridges, tunnels, signals or crosswalks wherever they are available, but fails to specify how far pedestrians are expected to walk to use these facilities, or set limitations on the use of pedestrian-unfriendly overhead bridges. The lack of details in the new law has allowed provinces such as Sichuan to enact draconian penalties and restrictions against pedestrians and cyclists while insisting – probably correctly – that the provisions do not violate the new law.

In addition, the effectiveness of the new law is reliant on local enforcement and interpretations, especially by traffic police. Where traffic police remain indifferent to the needs of pedestrians and cyclists, the new law is routinely flouted.

photo: Karl Fjellstrom

Xi'an, August 2004: Car drivers failing to stop for pedestrians at a crosswalk; a violation of Article 47 of the Road Traffic Safety Law effective from 1 May.

Stop World Bank Pressure to Ban Rickshaws

Under pressure from the World Bank, the city of Dhaka, Bangladesh will ban cycle rickshaws on a key corridor starting December 17. The announcement extends a trial ban that began on Mirpur Road in December of 2002, and is part of a plan to ban rickshaws over 120km of roadway. In 1998, less than 9% of vehicular transport was by car but required over 34% of road space, while the 54% traveling by rickshaw took up only 38% of road space. Cycle rickshaws are a non-polluting method ideal for short trips; banning them pushes passengers into motorized vehicles. The ban also eliminates an employment source for some of the city's poorest residents without providing an alternative income.

The short-term benefits of eliminating rickshaws, such as increased motor vehicle speeds, can be achieved with sustainable methods that do not negatively impact rickshaw passengers and drivers. The World Bank and local authorities could provide dedicated lanes to separate private cars, buses, and cycle rickshaws, increasing speeds for all modes and reducing accidents.

Improving cycle rickshaws, as was done through an ITDP project in India (see story, this issue), increases safety for rickshaw passengers and drivers, speeds the vehicles and provides more comfort and dignity for drivers.

Visit www.worldcarfree.net to send a letter urging World Bank President James Wolfensohn to stop the Bank's promotion and financing of rickshaw bans in Dhaka.

Feeding Bogotá's TransMilenio with Non-Motorized Transport

by Carlos Felipe Pardo

Bogotá's world-renowned public transit system has won a new ally in promoting sustainable transportation around the city. INSSA, an industry that has imported and built bicycles since 1980, has started to develop a bicycle taxi that is intended to take TransMilenio passengers safely to and from stations. The project began several months ago, and Javier Ossa (INSSA's manager) has begun to develop a quality standard (ISO 9000-like) for passenger bicycle taxis in Colombia. He has also developed a legislative project that proposes bicycle taxis as an additional public transport vehicle and system, and has presented the project in the City Council for approval.

The initial proposal to operate the bicycle taxis is based on a zoning of the city (in neighborhoods near TransMilenio) in order to determine quantities of vehicles per zone based on their demand. Currently, motorized taxis are providing this service for people who

Left: Bicycle taxis provide an emissions-free feeder for TransMilenio.

Below: Indoor bicycle parking is another way TransMilenio has improved non-motorized access.

live far from the station, and many others are walking. Using bicycle taxis as a feeder system for TransMilenio has many benefits, from creating jobs, to increasing passenger volumes, to decreasing CO2 and other emissions.

TransMilenio itself is also continuing to encourage improved non-motorized access to the system. It has developed a secure, indoor bicycle parking facility with 800 parking spaces which was first introduced in the newest terminal.

The bicycle parking facilities have their own entrance with wide turnstiles that bicycles easily wheel through. Cyclists pay the same fare as normal users, bicycle parking is included. TransMilenio plans to include bicycle parking in all of its new transfer terminals in the next phase of construction.

Citizens Fight to Protect Budapest's Jewish Quarter

A Hungarian civic group launched a campaign to save Budapest's historic Jewish quarter from being torn down for new development. The civic group OVAS is trying to save more than a dozen buildings.

"Some 16 buildings have already been sold to developers, who have permission to demolish them," Peter Marinov, a spokesman for the group, told The Associated Press. "We want to stop the demolitions and preserve the character of the area."

The historic quarter was home to about 200,000 Jews before World War II, when about half of the city's Jewish population were killed or deported to camps.

"This district is not only a memorial place, not only a beautiful district with a unique atmosphere, but also the home and natural environment of a living Jewish community," OVAS representatives said in a statement released last month.

California City Held Liable for Traffic Death

A San Bernardino County jury recently found the City of Fontana legally responsible for the death of a 14-year-old girl who was killed by a motorist while walking home from school. The attorneys representing Karen Cruz's parents argued that Fontana failed to act on reports that lack of sidewalks created a hazard for students walking in heavy vehicle traffic before and after school. The jury, in an unprecedented decision, found the city 75% liable for Karen's death, while awarding $37.5 million to her parents.

Six weeks after the decision, the city and Fontana Unified School District continue to debate the issue of providing sidewalks along routes to two schools, Karen's which has 3,700 students, and a neighboring school with just over 1,000 students.

City Manager Ken Hunt told the Sun that the city has set aside $175,000 this fall for sidewalks in the area. But he maintains that, in a broader sense, protecting schoolchildren from traffic injuries is not the city's responsibility.

Area parents are less concerned with the legal details than with interventions that will protect their children from deadly traffic.

Cycling to school on the N2

"I already experienced one death, from that girl. I saw her die," a Fontana resident told the paper. "It's sad, the Karen incident, but it's going to be sadder if this occurs again." ❖

top photo: INSSA

Using Bicycles to Save Lives

By Aimée Gauthier

Many poor African countries are in the fight of their lives against HIV/AIDS and maternal and infant mortality. While experts agree that lack of affordable transport services is a key part of the problem, scalable and sustainable solutions have been elusive. Recent experience from ITDP's Access Africa program and other projects clearly shows that bicycles can play an important role in reaching health-related Millennium Development Goals and poverty reduction targets.

Two million people a year are dying from AIDS in Africa. In Tanzania, for example, 7 people out of 100 have AIDS, compared to less than 1 in 100 in the US. Some 300 million women worldwide are disabled or chronically ill as a result of poor health care during pregnancy and lack of emergency obstetric care. When a child's mother or father becomes chronically ill, disabled, or dies, the whole family is at risk of becoming destitute.

There are three basic bottlenecks facing health care delivery in Africa: the lack of medical personnel, the cost of medicine, and the cost of transport. While the cost of anti-retroviral therapy (ART) for HIV/AIDS patients was initially a major problem, in

Photo: Health workers on bicycles have cut travel times by 60%

Without adequate transport, people are often forced to access health care by foot.

recent years the cost of the medication has dropped by 98%, and donors have stepped in to help make supplies available.

Despite this, only 2% of Africans living with HIV have access to ART, while 25 million people are still in need. The biggest remaining obstacle to comprehensive coverage of ART is transport, according to the US Health and Human Services and the Global AIDS Partnership. They found that in most cases, transportation is unavailable or too expensive. Many people with HIV/AIDS die at home because they cannot not afford to travel to a clinic for treatment.

Home-based care provides vital health services for many in rural Africa who cannot access hospitals

It is clear that applying US-style distribution systems for ARV does not work in Africa. In developed countries, most ARV programs are managed out of hospitals and clinics by highly trained medical professionals where strict adherence to the drug regimen can be assured. Used haphazardly, ARV drugs foster less treatable strains of HIV, which can then spread. But this approach was not working in Africa where trained medical personnel are few, where little money is available to build new hospitals and clinics, where most patients do not own motor vehicles, roads are poor, and villages are spread far apart.

"AIDS care, as we practice it in the North, is about elite specialists using costly tests to monitor individual patients," says Dr. Charles Gilks of the WHO. "It's irrelevant in a place like Uganda, where there is one physician for every 18,000 people."

Recent efforts by Uganda's AIDS Treatment Center (TASO) and other groups have demonstrated that home-based care can successfully deliver HIV/AIDS care and prevention, including ART. TASO has ART adherence rates that are even better than those in the United States.

TASO's home-based care program sends community health workers to people's homes to provide home-based HIV testing and counseling, treatment and prevention of AIDS associated diseases (i.e. malaria and TB), and ART. They deliver drugs, ask a short, standardized symptom questionnaire, and support adherence to drug treatment. Based on the success of these programs, treatment for HIV/AIDS and other diseases has rapidly been shifting away from centralized hospital care towards decentralized, community based health service provision.

This shift in health care delivery systems has also shifted the transport burden away from the patient to the health care provider. Ghana's Community-Based Health Planning and Services found that a single nurse on a motorbike or bicycle relocated to a village health center can outperform an entire sub-district health center, increasing the volume of health service encounters by eight times. Another pilot program in Tanzania discovered it was 70% cheaper for nurses to care for patients in their own homes rather than in hospitals.

The time of a highly-trained doctor or nurse is extremely valuable, so they need access to the best and fastest vehicles that the program can afford. For shorter distances, and for lower level nurses, outreach workers, AIDS educators, and volunteers – who increasingly play a critical role in health care – bicycles are proving to be the most appropriate technology.

TASO workers like Betty Nanyanzi deliver ART treatments, achieving better adherence rates than seen in the U.S

Bicycles and Health Care

An increasing number of health care service providers are turning to bicycles. Save the Children, World Vision, TASO, the Essential Health Interventions Project, and Doctors Without Borders have all turned to bicycles for a growing part of their health care service delivery. These agencies use bicycles for some HIV/AIDS treatment and counseling, immunization, endemic disease control and treatment, maternal health services, the distribution of condoms and contraceptives, and health education efforts. Bicycles, in other words, clearly have an important, often overlooked niche in the provision of health care services.

To try to understand more systematically where and under what conditions bicycles have a distinct role to play, ITDP distributed 130 bicycles free of charge to an array of health care organizations in South Africa, Ghana,

continued on p. 10

photos – top and bottom left: WHO/Pierre Virot

Using Bicycles to Save Lives

continued from p. 9

Senegal, and Kenya in exchange for collecting data on their use and impact.

The results of the pilot projects show that, with bicycles, health care providers reach more patients and save on travel costs and time. At the Worcester Hospice in South Africa, which provides nursing care to the terminally ill, workers on bicycles were able to cover three times the distance they did on food, reaching 15 times more patients. In Ghana, an education group called Youth Against AIDS now reaches 50 percent more project beneficiaries, while cutting the organization's transport costs in half.

Similar savings were also reported by two health service providers in Senegal – Layif and Projet Promotion des Jeunes. Workers who were walking before receiving the bicycle saw an average time savings of 57.8 percent. Those who were taking a taxi before saved $0.40 per trip, though their travel time increased slightly. Workers who used animal carts save an average of $0.30 per trip, and decrease their travel time by 63.5 percent.

Siprose Omondi of Vision Sisters, Working Sisters in Kenya uses her California bike to care for the sick, generating enough income to support her household of 12, including 5 orphans whose parents died of AIDS.

When workers own their own bicycles, the entire community benefits

When organizations give ownership of the bicycles to individual workers, even more benefits are seen. Kenya's National Council of Women was given 15 bicycles to care for orphans and distribute food and medicine to the chronically ill. In addition to increasing efficiency during working hours, the women use the bicycle to serve other needs in the community, such as bringing students to school, running errands, and taking the sick to the hospital.

Youth Against AIDS workers also saw considerable savings in their own transport costs when bicycling to work. One recipient used to spend 36 percent of his monthly income commuting to work, now he spends 14 percent. On average, each recipient saves 7 percent of his monthly income by bicycling to work – money that can be used for food and other household needs.

One organization in South Africa's Western Cape, called CANSA, received 25 bikes for its volunteers. Because most volunteers only work once a week, CANSA decided to retain ownership of the bicycles and restrict their use to work-related trips only, prioritizing longer trips. The result was that the bikes were underutilized.

Because bicycles provide so many related benefits, it appears that the best model for distributing bicycles is to give them to individual workers to own. The bicycle is probably best treated as a fringe benefit, as a payroll incentive for workers or as a reward for volunteers who perform well.

Emergency Care

Emergency care provides even more of a transport challenge for many poor, rural Africans and their health providers. In many instances, the sick – often women suffering from pregnancy-related complications – are carried through the bush on foot, arriving at clinics too late.

In these emergency situations, studies by the British Department for International Development indicate that the best mechanism for moving patients to emergency health facilities depends on the existing available services. Commercial trucks, a bicycle or motorcycle with a trailer at community posts, or an ambulance with effective communications equipment have all been used as successful ambulatory care vehicles.

A GTZ-sponsored effort in Uganda showed the possibilities for bicycles in ambulatory care. In 2001, 100 ambulance-trailers were assembled by the Bicycle Sponsorship Project & Workshop for FABIO. The bicycles in combination with their specially built trailers, financed through donations, were distributed in Kabale, Bugiri and Soroti Districts. The vehicles cost $150 each. A small association of users was formed around each vehicle. Each association needed to raise $31.68 per year to cover the vehicle's depreciation and ongoing maintenance costs. Group members paying only $0.18 per month had access to the vehicle.

During a one-year survey period, the frequency of use varied between 23 and 32 occasions per month. One typical use was the transport of pregnant women, which accounted for 52 percent of all medical indications for transport. Women accounted for the largest proportion (70 percent) of people trans-

ported, followed by men at 29 percent. The most frequent destination, at 57 percent, was the local clinic. As many as 4 in 100 journeys involved transport to a burial site.

In all cases, having an effective communications system to make calls of assistance or to warn referral facilities is also critical. For communications, mobile and satellite phones are one method that has been used. One problem is that community posts are hesitant to send their one vehicle (be it car, motorcycle or bike) away from the post in case another emergency arises. Supporting transport interventions with effective communications support will be one key to success in emergency care.

Preliminary Trends

The results of these efforts have already led to some useful preliminary conclusions. We've found that bicycles are an appropriate transport technology for the following health efforts:

a. immunization programs,

b. pre-natal care,

c. administration of ongoing pharmaceutical therapy regimes (like ARV and TB treatment),

d. home-based primary care for the aged, the chronically and terminally ill,

e. AIDS education and other preventive health promotion efforts, and

f. family planning and reproductive health.

Bicycles and other human powered vehicles can also be the key to transporting patients to medical facilities where no motorized transport is available.

As a rule of thumb, if a nurse needs to be able to reach remote areas quickly and is servicing an area that has a greater than 30 km radius, then a four wheel drive vehicle should be explored. For distances in a 20 – 30 kilometer radius, a motorcycle should be explored. From 5km to 20km, a bicycle may suffice. For shorter distances, walking may suffice.

If roads are in particularly poor condition, bicycles may also be preferable even for longer distances. If there is severe mud, flooding, or other very deteriorated road conditions, nurses may not be able to get a motorcycle or motor vehicle through, but they can pick up the bicycle and walk around obstructions.

ITDP's Niche

Experience indicates that it is best to let health care delivery organizations focus on health care, and let the private sector focus on the supply and maintenance of bicycles.

ITDP's Access Africa program was the first to integrate the provision of good quality low cost bicycles to health care service providers with an effort to develop a sustainable private sector vehicle supply.

Most of the big development agencies buy fairly expensive bicycles from international suppliers, paying over $200 per bicycle. This does little to help build a sustainable local private sector supply of bicycles and ongoing services. Alternatively, some turn to the bicycles already available in the African market: usually low quality old English roadsters or mountain bikes with very poor quality components.

All of the 130 bicycles given away by the Access Africa program were designed specifically for use in Africa – the six-speed California Bike and the less expensive, one-speed Sahelia. Working with existing independent bicycle dealers in ITDP's California Bicycle Cooperative (see article in this issue), the bicycles were designed with technical specifications appropriate to utilitarian cycling in Africa and negotiated directly with international bicycle manufacturers in bulk orders. As a result, the project has been able to deliver a high quality bicycle to health care service providers at a price more than 25 percent lower than any other bicycle of similar quality available in the market. By working with local bicycle dealers and narrowing the range of bicycle parts and equipment, a sustainable system now exists for ongoing private sector maintenance of the bicycles.

With transport issues tackled by ITDP and the private sector, health service providers such as CANSA (above) can focus on providing care.

Using Bicycles to Meet the Millennium Development Goals

At the World Summit for Sustainable Development, governments and donor agencies committed themselves to halving poverty, reducing the num-

continued on p. 29

Congestion Charging:
Can it Work in Sao Paulo?

By Walter Hook and Eric Ferreira

In October of 2003, and again in May of 2004, ITDP organized speaking tours to Brazil for Derek Turner, London Mayor Livingstone's point man on congestion charging. Sao Paulo was sufficiently interested to organize a task force to study the possibility. The issues in Sao Paulo will face any city thinking of following in London's brave footsteps.

Bottom photo : Lloyd Wright

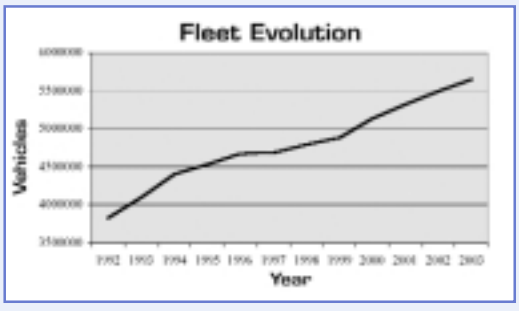
Above: Sao Paulo traffic corridor
Below: Congestion charging cut traffic by 15% in London.

In 2002, London finally proved that congestion charging could be implemented in a Democracy. Mayor Livingstone was re-elected this year by a wide margin, proving that elected leaders with the courage to tackle the automobile are being rewarded politically. London's congestion charging scheme, where motorists pay £5 to enter the city center from 7 am to 6:30 pm, has given central London traffic conditions that resemble those on a school holiday every day of the week. It cut traffic in central London by 15%, cut delays by 25%, increased traffic speeds by 10 – 15kph, increased bus speeds by 20%, and increased annual bus passenger ridership by 7%. In addition, it generates some 80 million pounds of revenue for the city every year.

While cities all over Europe and America are discussing it, Sao Paulo may be the first major city in an emerging economy to replicate this success. Sao Paulo has the advantage of already having automobile restrictions in place. From 1980 until 2000, automobile ownership in Sao Paulo skyrocketed from under 2 million to over 5 million vehicles. This created 60 miles of traffic jams, costing the city around $1 billion a year and resulting in 2 million lost working hours a year. The city violated its CO standard 13% of the time and the NOx standard 26% of the time. With a heavy debt burden, Sao Paulo simply couldn't afford road or transit infrastructure to combat this increasing traffic.

In 1996, State Secretary for the Environment Fabio Feldmann implemented a license plate-based vehicle restriction scheme. Each weekday during peak hours (between 7 am and 10 am and between 5pm and 8 pm) 20% of the vehicle fleet is not allowed into the central city, based on the last number of each license plate. The area where the license plate restrictions are in effect is called the rodizio, a 152 square kilometer area surrounded by a ring of major highways. The rodizio is enforced by police and cameras at 200 entry points on the boundary roads. The fine for violators is $20 and 4 points on your drivers license (at 21 points you lose your license).

When first introduced, the rodizio cut CO levels by 12%, reduced weekly CO2 emissions by 17 tons, and decreased congestion by 20% in the afternoons. However, vehicle numbers increased and the system encouraged those who were wealthy enough to buy second cars with different license plate numbers. By 2000, measurements taken by the CET (Traffic Engineering Company) showed that traffic delays and congestion returned to their previ-



Source: Departamento Estadual de Trânsito/Detran

The benefits of Sao Paulo's license plate restrictions wore off after a few years.

ous levels during peak hours. During the rest of the day, when the restrictions are not in effect, already bad congestion has worsened. Additionally, the rodizio system does not generate any revenue for a city increasingly unable to implement an ambitious social agenda and public transit modernization for lack of funds. Sao Paulo leaders quickly realized that congestion charging would solve many of these shortcomings. Congestion charging is revolutionary because it gave political leaders the power to put in wider sidewalks, pedestrian zones, and bike lanes without being blocked by old school traffic engineers arguing these measures would increase congestion.

The Oslo, Singapore, or London Model?

Sao Paulo is now discussing what sort of congestion charging system it might adopt. There are roughly four major types of congestion charging systems in existence. One model is to simply add a surcharge to all parking within the downtown area during certain times of the day. Such systems are in place in some English, Dutch, German, and other cities. Parking charging can be done in conjunction with other methods. The major drawbacks tend to be the difficulties in controlling off-street parking, political opposition, and local administrative control over local parking, which makes systematic approaches difficult.

Another model is to simply have toll plazas in a ring around a central business district or historical core, as is done in several Norwegian and British cities. The primary disadvantage is that the toll plazas are unsightly and cause delays.

The oldest and most famous system is in Singapore. From 1975 to 1998, Singapore had an Area Licensing Scheme. Motorists simply needed a special sticker to enter the city center. It was enforced at highly visible gantries on all the major roads entering the city center by police who monitored cars as they drove through at regular speeds. It worked much like a downtown toll ring but got rid of the queuing problem at toll gates.

In 1998, Singapore changed to an Electronic Road Pricing (ERP) scheme. This new system allows Singapore to charge not only for entering the city center, but basically for going anywhere that is likely to be congested. Each vehicle has to have an on-board transponder that reads a cash card. When the vehicle passes a toll gantry, the cost of the toll at that gantry is immediately deducted from the cash card. This system is a powerful traffic management tool because it can place a charge virtually anywhere on the road network where there is serious traffic congestion, closely matching charges to the point of congestion.

The main drawbacks with the Singapore ERP system, (and similar systems emerging in several Australian cities) is that it is fairly expensive to install, operate, and enforce. The Singapore system requires two parallel systems: a payment system and an enforcement system. The payment system consists of the toll gantries, on-board transponders that cost around US $90 each, plus the cost of processing the payments, which is expensive and drains part of the revenues raised. Low numbers of visiting motorists from neighboring Malaysia have to rent the in-vehicle unit at special locations and leave a deposit of $90 for the transponder.

The Singapore system also requires a parallel system of enforcement cameras that takes a picture of the license plate of everyone going by the toll gantry in case they don't pay. This enforcement system is also expensive to build and operate.

London decided that having separate infrastructure for the payment system and enforcement system was redundant, and developed an 'enforcement only'

continued on p. 14

All photos: Lloyd Wright

Top: Cameras stationed around the charging area identify license plates to collect payment and to assess fines

London drivers can pay over the phone, by mail, in retail locations or stands (middle) and kiosks (bottom).

continued from p. 13

system. In London, it is the responsibility of motorists to pay for the right to enter the congestion charging zone. The city did not have to build toll gantries, and vehicles are not required to have on-board transponders or prepaid cash cards. Drivers simply pay the fees on line, by cell phone or SMS, by post, by normal phone, or at 200 payment points in the zone or 9000 payment points nationwide. Once you have paid, the same computing system responsible for enforcement registers your license plate as paid.

Around the CBD are 700 cameras at 350 points. Most of them are on the ring around the charging zone, but there are other cameras randomly placed inside the zone because motorists living inside the zone are not fully exempt from the congestion charge. If a camera identifies your license plate, and your license plate is not registered as having paid, you have until midnight to pay the toll. After 10pm you have to pay double. If you have not paid by midnight, you are sent an £80 fine.

The London system's start-up costs were roughly 240 million pounds, including 8 million pounds to a management consultant firm (Deloitt Teuch) to set the project up. Its annual operating costs are 90 million pounds a year. The system brings in 170 million pounds in revenue, so it nets about 80 million pounds in annual revenue for the city. By far the largest share of the cost is for the operation of the payment system and the related call centers. These costs are coming down rapidly as more people switch to long term passes and internet-based payment systems. Enforcement costs another 15 million pounds, but violations are also dropping rapidly. The government authority, Transport for London, takes another 5 million pounds to cover its administrative costs.

Because the system is profitable, however, it was possible to attract private investment for most of the costs. A private firm, Capita, won the bid to become the system operator and invested 80 million pounds in capital costs, to be reimbursed out of revenue. The city guaranteed a 100 million pounds return to Capita in the first year in case revenue was not large enough. Capita collects all the money, deducts their own fees, and the rest of the money is turned over to a special government account earmarked 80% for public transit and 20% for road rehabilitation.

The London system is less flexible than one using toll gantries, and depends on having a simple, clearly defined charging zone or zones. People have to pay before they enter the zone, and do not get sent a bill or have the money deducted from a cash card. In London, each driver pays one set rate for an entire day of travel. If this payment system were used with more complex pricing schemes, with more than one zone or with varied charges based on time of day or location, each driver would need to know exactly how much the trip is going to cost in advance. There is also no system to refund money, so the more confusing a system's cost structures, the more irritated people will become by the risk of overpayment.

Currently, London is planning to expand the zone. However, because it gives residents within the zone a 90% discount, the number of people eligible for the discount is expanding as the size of the zone expands, undermining part of the benefits.

Picking a System Right for Sao Paulo

When considering which system would be best for Sao Paulo, the team had to recognize important differences between Sao Paulo, London and Singapore. The Singapore system would have certain advantages. Not all entrances to Sao Paulo are equally congested – less traffic comes from the lower income neighborhoods than on approaches from higher income areas. The Singapore ERP system would allow the municipality to charge more on approaches from more congested areas. The main drawback is that getting transponders into every car would be possible but expensive and cumbersome and may face political resistance. Sao Paulo has many more motorists coming from out of town who would need easy access to transponders.

There are also important differences with London. If the Sao Paulo congestion charging zone replaces the rodizio, the area is much bigger –152 square kilometers compared to London's 21 square kilometers. Even once expanded to 45 square kilometers, London's system will still be only 1/3 the size of the rodizio. Only 200,000 vehicle trips enter the congestion charge area a day, while nearly 2 million enter by transit, bicycle or taxi. In London, only 250,000 people live within the charging zone. In this situation it was easy to win the political support of central city residents by offering them a 90% discount.

Sao Paulo's CBD presents challenges: it is larger and more populated than London's, and many areas are in economic decline

A congestion charge within Sao Paulo's rodizio, however, would affect both the 820,000 daily car trips within it, and another 1,460,000 car trips that cross the rodizio border every day. Exempting or deeply discounting motorists inside the rodizio would defeat the purpose of the congestion charge. So for Sao Paulo, the political challenge will be much greater.

In London, employment is highly concentrated in the 21km^2 congestion charging zone, but in Sao Paulo, the area is much larger. Further complicating matters, the Central Business

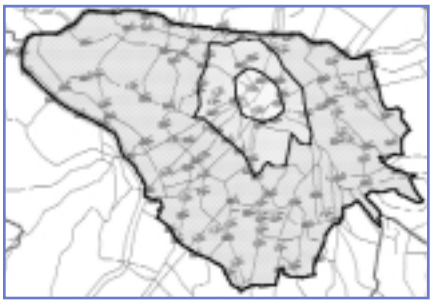
map: LOGIT

District (CBD) in Sao Paulo, the 4 km^2 urban core, is afflicted with blight and job loss. Any congestion charging scheme would have to be designed in such a way that did not further depress the CBD.

One possibility discussed is that there could be three concentric rings, with no charge for operating inside the central ring (CBD), but a charge for operating in one ring, and an additional charge for operating in two rings.

There are also important legal and enforcement issues to consider. In Sao Paulo, City Hall must submit to the city council a law explaining why the city needs a congestion charge scheme, how it will be charged, which areas will be charged, period of the day, fees, forms of payments, etc. The value to be charged must be described inside the law and it can be defined as 'tax' or 'tariff.' If it were described as a tax, a law detailing values and methods of payments must be passed by the council. If the revenue is defined as tariff, the revenue would be collected by a concessionary. A careful legal review would be necessary to determine whether or not the collection system could be privately operated if the revenue is considered a tax.

Enforcement of the system could also require changes in local, state and possibly national laws. In Brazil, some 10 million cars are known to be operating without a valid registration, and in some cities 40% of the fleet is not registered. In this situation, enforcement of the congestion charging scheme, or any other traffic law for that matter, is extremely difficult, particularly for out of state vehicles. Secondly, if a private company is going to operate the tolling system, they need to have the legal authority to enforce the system directly, or else their revenue stream will be threatened.



One solution for Sao Paulo is a three-zone charging area

Exemptions and Discounts

Another critical consideration is which types of vehicles to permanently exempt from the charge, and which types of vehicles to 'discount.' It is important to minimize the number of vehicles eligible for permanent exemptions. For example, discounts can be given for 'green vehicles', or vehicles reaching certain environmental standards. However, if such discounts are permanent exemptions, then were the whole vehicle fleet to shift to the new vehicles, the system would no longer generate revenue and the level of congestion would be the same or even worse since the fleet would still be growing.

London decided to permanently exempt vehicles exclusively operated by and for the disabled, fire trucks, ambulances, and buses. After much debate, the decision was made to exempt taxis and motorcycles, but not trucks. The exemption for motorcycles was controversial and increased their use somewhat. The decision was mainly because the cameras checking the license plates were only 75% accurate on motorcycle license plates, compared to 90% accurate for the motor vehicles. Identification failures are caused mainly by the license plate being obstructed by tailgating, being obstructed by trucks, and the vehicles not being in the lane but between lanes; all problems exacerbated by motorcycles. Transport for London greatly feared that camera inaccuracy would lead to concerns about the integrity of the whole system, so to keep a 90% overall identification rate, they decided to exempt motorcycles.

Motorcycles are a hot political issue in Sao Paulo, as their numbers are growing rapidly, particularly for deliveries, and their indiscipline is a cause of consternation for many drivers. There is thus reluctance to exempt motorcycles in Sao Paulo. In London, the decision to charge trucks led to early resistance from the trucking industry, despite the fact that trucking companies would also benefit from shorter delivery times and costs. But truck companies, it turned out, were more concerned about cumbersome payment systems than about the fees per se, so Transport for London agreed to set up a special billing system for large trucking company accounts.

London exempted motorcycles, but in many cities this would never work

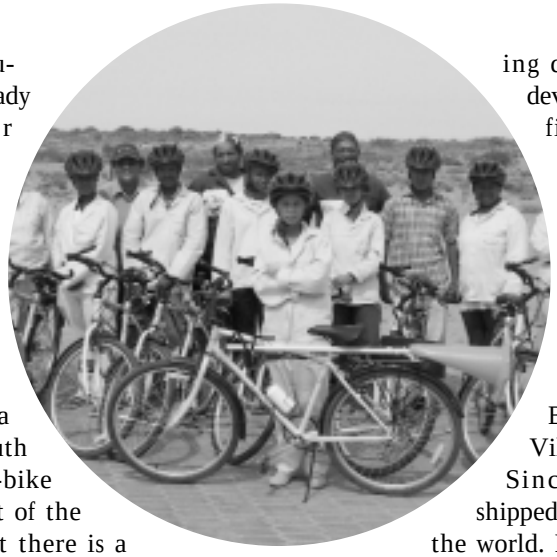
Whether to exempt taxis is another issue. In London, Mayor Livingstone made a political decision that taxis are part of the 'public' transportation system, and as such they should be exempt. The result was an increase in taxi use. It is likely Sao Paulo would consider following suit – recently the Secretary of Transport made a controversial decision allowing the city's 35,000 taxis to run inside the free bus lane in off peak hours. In some countries, like China, where the vast majority of vehicles on the streets are taxis, allowing taxis to be exempt would undercut the entire system.

Conclusion

Whether Sao Paulo will have the political courage to implement a congestion charging system will not be known until the next year, when the new mayor takes office. But one thing is certain: more and more cities will eventually have no choice but to turn to congestion charging as the only long term solution to manage urban traffic. Congestion charging is not only a way to reduce traffic congestion in Sao Paulo, but a manner to improve energy efficiency, improve air quality, and raise revenue for investment in public transport and improved public space. ❖

map (left): LOGIT

the California Bike Comes of Age



While motor vehicle manufacturers have found a ready market in Africa for $40,000 sports utility vehicles, until recently the international bicycle industry was convinced that Africa was too 'poor' to buy good quality bicycles. But that is beginning to change, thanks to the success of ITDP's California Bike project. The shipping last August of 2,000 high visibility, good quality "California Bikes" to Ghana, Senegal, and South Africa, was a watershed in NGO-bike industry collaboration. Today, most of the bikes have been sold, proving that there is a ready market for stylish, higher quality bicycles in Africa's rapidly growing cities. The California Bike Coalition (CBC) also proved that a buyers' cooperative can deliver a top quality bike at a price 25% lower than any equivalent bicycle available in Africa.

The market for good-quality bicycles rests with Africa's youth, who don't want to be associated with the old English roadsters used on their grandparent's farms. The only other bicycles available in the African market are poor-quality mountain bikes from China and India, toys rather than transportation, which break after a couple months.

Last August, ITDP covered the cost of manufacturing and shipping 2,000 California Bikes, roughly $140,000 including taxes and tariffs. One year into our project, we've recovered more than 70% of our investment, sold over 1,200 good quality new bicycles in Ghana, Senegal and South Africa, and donated over a hundred more to health care service providers. Despite limited marketing resources, the California Bike is increasingly recognized as a high-quality brand. As the Vice President for Global Strategy for Shimano recently said at the annual Institute for Cycling Expertise meeting in Bogotá, Columbia, "it is a shame it took an NGO to do something the bike industry should have been doing all along."

Building on Used Bicycle Projects

ITDP's California Bike Coalition grew out of frustration over the limitations of what could be accomplished by sending donated second-hand bicycles to developing countries. Starting with our first projects in 1985, ITDP pioneered the shipment of donated used bicycles to developing countries, shipping over 10,000 used bicycles to Nicaragua, Haiti, Mozambique, and then Ghana and South Africa. Many of these projects grew into independent organizations, including Bikes Not Bombs, Pedals for Progress, the Village Bicycle Project, and Afribike. Since 1997, Pedals for Progress has shipped over 80,000 used bicycles all across the world. Bikes Not Bombs has shipped over 20,000 used bicycles to Africa and Latin America, and also recycles used bicycles in the Boston area, training teenagers in bicycle repair and mechanic skills. Similar efforts in England, Switzerland, the Netherlands, Japan, and Germany have sent tens of thousands of used European and Japanese bicycles to different parts of Africa.

Donated used bicycles have proved to be a sustainable, cost-effective option for supplying basic mobility for the poorest of the poor, when shipping and import costs are not exceedingly high. Shipping used bicycles from the U.S. to Latin America, or from Europe to Africa, for example, can be economically sustainable. Pedals for Progress asks for a $10 donation to take away the bicycle, then is usually able to sell the bicycles to partner organizations at a price that covers the shipping and customs clearance charges. Shipments of used bicycles have been able to capitalize dozens of small bicycle businesses in Ghana which thrive only on used bikes. While used bikes require a skilled group of technicians on the ground, a big supply of spare parts and tools, and a reasonably proximate and plentiful supply of used bikes, evidence from Ghana suggests that a secondary bike market, when it reaches a sufficient scale, can thrive.

Used bicycles, however, have limitations. The reasonably good quality and low cost of some of the used bikes appeals to

South Africa's Western Cape Province purchased California Bikes for their road maintenance workers (pictured), allowing them to cover more area and commute more easily.

Coalition

rural Africans of modest means, but does little to dispel the notion that bicycles are only for poor people. In rapidly developing urban Africa, where young entrepreneurs like nice cars and clothes as much as young people do anywhere, beat up used bikes are not doing anything to elevate the status of cycling.

To build upon the existing demand for good-quality bicycles, young independent private sector bicycle dealers and distributors are essential. And, cities need to attract international investors who have the experience in marketing and manufacturing to make top quality products that appeal to the cyclists of today. The used bike programs have sometimes helped to develop a thriving private sector bicycle industry, but they have failed to convince the leaders of the global bicycle industry, such as Trek, Giant, Fuji, and Shimano, to take Africa seriously as a market or as a manufacturing base.

Bike manufacturing is virtually dead in Africa, and even bicycle assembly is only hanging on in South Africa by supplying the big box chain stores in the southern Africa region. The big South African chain stores that are sweeping into neighboring Botswana, Tanzania, and Rwanda sell cheap bicycles, but they don't provide the sort of local ongoing maintenance services so critical to preserving bicycle culture.

African governments are moving heaven and earth to attract bus, minivan, and auto assemblers to their countries. In Senegal, for example, state land and other government support was given to encourage the opening of a minibus assembly operation, even though the vehicle is of low quality and all but the final assembly is done in India. In our discussions with government leaders in Africa, there is just as much enthusiasm about investments into bicycle manufacturing and assembly. But until now, the international bicycle industry hasn't believed that there is a market in Africa for higher quality bicycles.

The CBC is proving them wrong, and industry leaders are finally paying attention. In November, Trek visited ITDP's California Bike partners in South Africa, and Trek and Shimano are planning a marketing tour of Africa in the spring of 2005.

Photos – Top: 960 California bikes went to South Africa, 640 to Ghana, and 320 to Senegal. Left: Small bicycle dealers are unable to import large shipments of good-quality bicycles. Right: Moustapha Fall is one of the most successful California Bike dealers in Senegal

The California Bike Coalition: Year One

The California Bike Coalition solves several of the key problems hampering the African bicycle industry. The first is the problem of scale. No single entrepreneur has been willing to place large scale orders from the top of the line bike factories to ensure low cost, high quality bicycles. Small shopkeepers can't move large quantities of bicycles and don't have the money to go to the Shanghai or Taipei trade fair and negotiate directly with factories, so they rely on middlemen, significantly increasing costs. The CBC overcomes this problem by consolidating the orders of dozens of small independent bicycle dealers with orders from NGOs and government programs, and, through partnerships with industry leaders like Trek, placing bulk orders directly with the best factories.

Another problem is credit. Small bike dealers are not usually able to get credit from suppliers unless they have a long

continued on p. 29

Countering Car Culture, One Trip at a Time

By Lisa Peterson

An auto ad in Accra, Ghana, declares "life is what you make it".

In 2000, the automobile industry spent $25 billion dollars on advertising, and another $25 billion in rebates and incentives to sell its cars. As companies battle each other for customers in developed countries, and reach out to new owners across the developing world, the industry is selling more than just its product. With ads that depict cars as the road to fun, freedom and prosperity, the car industry is selling a powerful lifestyle image, especially in developing countries where car ownership is growing fast.

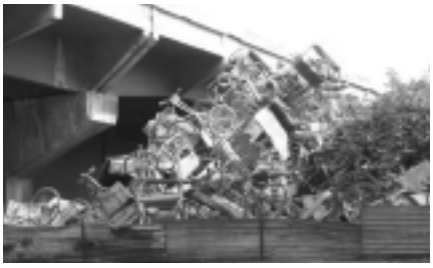
An increasing number of NGOs, community groups and governments are finding creative, low-cost ways to fight back. Over the last decade, projects by ITDP and others have used technology, events and social marketing to alter the way transit and non-motorized transport are perceived. While certainly unable to rival the billions poured into advertising by the automobile industry, these approaches have proved a successful way to permanently change the way people travel.

Technology and Image

Across the world, non-motorized transport suffers from an image problem. Each year the auto industry churns out dozens of sexy new models, while in the developing world the old English roadster and the traditional Indian cycle rickshaw hadn't changed for half a century. Universally seen as 'backward' and a nuisance for cars in cities across Asia, human-powered vehicles face restrictions and outright bans.

Improving bicycle and cycle rickshaw technology have proven to be a critical first step in the public relations battle to winning back customers from the private automobile. Starting in 1998, ITDP engineers Matteo Martignoni and Shreya Gadepalli began a project to improve the design of the heavy, unstable and uncomfortable traditional rickshaws. They designed a modern rickshaw which weighs 55kg, 30% less than the traditional vehicles. A more comfortable seat, fully operational canopy, better steering and improved chassis make the modern rickshaws more comfortable for both drivers and passengers.

Designing a better vehicle was only half the battle. A year later, ITDP contracted an Indian PR firm called



On most major roads in New Delhi, cycle rickshaws have been banned in the name of 'progress'.

Strategic Alliance to design a promotional campaign for the vehicles, targeting potential passengers and maleks who would eventually manufacture the

Modernized rickshaws give dignity to drivers, and are more popular with passengers.

Today there are over 100,000 modern rickshaws in nine cities across India. Drivers earn as much as 50% more because they are attracting more passengers.

rickshaws, but particularly aimed at the wallahs (rickshaw drivers) who would buy and operate the modern vehicles. The campaign had to be tailored to reach an audience not normally targeted in ad campaigns – one that is sometimes illiterate, that does not watch television or read newspapers. To reach this audience, Strategic Alliance organized large public demonstration events that drew the attention of the wallahs. Inviting Mayors and other decision-makers helped develop political support, and generated widespread press coverage. Over the course of the project, over 10 million people in India were made aware of the project through these press events. Raising the public awareness proved critical to establishing a market for the vehicles.

Simply getting the vehicles onto the streets was also important. The handsome vehicles, plying the streets, were their own best advertisement. While sold from the beginning at commercial prices, the design costs, training for manufacturers, and marketing costs for the first 500 sales were financed by US AID.

This combination of appropriate technology and smart marketing was a huge success. Today, some five years after the project ended, there are over 100,000 modern rickshaws in nine cities across India. Drivers earn as much as 50% more because they are attracting more passengers. In Agra, 20% of passengers on the modern rickshaws said they had shifted from some form of motorized transport. That modal shift has reduced emissions by 209.7 tons of CO2, 600 tons of TSP, and 120 tons of NOx each year.

Now, ITDP is replicating this project to modernize cycle rickshaws, or 'becaks' in Indonesia. After ITDP organized the second Sustran general meeting in Manila in 1997, Indonesian Consumers Union (YLKI) Director Tini Hadad convinced Governor Sutiyoso to temporarily rescind enforcement of a ban on becaks. It was the height of the economic crisis, and for about two years, some 7000 becaks returned to Jakarta's streets. In other towns, like Surabaya, enforcement of

continued on p. 20

Events, successful in generating widespread popularity of India's modern rickshaws, are now being held in Indonesia.

Top row : Bicycle caravans (left) and car-free days (right) allow people to imagine their city with fewer cars and more public space. Bottom: Three new cyclists celebrate a successful ride through car-free streets.

continued from p. 19

bans on becaks also relaxed. Another NGO supported by ITDP, LPIST, organized some becak unions and created a community-based plan for regulating becak use in Jakarta neighborhoods. But when other NGOs like UPC used the becak drivers in a broader attack on the Governor's policies, the becak ban was reintroduced in 1999. In 2000, ITDP organized the International Conference on Transport and Air Quality with Swiss Contact, the World Bank, US AID, US EPA, and a number of other donor agencies. At this forum we unified international donor support for rescinding the ban on becaks, and marshaled evidence that becaks did not cause traffic congestion. All to no avail. This confrontational approach simply could not win the hearts and minds of the general public.

In 2000, ITDP started changing gears. Becaks survived in Yogyakarta due to protection from the Sultan who sees them as part of the city's cultural heritage. From this more comfortable base, we decided to replicate the public relations success of our India cycle rickshaw modernization project. Working with Gadjah Mada University, we developed and tested several prototypes, and in the spring of 2004 have finally got a prototype widely appreciated by the becak drivers. As of December, 2004, the first 100 modern becaks are now on the street, and 50 of them were launched at a major promotional event sponsored by the Ministry of Tourism in September. The modern becak is 50kg lighter than the traditional becak, and just as strong and comfortable. Whether the improvements will win greater political acceptance for the becak remains to be seen.

ITDP is now applying a similar approach to non-motorized vehicle modernization and promotion in Africa. Working with Trek Bicycle Corporation, we developed a reasonably priced but much higher status, higher quality bicycle specifically designed for African urban utilitarian use. After shipping 2,000 new, good-quality "California Bikes" to Ghana, Senegal and South Africa (see article, p. 16), these flashy, modern bicycles have played a key role at bicycling promotional events.

Car-Free Days and Events

Public events like car free days and bicycle caravans are an increasingly popular way to publicize public and non-motorized transport options. Mayors are generally supportive because the events are an easy way to generate publicity and open up more space for the public to enjoy. During the events, people have a direct experience of what their city could be like without cars. For NGOs, they are also an opportunity to generate revenue, attract publicity for key causes, and recruit members.

Car Free Days have recently become a global phenomenon. The concept started receiving more attention after Bogotá, Colombia held a popular event, closing the entire city area to private cars during a weekday. After the event, 89% of people reported that they had no trouble getting around. In fact, more than half the people polled said they wanted to see the event repeated on a monthly basis, naming benefits such as reduced pollution, reduced noise, and the opportunity to see the city from a different perspective.

In 2004, 1550 cities from 40 countries participated in the September 22 world car-free day. ITDP sponsored the first car free day events in Cape Town, South Africa (in cooperation with BEN), and Jakarta, Indonesia, (in cooperation with Pelangi) both of which have now turned Car Free days into regular events. The events are an important time for getting across information about transport options. The majority of towns set up information stands, create hand-outs about transport options, and organize exhibitions and round tables to draw attention to the issues connected with travel and mobility.

Since introducing the California Bikes in Africa, ITDP has also organized ten promotional events that bring together cyclists, attract press attention,

and allow elected officials and community leaders to share their own commitment to bicycle promotion.

In Ghana, ITDP-organized bicycle caravans are attracting more riders and broader support. Our second ride was hosted by former Accra Mayor Solomon Darko, and the third event was sponsored by the U.S. Embassy in Accra, the Ghana Police Service Headquarters, UNDP, the Ministry of Interior, the Mayor's Office, the National Sports Council, and private companies. Other bicycle promotion

events were held just outside of Kumasi, and in Cape Coast. ITDP is also organizing a bicycle caravan in Dakar in conjunction with the Mayor's Office and the Director of Sports for the City of Dakar. It is scheduled for mid-December, after Ramadan.

Social marketing

Recent projects in Australia, Santiago de Chile, and in Europe indicate that social marketing alone may be able to change travel behavior. One technique, known as "travel blending" is used to reduce the number of car trips people make each day.

Most people make 4 or 5 trips a day, to work, to the store, and so on. While it may not be possible to replace all private motor vehicle trips with transit, bicycling, or walking, most people should be able to replace some of their trips. People who have fallen into the habit of using a private car may not even know the bus route that they could take, may not know that a safe cycling route between their home and their work is available, may not even know how to ride a bicycle.

Travel blending starts with a very personal process of interviewing individuals to find out why they make the transport choices they make. Usually a number of households are open to making some changes in their travel behavior. The program supplies whatever information or help they need, and supplies the encouragement, to make the change.

The results to date have been remarkable. In the first trial in Perth, approximately $61,500 was expended in consulting costs to conduct the surveys and information provision activities. Of the 380 households targeted, the program produced a 6% decrease in auto use immediately and an additional 1% decrease after 12 months. Public transport trips rose from 6% of all trips to 7%, cycling trips doubled from 2% to 4%. The results have held even two years after the assistance was delivered. The technique is now being applied throughout Australia and in some cities in Europe.

The consulting firm Steer Davies Gleave implemented a travel blending program in Santiago, Chile. The Santiago results suggest that travel blending could become part of an effective, low-cost emission reduction package for certain developing-nation cities. Steer Davies Gleave report an astonishing 17% reduction in car driver trips (as a proportion of participating and non-participating households combined), with a 23% reduction in car driver kilometers and a 17% reduction in time spent traveling.

Travel blending techniques may be well suited to an active role by NGOs, particularly in the collection of survey data and the development and dissemination of information about transport alternatives. Particularly in communities where NGOs maintain a close dialog with residents, travel blending could be an extremely effective way to reduce car use on a local scale.

Conclusion

While it is hard to compete with $25 billion in advertising from the automobile industry, clever use of social marketing and public relations, and high profile projects that illustrate an alternative solution to today's traffic nightmares, are beginning to fight back. Social marketing in the transport sector is not only proving to play a critical role in the success of any transport project, but the new projects in Santiago and in Australia indicate that social marketing alone can change travel behavior. ❖

Left: In collaboration with the Cape Epic mountain bicycle race, Rufus Norexe of the Bicycling Empowerment Network promotes bicycle use

Middle: Kunming's BRT system works great but fails the publicity battle. Guangzhou Deputy Planning Director Zhou He Long takes a ride but believes Guangzhou can do better.

Right: Traffic congestion in Surabaya, Indonesia; many people drive out of habit.

What to Do about

It has been many decades since a new urban highway like Robert Moses' notorious Cross Bronx Expressway has been built in the US or Europe. Highways that forcibly evicted tens of thousands of disenfranchised low income minorities and expose countless others to dangerous levels of air pollution and unsafe traffic are largely a thing of the past. Unfortunately, this is not the case in the megacities of the developing world.

A recent example is Mexico City's recently completed Segundos Pisos (second stories) – the double-decking of its major urban highways. A comparision of Mexico City's investment in the Segundo Piso and a planned Bus Rapid Transit project shows how unequal and regressive this project is. The total cost of one 12-kilometer long Segundo Piso was US$ 182.7 million, or US$ 15.2 million per kilometer. In contrast, the estimated cost of a 25-kilometer long busway system planned along Calle Insurgentes is US$ 26.1 million. This is US$1.0 million per kilometer. In other words, comparing these two projects, the investment for a minority (only 16% of the population uses the automobile as a means of transportation) is more than 15 times the investment in a public transportation project that benefits the large majority.

Mexico is hardly an isolated case. The citizens of Chinese cities, with weak private property rights and little legal recourse, have seen thousand-year-old neighborhoods bulldozed to make way for new roads. Indian cities continue to build flyovers that speed long distance travel at the expense of bus commuters. Santiago's Costanera Norte project, Panama City's Corredor Sur highway project, the MO orbital motorway in Hungary, the Prague Ring Road and the Trans-Israel Highway are all projects that went forward, though protracted and determined opposition from citizens groups and international organizations like ITDP succeeded in slowing or modifying them.

Of course, some new urban roads deserve to be built. The question is ultimately how to ensure a planning process that balances the desires of motorists with the legitimate health, safety, and livability concerns of residents. In the US and Europe, the disasterous urban highway projects of the 1950s and 1960s led to an ongoing effort to codify rules and procedures that balanced these concerns. In most developing countries, however, they are a new phenomenon, and the decision-making processes remain vague, ad hoc, and conflictual, benefitting no one. Frequently, roads are built despite the fact that they concentrate air pollution to levels certain to violate air quality norms, and they leave permanent scars in the urban fabric. In the developing world, the disconnect between air quality goals and transportation goals continues to be largely unaddressed.

While voices of opposition to the Segundo Piso itself were few, the way in which the highway was planned, designed, and built raised concerns among community and environmental groups, transportation experts and business associations about the current planning, review and financing procedures. Existing regulations do little to protect Mexico City's health, property values, or community life.

In response, the Centro Mexicano de Derecho Ambiental (Mexican Center for Environmental Law, CEMDA) and ITDP organized a workshop in June of 2004 to review Mexican transportation planning practice. Drawing on experience from the US, UK, Chile, Germany and Israel, the workshop issued recommendations that better balance the needs of the environment, the community, and motorists. (The White Papers are available at www.itdp.org/read/html). Several proposed legislative reforms have grown out of these recommendations.

The current environmental impact assessment (EIA) laws are highly ambiguous. No methodology is spelled out for rejecting or approving projects, nor for determining the need for or the level of mitigation or compensation. It is not even

Mexico City tries to build its way out of congestion with double-decked highways.

Urban Highways
Lessons from Mexico City

by Rebecca Dodder and Tania Mijares

clear under what conditions the review of the EIA for a highway project falls under federal or local jurisdiction. Frequently, the same agency promoting a project is also authorized to determine the validity of the EIA. In such conditions, the approval of an EIA is driven primarily by politics rather than an honest assessment of environmental impacts. Of equal concern is the way in which some project promoters are allowed to bypass the public budgeting and transportation planning process.

Even without these problems, EIA alone is seldom sufficient to ensure a sustainable outcome in transportation projects. EIAs generally come at the point in the planning process when all the most important decisions have already been made. As a result, they tend to focus on the immediate impacts of the project (frog habitat is threatened), while missing the big picture (maybe 100,000 new car trips into the city center is not a good idea and a busway would have been better).

The two ways countries have tried to overcome this problem are called 'conformity' (in the US) and Strategic Environmental Assessments (SEA, required in Europe beginning in 2004). Conformity is a process that determines whether a major transportation project is consistent with environmental goals and laws. It gives the US Environmental Protection Agency the power to block Federal financing for road projects or even entire metropolitan transportation plans if they find that the road will drive an area into violation or further violation of ambient air standards. SEA moves the environmental review process back to the early planning phase, so that fundamentally different alternatives for addressing the same mobility and air quality issues can be explored.

At the most basic level, the problem is the lack of a coherent and popular vision for how to solve Mexico City's transportation and air quality problems, or even a procedure for developing such a vision. SEA can be used as a tool to build a public dialog around a future transportation vision.

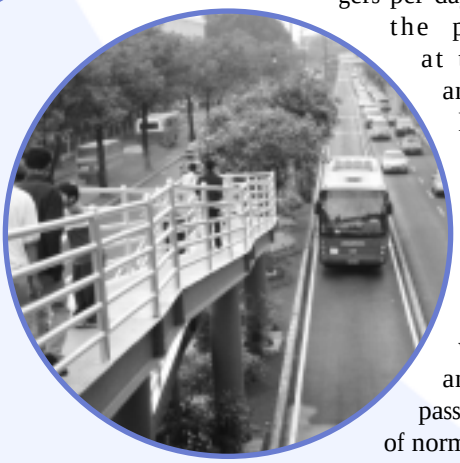
While tighter environmental review and planning requirements have been an important safeguard against potentially damaging highway projects in the US and Europe, this purely reactive strategy is provoking a political backlash. In the US, the groundbreaking Clean Air Act Ammendments of 1990, and the Intermodal Surface Transportation Efficiency Act of 1990, are both under attack, and many of their most important provisions undermined by executive orders in the name of 'environmental streamlining.' While the politicies of the current administration and their backers are largely to blame, without a compelling vision of an alternative, motorists stuck in congestion simply want more roads. While SEA in Europe is gaining acceptance, and comes into effect this year, in England many highways that were killed under the Labor Government by years of hard fought advocacy are back on line, even under the same Labor Government. Only the leadership of London Mayor Ken Livingstone, implementing congestion charging and dramatic improvements in public space, has stemmed the resurgence of the British highway lobby for now.

Mexico City's Mayor, Andrés Manuel López Obrador is not inherently pro-highway. He is a typical politician who desperately needs to deliver success on the congestion issue to his voters. By and large, the Segundo Piso highway is popular, and it has helped the popularity of the Mayor. But the Mayor is also pushing boldly ahead with a new pilot Bus Rapid Transit plan on Avenida Insurgentes, one of the most important commercial streets, and he was the first Mayor to build a significant backbone network of bicycle paths in Mexico City.

Ultimately, the best defense is a good offense. EnriquePeñalosa, in Bogotá, killed a major Japanese-initiated orbital motorway mainly with a clearly articulated alternative vision. This vision was not only to build busways and bikeways and restrain traffic, it was also to use the money saved to build libraries, schools, public parks and playgrounds. Only a pro-active alternative vision can steal the thunder away from a politician with limited political creativity who proposes to repeat the mistakes of the past, building a massive urban highway. ❖

Mexico City is also planning a BRT system and has constructed a network of bicycle paths, like the one shown above.

BRT's Great Leap



The Bus Rapid Transit phenomenon continues to expand rapidly across the world. Jakarta opened a ground-breaking system in January of 2004 and new systems are soon to open in a dozen cities from Latin America to Asia. Many more cities are in the planning process, or committed to designing their own BRT system. Never has the donor community, technical experts, NGOs, and a growing number of Mayors of developing countries been so unified around an approach to the pressing problems of explosive private motor vehicle use, congestion, and pollution. Technical experts now generally agree on the best methodology and tools to plan and design a successful system. As ITDP supports cities in the development of BRT, institutional, legal, and regulatory issues have become a major challenge.

Jakarta, Indonesia

TransJakarta, which opened in January of 2004, is the first full BRT to be constructed in Asia. Other than commuter rail, it is the first mass transit system ever built in Indonesia. The system is 12.9 kilometers, and operates on the most prestigious North-South corridor in the city center, connecting two major bus terminals. The system is currently carrying roughly 60,000 passengers per day, about 4000 in the peak direction at the peak hour, and about 1.5 million passengers a month. Some 13% of the passengers previously made the same trip using a private motor vehicle or a taxi, and the rest of the passengers were users of normal buses.

Already a second east-west line is scheduled to open in 2005, then expanded further west to a large bus terminal and further east to a new terminal in 2006. Phase I cost roughly $6 million, and Phase II is expected to cost roughly $35.6 million, which includes some improvements on the first corridor.

ITDP has provided technical support to DKI Jakarta during its planning process. Technical control of the project was under its existing Municipal Transportation Agency, which also earns revenue from normal bus route licenses. Because the success of the busway threatens to lower their revenue from traditional route licenses, this conflict of interest may have somewhat compromised the public interest on key design issues.

Several things would have increased ridership on TransJakarta. Capacity is limited because stations and buses only have one door. The buses therefore tend to queue at the station stops, particularly at the terminals. The transportation agency was made aware of this problem in the early planning stages but did not choose to address the problem. It appears the mistake will now be repeated in the second corridor. The demand on the system is also much lower than it could be, capturing only about 1/3 of the existing transit riders in the corridor, largely because no feeder bus system was planned. An effort to set up a feeder bus system failed for institutional resasons. As a result, some 2/3 of the transit passengers in the corridor still use normal buses which congest the mixed traffic lanes.

Ignoring recommendations to have bus operators buy their own buses, the transportation agency procured them

Photos:
Top: Contraflow buslane in China;
Bottom three: TransJakarta, Asia's first full BRT.

Forward

directly without a competitive bid. This resulted in buses that are heavier than they need to be, needlessly damaging the road bed, more expensive, less fuel efficient, and more polluting. The ticketing system, also procured by the agency, has never worked well because the ticketing equipment was bought from a dubious supplier. Then the state bus regulator, BP TransJakarta, hired a separate company to operate the system but when the equipment didn't work they were unable to fix it.

Jakarta also contracted its bus operations to PT JET, a consortium largely constituted from the bus and taxi operators in the corridor, without a competitive bid. As a result, the cost per kilometer paid by the municipality is higher than it should be. Since PT JET had never run a modern bus operation, they had no experience with formal bus scheduling or formalized labor practices.

Delhi and Hyderbad, India

Delhi is preparing what is being called a 'High Capacity Bus System,' or HCBS. Delhi's HCBS was initially proposed by the Indian Institute of Technology's Transportation Research and Injury Prevention Program (IIT-TRIPP), which still maintains final say on the technical designs. ITDP has been providing technical support on an as-needed basis. Delhi's HCBS will be an 'open' busway using mostly normal buses that will operate on 7 corridors currently not slated for metro lines.

In January of 2004, the Delhi Government approved the funds for completing the technical designs on all seven corridors, and for some 10 prototype 'high capacity' low floor buses. The detailed technical designs and detailed costing for the first corridor were completed by the IIT-TRIPP and RITES, an engineering firm, in January of 2004. The final funding for the first 5.9 km. corridor, roughly $8 million, was approved in August of 2004. Construction is scheduled to begin in early 2005.

The Delhi system is not really a full BRT system in that it does not have closed, pre-paid boarding stations, did not involve a rerouting of existing bus routes to a trunk and feeder system, and does not involve shifting bus operators to a payment per bus kilometer basis. It does have some unique features, however. The attention to high quality pedestrian and cycling facilities, and the integration of cycle rickshaw parking and vendor sites into the physical design are unique and groundbreaking. The separation of bicycle and other non-motorized vehicle traffic from boarding and alighting bus passengers alone is responsible for a large part of the projected improvement in bus speeds.

Top: Prototype of high capacity low floor bus developed by Tata Telco for Delhi HCBS. Bottom: Preliminary HCBS plans provide groundbreaking space for pedestrians and cyclists

In Hyderabad, a pre-feasibility study was completed in December of 2004, and the concept was presented to the Chief Minister by former Bogotá Mayor Enrique Peñalosa and ITDP Director Walter Hook on December 9. It looks like Hyderabad will opt for a full BRT system, with platform level boarding at special stations, integrated with special feeder buses able to operate on and off the BRT trunk corridor. The Chief Minister is expected to give the go ahead for the first corridor in the coming months.

China

Bus Rapid Transit in China has taken great strides in 2004. The National Ministry of Construction has officially endorsed busways in Chinese cities. In May, Chinese Vice Minister of Construction Qiu Baoxing announced that in the next five years, all local governments will build more dedicated busways and other bus priority measures in urban areas. Premier Wen also endorsed public transport priority, and a State Council Policy was issued on Promoting BRT Development in Chinese Cities.

Beijing's new 16km busway system will begin operation this year. Guangzhou, Shanghai, Chengdu, Chongqing, Xi'an, Kunming, Shenyang, Hangzhou and Shijiazhuang are all engaged in various stages of BRT planning.

Many of these developments are the result of efforts by the Hewlett Foundation and the Beijing Energy Foundation to promote BRT in China. The World Bank is preparing a large scale GEF project in cooperation with the Ministry of Construction to assist cities developing BRT systems. The World Bank was responsible for the new center-lane busway in Shejiazhuang, WRI's Embarq is the lead

continued on p. 26

bottom image: IIT-TRIPP

BRT's Great Leap Forward

continued from p. 25

party in Shanghai, and ITDP and the World Bank in Guangzhou.

–Beijing

Operations on Beijing's 16 km corridor from Qianmen southward past the 5th ring road will begin in December, although initially the buses will operate in mixed traffic in the congested portion of the route from Tiantan to Qianmen. Fares will be collected as passengers enter the stations, before boarding the buses, making Beijing the second 'closed' BRT system outside Latin America (the first was the TransJakarta Busway, which opened in February).

The BRT line, with space currently allocated for 2 lanes per direction for most of the route, has been incorporated into a massive new road corridor project which includes six large transit hubs. Passengers will access the stations via tunnels, bridges or at grade crossing.

The first of a fleet of fifty low floor CNG buses have been purchased, which will eventually be expanded to eighty buses. Operations planning has been entrusted to the main, state-owned bus operator in Beijing, which will be the monopoly operator of the new system.

Beijing plans to have 100km of BRT corridors operating in time for the 2008 Olympics. Later BRT corridors will serve the Olympic Park area to the north of the city center. Overall bus capacity will be increased by a billion riders. The city also plans to expand capacity on its subway by 400%, in addition to building a separate Olympic subway system.

–Chengdu

Chengdu, famous for its tea houses and relaxed lifestyles, and a 44% mode share for bicycles, probably has the highest level of political commitment to BRT of all Chinese cities besides Beijing. Indeed, the project may suffer from the widespread support for BRT, with detailed planning currently being undertaken by no less than three different agencies, in three different locations.

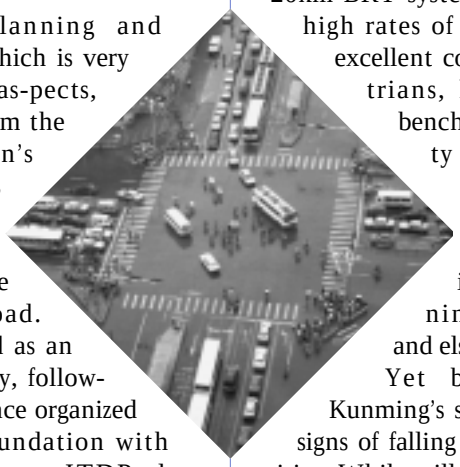
The Urban Planning and Design Institute, which is very strong on design as-pects, and has support from the Energy Foundation's Beijing Office, is leading the planning for a BRT system on the second ring road. Originally planned as an elevated expressway, following a BRT conference organized by the Energy Foundation with contributions from ITDP last December, city planners agreed to revise the designs to instead accommodate BRT. Under pressure to implement the system, commendable designs were developed, but issues including station access and integration with other transit services have not been worked out. In August the Construction Commission postponed implementation for another year, even though physical construction work on the second ring road will begin in December 2004.

A local University, meanwhile, is conducting detailed BRT planning for a newly opened east-west corridor in Chengdu. Yet a third municipal institute has developed plans for BRT on a North-South corridor in Chengdu. These plans are somewhat controversial because a metro system is being discussed for the same corridor, and because new land acquisition may be required in some locations.

Although all three plans are for "closed" Curitiba-style BRT systems, they seem to have been developed largely in isolation of each other, which indicates a risk of future coordination and integration problems. The level of political support for each of these projects remains unclear.

–Kunming

Kunming's transport planners, led by the newly established Urban Transportation Institute, have been amongst the transport planning leaders in China since opening a median bus-lane BRT system in 1999. Kunming's 20km BRT system, combined with high rates of bicycle usage and excellent conditions for pedestrians, has provided the benchmark for bus priority in China and has been imitated in cities such as Shijiazhuang and in bus priority planning in Guangzhou and elsewhere.



Yet by August 2004 Kunming's system was showing signs of falling behind some other cities. While still performing reasonably, with high flows of bus passenger, bicycles and pedestrians all in the same corridor and without meaningful con-

Top: With 44% of its traffic moving by bicycle, Chengdu's BRT plans should provide ample space for cyclists

Bottom: Once a pioneer in BRT, Kunming's system has several problems, including buses queuing at stations

Top photo: Karl Fjellstrom

flicts, political support for the city's groundbreaking median buslane BRT system has waned. Cars are routinely directed by traffic police into the bus lanes. Queues of up to 15 buses form at stations in the peak period, as around 20 different bus routes converge on one BRT corridor. Kunming's Urban Transport Institute is currently planning to upgrade the capacity, performance and image of Kunming's median buslane system, however, much will depend on decisions made by the city's new leadership.

– Xi'an

Xi'an is seeking authorization of the central government for investing in a metro. Officials recognize the potential of BRT in meeting the mass transit needs of the city – in which demand is fairly dispersed amongst several corridors – and privately acknowledge that metro ridership projections may be based on questionable ridership estimates. Nevertheless, BRT remains off-limits until a decision is made on the metro. A team has been established at Chang'an University to carry out preliminary BRT planning with the support of the Energy Foundation, and a preliminary network concept has been elaborated.

– Shanghai

In Shanghai, a BRT Network is under planning with support from EMBARQ and the World Resources Institute, but is yet to receive high level political commitment. A feasibility study of BRT conducted for the middle ring road – an elevated expressway – is currently being considered. Since this road is not congested and may not correspond to many existing bus routes, the time savings benefits, and hence the demand on this route, may not be enough to make the system financially viable.

BRT in Pudong South Road is also under planning and is considered part of a BRT network for the World Expo 2010. This corridor is reasonable and would serve a rapidly growing area. BRT is also being considered for new towns.

Rio de Janeiro, Brazil

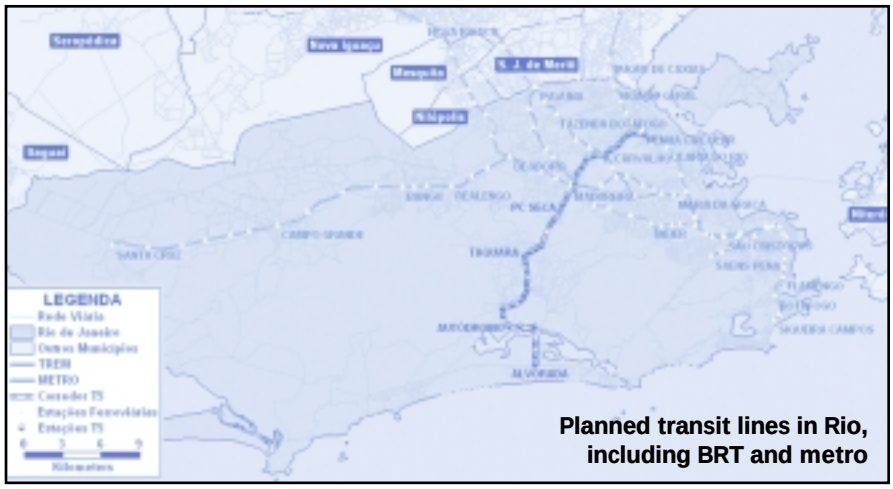
Though Rio de Janeiro's original plans for Riobus were stalled, they were reinvigorated after the city was chosen to host the 2007 Pan American Games. As first conceived, the project called for very low-grade, curb-side bus lanes; a far cry from true Bus Rapid Transit quality. The project was abandoned when Mayor Cesar Maia took office, who favored two new metro lines. Another, partially parallel metro line was also being planned by the State of Rio.

As a condition of hosting the Pan American Games, however, the Pan American Sports Organization (PASO) requires that transportation needs be met. The Brazilian Government has awarded a line of credit in the amount of US$120 million to construct the sports village in Barra da Tijuca. Transit trips from the Center to Barra da Tijuca is one of the fastest growing traffic problems of the city, and a major concern to PASO. It quickly became clear that a metro was never going to be able to resolve this transportation issue in time for the Pan American Games.

ITDP joined forces with private bus firms at several public forums in opposing the metro line and possible roadway expansion between the Barra de Tijuca and downtown. The technological options chosen in the project, the routing of the lines, and the lack of sufficient demand studies, make the project an ineffective and even problematic addition to the public transit network in Rio. The team instead proposed an alternative system based around a network of BRT corridors, which would be much more cost-effective and meet all of the capacity requirements.

While it appears that the metro plans are still moving forward, because the city will be unable to build a metro system or any other system to serve the airport to the center to Barra da Tijuca trip in time for the games, the Mayor was also convinced to develop a BRT plan for this corridor, now called the T5 corridor. The corridor passes through some very low income areas, which will also be served by the system.

This effort led to the Municipality issuing the terms of reference to develop a detailed plan for BRT, contracted to the engineering firm Logit. ITDP, in cooperation with Logit, has done a preliminary evaluation of the possibility of incorporating bicycle infrastructure into the BRT plan, and the idea has been raised with the Secretary for the Municipality of Rio de Janeiro. If the Secretary approves this, ITDP expert Michael King will evaluate the preliminary designs and incorporate them into ongoing bicycle infrastructure plans under the supervision of the ministry of urbanism.



Planned transit lines in Rio, including BRT and metro

Cape Town, South Africa

Plans for Bus Rapid Transit have fallen slightly behind schedule in Cape Town due to recent political changes.

continued on p. 28

BRT's Great Leap Forward

continued from p. 27

In April 2004, the Western Cape elected a new premier and the administration chose a new Minister for Public Works and Transport, Mcebisi Skwatsha. Plans were reinvigorated during a recent trip to Bogotá to study TransMilenio, however, and the planning team is ready to begin the environmental assessment, finalize technical designs, and plan their public participation and public relations campaigns.

Cape Town's planned system is unique because it envisions nine BRT corridors as part of a larger mobility strategy that seeks to create an integrated transport system. A draft report detailing the scenarios for Phase One has just been released for comment. The first phase is focused on Klipfontein Road, which is 23 km long with an estimated demand level between 5,000 and 7,000 per peak hour. A major goal of the project is to integrate existing bus transit, new Bus Rapid Transit service, and the city's rail system, in addition to bicycle and pedestrian feeder systems.

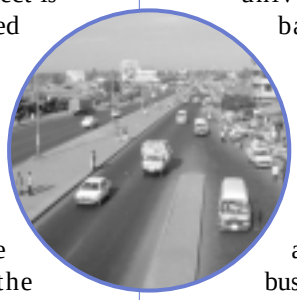
As part of its mobility strategy and in preparation for Velo Mondial's international conference being held in Cape Town in 2006, the City is examining

2.5 kilometers on each side of the corridor to integrate NMT access. In addition, the City has divided the corridor into five main areas in which bicycle and pedestrian planning are being created as feeders into the system and connect the adjacent communities to the Corridor. The city is hoping to complete two pilot projects in each of the five areas by 2006.

top: Cape Town celebrated its Car-Free Days on the corridor where BRT is planned. bottom: Planned corridor on Morogoro Road, Dar es Salaam

Dar es Salaam, Tanzania

Dar es Salaam's BRT project is rapidly moving to the detailed design stage. The project enjoys the full support of the Mayor, the District Governments, and the National Government. The World Bank is financing the planning for the entire BRT network and the detailed engineering of the first corridor. ITDP has secured a grant from the UNEP Global Environmental Facility to handle the legal, financial, and institutional planning of the system, the non-motorized transport feeder system, and capacity building for the municipal government to plan and operate the system. The first corridor is likely to connect the intercity bus terminal in Ubungo to the Ferry Terminal, following Morogoro Road through the city center, around 10km, though it may also continue on to the Mwenge bus terminal.



Mexico City, Mexico

The Mayor of Mexico City, Andrés Manuel López Obrador has green lighted the construction of "Metrobus", a BRT-like system. Despite the fact that the first phase was planned with two corridors, Insurgentes and Eje 8, only the Insurgentes corridor will be built. Even though the Eje 8's infrastructure designs have been finished, the mayor indicated that he will not leave any unfinished project and thus will only build Insurgentes under his administration (López Obrador may leave office as early as September 2005 to run for Mexico's Presidency). There is a high probability that Mexico City will end up having only one corridor.

The 19.7-kilometer long corridor on Insurgentes will run from Indios Verdes to El Relox, at an estimated cost per kilometer is $ 1.2 million. The project had planned to have a station at the UNAM (the largest Mexican University) which is about 500 meters south of El Relox. However, the university's president refused to allow construction of the corridor, affecting hundreds of students who would have benefited. Thus, empty buses will go to the university to make the turn back to the north. The Insurgentes Metrobus will operate with 60 buses, 40 owned by private bus operators, who are currently the main concessionaries of Insurgentes, and 20 publicly-owned buses, operated by RTP (Red de Transporte de Pasajeros). The corridor is expected to start operating by the second half of 2005.

ITDP sent Michael King, an NMT expert, to advise the consultants that developed the infrastructure design studies. Some of Michael King's suggestions were incorporated into the final study, including measures to improve safety for pedestrians and the replacement of planned pedestrian bridges with at-grade crossings. ITDP is co-sponsoring a two-week training course for the Metrobus Operations Manager at TransMilenio, Bogotá's BRT system.

Guayaquil, Ecuador

Guayaquil, Ecuador has planned a five-corridor, closed BRT system that is now under construction. The first line will open for operation in July, 2005. The 15.5 km line will connect two major terminals in the north and south of the city. It will be served by seven feeder routes in the south and eight in the north. At an average distance of 400-500 meters apart, 36 new closed stations are being constructed. Raised-platform articulated buses with three doors have been chosen, which carry 160 passengers. The project's second and third phases, each which will add a new trunk line, are planned for completion in 2006 and 2007. Cesar Arias, the designer of the Quito system, has been a key consultant in the project. ❖

Contributing: Karl Fjellstrom, Oscar Edmundo Diaz, Aimee Gauthier

Saving Lives

continued from p. 11

ber of people affected with AIDS, and reducing the number of women dying during childbirth by two-thirds. Although these targets cannot be met without transport-sector interventions, no specific transport targets were spelled out. Donors and governments now face difficult choices about how best to use scarce funds.

The Millennium Project, which is making recommendations to Secretary General Kofi Annan about how best to meet the development goals, has until recently tried to overcome the lack of transport-specific targets by focusing primarily on the provision of rural roads. But experience indicates that road building is not always the best use of scarce resources for directly meeting mobility needs. Studies indicate that more than 80 percent of Africa's elevated transport costs are due to the road transport service industry, the vehicle industry, and the tariff and tax structure, rather than due to poor roads.

For community-based care, one trained medical officer may be responsible for hundreds of volunteers and community care givers. While better roads help doctors and nurses with motor vehicles reach more patients faster and while populations with access to motorized ambulatory vehicles reach emergency care quicker, road conditions matter much less to the hundreds of nurses and volunteers who are currently walking for most of their trips.

Rather than focusing primarily on road building, the health sector should first ensure they have a sustainable and affordable supply of appropriate vehicles, whether all-terrain four wheel drives, motorcycles, or mountain bikes. Road infrastructure, meanwhile, should be gradually improved at a pace that does not drive the country deeper into debt.

Based on the first two years of the Access Africa program, we now have the information and bicycle procurement mechanisms in place to develop programs that can be scaled up to meet the health care Millennium Development Goals in a country-specific context. ❖

California Bike

continued from p. 17

relationship with them. The California Bike Coalition, by importing the bike directly and then allowing shop keepers to sell them on consignment, is able to minimize this credit risk.

The bicycle itself is also critical to success. The California Bike, designed by Trek Bicycle Corporation in conjunction with ITDP NMT Technical Director Matteo Martignoni, is a six-speed mountain bicycle specifically designed for the urban African utilitarian cyclist. The quality of the bicycle and its components, coupled with its durability, has attracted enough buyers to sell 70% of the initial shipment in one year.

In addition to showing that there is demand for this type of bicycle, ITDP has collected valuable data about the market demand for bicycles in these cities, and worked to strengthen the local bicycle retail sector. Currently, approximately 80 bicycles per month are being sold through various mechanisms, meaning the first shipment will be exhausted by January 2005.

In Senegal, the average wholesale price of the California Bike is higher than the other two countries because of high tariffs and value added taxes. Although the price is about $20 higher than the cheap low-end mountain bikes, most of the 320 California Bikes have already been sold through independent bicycle dealers.

In Ghana, the best avenue for selling bicycles has been through private companies that have set up employee purchase programs. At an average price only $5 higher than the average cost of a low-quality mountain bicycle, it is still out of reach for many wage earners. Companies including Cowbell Milk and Tropo Farms have worked with ITDP to allow workers to pay for the California Bikes over time, through monthly paycheck deductions. In Ghana, 2/3 of the 640 bicycles have been sold, 60% through this method, 10% sold to NGOs, 9% through independent bicycle retailers, and the remainder through a variety of smaller sales.

In South Africa, 60% of the 960 bicycles shipped have sold at a price comparable to the cost of lower-quality mountain bikes. In South Africa, 23%

One of the mechanics at ABACED, a local nonprofit in Dakar, works on truing a wheel.

of the bicycles have been sold to private businesses for employee purchase programs, 20% to the South African government for its workers, 20% to other NGOs, and 9% through independent

continued on p. 30

new titles

Accessible Pedestrian Signals: Synthesis and Guide to Best Practices. Barlow, J, Bentzen, B, & Tabor, L. 2003. www.walkinginfo.org/aps

American Metropolitics, the New Suburban Reality. Myron Orfield. 2002.

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Online Resources

Bicycling Empowerment Network: www.benbikes.org.za

The Commons Open Society Sustainability Initiative: www.ecoplan.org

Interface for Cycling Expertise (I-CE): www.cycling.nl

Sustainable Urban Transport Project: www.sutp.org

Velo Mondial: www.velomondial2006.com

World Carfree Network: www.worldcarfree.net

California Bike

continued from p. 29

bicycle retailers supported by our partner organization, the Bicycling Empowerment Network.

Manufacturing and Expansion

Based on the success of sales in Ghana, Senegal and South Africa, the California Bike Cooperative is currently planning for the next shipment of bicycles. The next phase of the CBC will probably increase the local labor content of the bicycles by importing Completely Knocked Down (CKD) bicycles into South Africa and Ghana, and branching out into Tanzania.

The program in Senegal will become a pilot project for doing partial manufacturing, painting and assembly in-country, likely in cooperation with the ISENCY factory in Kaolack. ITDP visited the factory in July to assess its capacity and determined that not only would this be possible, it would dramatically reduce the cost of the bicycle and increase local employment.

African countries are unlikely to become automobile manufacturers in the short term. The possibility for bicycle assembly and manufacturing is plausible, as China's labor costs rise, if partnerships are formed with companies like Trek, Fuji, or Shimano. Developing the local market, gradually increasing the local labor content, and establishing brand names with a reputation for quality, will eventually attract the investment needed to move manufacturing to Africa. In addition to providing jobs and economic growth, bicycle manufacturing could also play a crucial role in reducing Africa's dependence on imported oil and vehicles. ❖

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Washington, D.C.
www.trb.org/meeting

Tour D'Afrique 2005
January 15 – May 14, 2005
Cairo, Eqypt to Cape Town, South Africa
Contact: Tour D'Afrique Ltd.
Phone: 416 364-8255
Fax: 416 364-0058
E-mail: info@tourdafrique.com
www.tourdafrique.com

Cape Epic
April 2-5, 2005
Western Cape, South Africa
Organizer: Cape Epic, presented by adidas
Contact: Kevin Vermaak
Phone: +27 (021) 4264373
Email: kevin@cape-epic.com

American Planning Association National Conference
April 2-6, 2005
San Francisco, California
Organizer: American Planning Association
www.planning.org

Life in the Urban Landscape: International Conference for Integrating Urban Knowledge & Practice
May 30-June 4, 2005
Gothenburg, Sweden
Organizer: Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (Formas)
www.planum.net/showspace/urbanlife2005.htm

International Cities, Town Centres & Communities (ICTC) Conference,
May 31-June 3, 2005
Queensland, Australia
Organizers: International Cities, Town Centres Society,Yeppoon
Contact: Renee Henshaw,
Phone: 07 3371 0333
E-mail: mail@ictcsociety.org
www.ictcsociety.org

European Mobility Week
September 16-22, 2005
www.22september.org

Lessons from Bogotá

continued from p. 5

ship restored civility and citizenship. He understood that democracy was not just about voting, that happiness was not just about consuming. The revitalization of indigenous urban culture through the recuperation of public space and urban citizenship is neither left nor right, neither democratic nor republican.

Peñalosa used the powers of the state to directly improve the everyday life of rich and poor alike, while simultaneously creating the conditions of stability that have reduced dramatically the risks to private investors. By canceling a massive ring road and using the money in working class neighborhoods for public parks, public schools, bike lanes, low income housing, and public libraries designed by great architects, he created public space that dignified working people. He created a public sphere where human interaction can occur on a daily basis between rich and poor, without the constant mediation of the market, without the constant reminders of class robbing the working person of their dignity.

Bike lanes, bus rapid transit, public space, congestion charging, these are not 'left' or 'right' concepts, they are 'urban' concepts. They are tools to create a viable democratic urban culture in the context of global capitalism. Bogotá's TransMilenio is a model of how the state can create the conditions where buses are well run, and well managed, to the benefit of the public, but by highly profitable private businesses. But it is also a way for the rich businessman and the poor janitor go to work together and both feel good about it. His low income housing program made housing affordable by the state taking control of the land, then allowing private developers to build and sell the housing at a reasonable profit.Peñalosa, in short, used the state to create a space within which urban culture could thrive side by side with investors and businessmen, to allow that city to become a nice place to live while remaining a competitive node of production in an inescapably globalized marketplace.

While tens of thousands of people are working to humanize the world's cities, few recognize how central this effort is to the struggle for the world's soul. Despite 75,000 signatures to close the loop drive in Central Park and return that park to Olmstead's original vision, the Mayor of New York says 'not over my dead body.' Peñalosa's idea for New York was to turn Broadway from Times Square to City Hall into a pedestrian zone, or into a Boulevard that would compare to Las Ramblas in Barcelona. No one in New York City politics currently has the political vision.

Humanizing the world's cities, revitalizing or creating thriving urban cultures, won't replace the unions, it won't solve the health care crisis or the social security crisis, or raise the minimum wage. But when rich and poor, whites and blacks and latinos and Asians, gays and lesbians and heterosexuals, see each other in the streets every day, on the bus, and in parks, perhaps it makes people feel less divided. Perhaps people hate each other a little less. It is this vision of a democratic and sustainable urban culture that motivates me. It is a vision that is desperately lacking both abroad and here in America. This vision is not marginal to the conflicts of our day: it is ground zero in the battleground between humanism and fanaticism. In a small way, perhaps we can begin to heal the cultural civil war that has broken out not only in our country, but all over the world, with such dangerous and explosive force. As we move into the 21st Century, this is what motivates me. ❖

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