

# SUSTAINABLE *TRANSPORT*

Number 8

Winter 1998

## Upward Mobility in South Africa

Central Europe:  
Notes from  
the Underground  
p. 4

GEF's Transport  
Project in Tehran  
p. 10



South Africa's Workbike Project  
p. 8

# Organizing Pedestrians, Cyclists, and Bus Passengers

## *It's a Matter of Life and Breath*

### *Letter from the Executive Director*

While bicycling through Prospect Park, Brooklyn on a Saturday morning this past July, my path was blocked by the yellow police tape of a crime scene. Behind it, flecks of blood on a dented van, long skid marks, a detective surveying the scene. The following Monday I learned that the driver of the van, who was taking a "short cut" through the park on a car-free road at 65 kilometers per hour with a cracked windshield, was given a \$45 ticket for his negligence. I also learned that Rachel Fruchter, the bicyclist he hit, died.

Dr. Rachel Fruchter was an eminent physician and AIDS researcher. Transportation Alternatives, our local partners who are campaigning for car-free parks, organized a vigil at City Hall, not only for Dr. Fruchter, but also for the over 180 less well-known pedestrians and cyclists killed by motorists on the streets of New York each year.

In New York, as in most major cities, there are some crazy bicyclists and some crazy drivers. But while heedless bicyclists primarily endanger themselves, drivers are operating a potential murder weapon. On a residential street in Brooklyn, I saw an old man thrown into the air and killed by a motorist going nearly 100 kph. Last week I saw a small child dart into the road after a rubber ball, only narrowly averting death. Arcane state laws make traffic calming illegal in New York City, as roads have to be designed to accommodate minimum speed limits. The punishment for manslaughter by car is a minor traffic citation.

The problem is not only America's. Affordable transport is threatened in South Africa by terror perpetrated by a paratransit industry which sees the bicycle, correctly, as a threat to their monopoly. Worldwide, women cyclists are threatened with physical violence from their male partners fearful of the greater autonomy a bicycle affords. In Managua,

most bicyclists fear for their lives and thus refuse to operate them on most major roads. Being struck by a motor vehicle is likely to be the second leading cause of death in developing countries by the year 2020, according to the World Health Organization.

Transportation is not a free market. Private motor vehicles dominate because they make the streets too polluted and dangerous for non-motorized alternatives,



*Lightening the load of the poor in India*

and because they pay nothing for the extra road space they consume. The fear and anger that we pedestrians and cyclists feel every day at being treated as second class citizens, when one of our friends is killed, or after we've languished in bed with asthma or bronchitis, occasionally boils over— as it did at the Critical Mass ride in San Francisco this year. This anger can be destructive, or it can be channeled into the increasingly popular citizens' movements for sustainable and safe transport.

ITDP promotes safer and more

livable cities by providing technical assistance to sustainable transport campaigns in developing countries and in Central and Eastern Europe, redirecting the funding of major development institutions towards more sustainable transport projects, and sponsoring demonstration projects which show how scarce development dollars could be better spent.

### **Demonstration Projects**

In India, ITDP's USAID-funded cycle rickshaw improvement project is underway, teaming American human-powered vehicle designers with veteran engineers from the Asian Institute for Transport Development. In Delhi we have contacts with the operators, owners, and manufacturers of cycle rickshaws and are preparing a modernized yet low-cost vehicle based on their input. In Agra, we are designing a high-end vehicle to the specifications of the Tourist Promotion Board that will protect the Taj Mahal area from smoke-belching vehicles, and will demonstrate the technical and commercial potential of human-powered technologies. ITDP's team will arrive in Delhi and Agra in January.

In South Africa, ITDP's demonstration project in cooperation with Mondi Recycling, funded by the International Foundation and the Tucker Foundation, gave workbikes to the collectors of recycled materials. The workbikes increased the income of their workers by two to three times, and convinced Mondi to expand their fleet of workbikes to three other sites. The project also helped to convince several other small businesses in Johannesburg and Soweto to use workbikes for various service sector jobs, and Coca-Cola is considering setting up a beverage distribution facility using workbikes. Also, a container of recycled US bikes is en-route to the African Cultural Center in Soweto, where we will be

# Contents

Number 8

Winter 1998

## Articles:

|  |    |
|--|----|
| Budapest Metro: Trojan Horse from European Union | 4  |
| Prague Threatened by Auto Mania                  | 5  |
| Managua Plans to Bike Around Transport Pitfalls  | 6  |
| Making Bikes Work for South Africa               | 8  |
| Tehran Clears the Air                            | 10 |
| Jakarta: A City in Crisis                        | 14 |
| The Trans-Israel Highway: An Update              | 19 |

## Features:

|                                       |    |
|---------------------------------------|----|
| Letter from ITDP's Executive Director | 2  |
| News Briefs                           | 12 |
| New Titles                            | 22 |
| Bulletin Board                        | 23 |

establishing a repair and storage facility in early 1998.

In early 1998, ITDP and the Association of Mozambican Women (AMRU) will also implement the World Bank's first Mozambican non-motorized transport promotion project. The project includes low interest loans for purchasing bicycles, training in importing and assembly, and training for city traffic officials in bicycle planning, safety, and promotion.

### Technical Assistance to Sustainable Transport Campaigns

In Central and Eastern Europe, thanks to support from the Rockefeller Brothers Fund, ITDP's work with the Hungarian Clean Air Action Group has substantially delayed the construction of a major unneeded highway between Budapest and the Ukrainian border where the highway threatens a parallel rail corridor— thus freeing up funds for rail, public transport, and debt relief. It also initiated a major public debate in the newspapers over the Municipality of Budapest's expensive plans to build a fourth line of the Metro (See article).

ITDP also worked closely with the Polish Ecological Transport Campaign,

which published a major article on the cover of a major Warsaw daily paper pointing out that the privatization of the highways in Poland allows private investors to profit at taxpayers' expense. The Campaign is making enormous gains in empowering people threatened with relocation from highway projects, forcing Poland's motorway development policy to be much more democratic.

In Southeast Asia, thanks to support from Changing Horizons of the Tides Foundation and the New Land Foundation, ITDP is providing technical assistance to the national chapters of the Sustainable Transport Action Coalition for Asia and the Pacific Rim. We're also working with the Philippines Sustainable Transport Forum to organize key participants into a national campaign. In Indonesia, we developed relations with the Indonesian Transport Society which will hold a forum on non-motorized transport, and laid the groundwork for a Sustainable Transport Coalition there. In Kuala Lumpur, Malaysia, ITDP and SUS-TRAN made television appearances and addressed ISIS, a major think tank, on the economic disadvantages of auto-depend-

*continued on p. 16*

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ITDP is a non-profit research, dissemination, and project-implementing agency which seeks to promote the use of non-motorized vehicles (NMVs) and 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.

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**NOTES** *from the* **UNDERGROUND***Budapest Metro Expansion:*  
**Trojan Horse from the European Union**

by Walter Hook

Environmentalists and citizens groups opposing the Budapest Metro plans? You read it correctly. After a careful look, Hungary's Clean Air Action Group (CAAG) came out in opposition to ambitious plans to build a 4th Metro Line with funds from the European Investment Bank (EIB) and other European Union (EU) funds.

The line is estimated to cost some \$700 million, or around \$100 million a year. The national government signed an agreement with Budapest to fund 60% of the estimated cost, but it is unclear who will pick up the additional bill in the case of almost certain cost overruns. The funds from the Municipality would come from revenues owed to Budapest from the National government for the privatization of land in the capital. The Ministry of Transport, recently informed by the Ministry of Finance that its share of the funds would come directly out of their budget, has cut their development funds for this year in a sign of growing concern about the costs.

CAAG activists question why both the Municipality of Budapest and the National Government are able to find \$100 million a year to improve transport service for the only 5% of the public transit riders that will be served by the new metro, while they don't seem to have the money to cover the \$64 million a year that the Budapest Transit Authority (BKV) needs to bring the existing system into good working order, or to slow the dramatic increase in fares, which were raised another 16% above the inflation rate this year alone. Unlike in Prague where metro construction was not done at the expense of the surface system, Budapest passengers board buses that are 9% more crowd-

ed than last year due to a 5% reduction in the vehicle fleet and a 7% reduction of the network. The fleet has continued to age,

*"Waiting for Metro?": Tram improvements delayed for decades*

with buses now nearly 10 years old on average, compared to 5 in Prague. With service declining and prices rising dramatically, it's no wonder that riders are leaving the system in droves; ridership is down 5% in the last year alone.

BKV admits that the project will bring no new revenue to the system despite its enormous cost. Not only does the metro project spell financial disaster for BKV, but the passengers are likely to pick up most of the price tag in the form of higher fares. While the Municipality has set up a separate company to build the metro line, as a wholly owned subsidiary, the depreciation of the new capital stock alone will add an additional \$100

million to BKV's annual costs. BKV has a loan agreement with the World Bank that it will raise fare revenues sufficiently to cover 50% of its costs by the year 2000, and to maintain the system in good working order. For BKV to meet both the cost recovery target and the maintenance requirements implied by the World Bank loan, fares will have to be increased another some 87% by the year 2000. This would certainly further hurt ridership, but at least would bring the system into good working order. If the metro project goes

forward, however, fares would have to be increased by another 71% even if the Municipality and the National Government picked up the entirety of the construction costs, just to cover the increase in depreciation costs within the 50% cost recovery ratio. These conditions are a recipe for disaster for Budapest public transit.

One possibility mentioned by BKV is that it will simply cancel the balance of its loan from the World Bank, freeing it from the burdensome cost recovery targets. This would be unfortunate, however, as the World Bank funds have been used responsibly for upgrading of the rolling stock and tram tracks, and also leveraged

the enormous improvement in the downtown pedestrian environment as a result of a new parking control system. If the loan were canceled, it is likely that all surplus capital funds would be redirected towards the metro project, and rolling stock and track work on the rest of the system would stop.

There is some chance that the elections next year will change the National Government's attitude about the metro. While plans to spread contracts for metro construction around the country bolster national support for the project, and while the Budapest City Council voted nearly unanimously (all but one) in favor of the metro plans, as a promised 60% national government contribution made the plan quite attractive, residents from outside Budapest may wonder why so much of their tax revenues are being spent entirely in Budapest. The enormous national subsidies to the Prague metro were one of the major contentions of the Slovaks' decision to split from the Czech republic.

The CAAG has fought back with a well-orchestrated media campaign. They released to the press a letter from the World Bank to Mayor Demsky which called the project marginal and indicated that it represented a probable violation of the World Bank loan. The loan agreement also stipulated that no new capital projects with an economic rate of return (ERR) of less than 10% would be undertaken, and the ERR on this project was almost assuredly not this high if done correctly. The Mayor's office responded angrily to the release of the letter, claiming that it was unofficial. Meanwhile, it placed enormous political pressure on the World Bank to retract the letter. The Bank agreed to retract the letter, pending the results of the evaluation team. The evaluation team again found the project marginal and likely to violate the terms of the loan, but the release of the letter to the public was blocked at the Vice Presidential level of the World Bank under pressure from the Municipal Government.

CAAG, with ITDP technical support, then initiated a media campaign to link the highly unpopular fare increases with the metro plans. In interviews which ran in the major newspapers, the groups pointed out the likely impact on the fare of going forward with the metro project.

Once again, the nearly totally unac-

countable European Investment Bank is likely to agree to fund the project, despite its clear pitfalls and its violation of the World Bank loan agreement. While sup-

port from the EIB for public transit systems is a welcome evolution in their lending, this project would be an unfortunate place to start. ♦

## Prague Threatened by Auto-Mania

by John Pucher

For a while, it looked as though the Czech Republic might escape the worst aspects of Central Europe's rapid embrace of the automobile. Auto ownership rose by 28% from 1988 to 1992, but in contrast to other countries, public transit use continued to grow by 8%. Unfortunately, since 1992, car ownership increased another 30% nationally, and in Prague it doubled. Total distance travelled by car increased even faster than car ownership, almost doubling nationally from 1990 to 1996, greatly exacerbating congestion on Prague's streets. During morning and afternoon rush hours, traffic on key arteries often comes to a standstill. When they are moving, however, Prague's cars have become very dangerous indeed, killing 123 people in 1995, 31% more than in 1990.

While car ownership and use have burgeoned, virtually every kind of public transport has been losing riders since 1992 throughout the Czech Republic. Urban public transport lost 28% of its passengers in Czech cities overall, and 29% in the capital city of Prague between 1992 and 1996, its share of total trips tumbling from 75% to 60%. Long-distance railroad travel declined by 24% in the same period, and rural and intercity bus travel fell by 37%.

There are, however, some hopeful signs. Czech cities are not built to handle such high volumes of car traffic. The capacity of their roadway networks is limited, and the high density of urban development makes roadway expansion difficult. For example, construction of a major arterial in Prague was blocked by citizens groups and the Health

Department because of the adverse health effects of the projected increase in pollution. The old towns of many Czech cities are also protected by historic preservation laws, which may provide a bulwark against significant expansion of the urban road network. In Prague, for example, 8.6 sq.km of the city center has been a legally protected historic district since 1971.

Lack of parking may also provide a traffic constraint. In addition to limited street space, off-street parking garages are absent in Prague and every other Czech city. This could become a future battleground between motoring and pro-city interests. For now, most cars are simply parked in any way possible, legal or illegal, on sidewalks, on streets, in vacant lots, in squares, in roadway medians, in parks, and even on tram tracks, blocking transit and pedestrians and diminishing the unique charm of

Prague. Prague's most beautiful square (Malostranske Namesti) has been appropriated as a large parking lot for members of the National Parliament.

### The Role of Public Policy

Under the communist government, large central government subsidies made public transport service ubiquitous and inexpensive.

Moreover, both the socialist central government and the Prague municipal government undertook a range of measures to limit car use in the city center. Between 1971 to 1985, Prague became the first European city to establish traffic calming in its entire center. That

*continued on p. 17*

Prague's historical squares are turning into parking lots

## Nicaragua:

# Managua Plans to Bike Around Transport Pitfalls

by Deike Peters

In Nicaragua, with severe poverty and formal unemployment rates at 70% of the economically active population, affordable access and mobility are key to stimulating economic recovery. Natural disasters, economic crisis, and decades of political turmoil have inhibited motorization, giving Nicaragua a historic opportunity to develop a more sustainable transport system. These circumstances prompted the Central American University, several environmental organizations, and the Caritas Foundation, to invite ITDP to prepare a bike plan for Managua and organize a conference to discuss the plan.

ITDP's feasibility study found that, while current traffic realities are not conducive to cycling, sufficient potential exists for bike use in the capital to develop a bike network, and the political climate is favorable. At the Managua conference, "Sustainable Transport in Nicaragua," which ITDP co-hosted in late September, the Mayor's special technical advisor on transport infrastructure supported the bikeway plans, and the Ministry of Construction and Transport affirmed their openness to the plans as well. Japan's International Cooperation Agency (JICA), which in cooperation with Nicaraguan officials is currently preparing a US\$2 million 25-year integrated transport development plan for Managua, also attended the conference, praised ITDP's initiative, and affirmed that the conclusions and recommendations of the feasibility study were completely consistent with JICA's goals and objectives for Managua's future transport development. Representatives of environmental organizations and student union leaders attending the conference



*Public transit overcrowding in Managua*

spontaneously formed a "Sustainable Transport Group" to push forward the plans, and they have met several times since. The Central American University (UCA), one of the Co-Hosts of ITDP's conference, is also hoping to develop a plan to improve bike accessibility for students around their campus.

Support for bicycling in Nicaragua is not new. In the late eighties, facing a US-led Contra war, an oil embargo, and a rapidly deteriorating public transit fleet, the Nicaraguan government decided to promote bicycles as an efficient, non-fuel dependent and affordable means of transportation. Cycles were introduced into the market on a large scale at subsidized prices, and are now widely used in various forms and fashions all across Nicaragua.

Throughout the eighties, the size of Nicaragua's motor vehicle fleet was relatively stable at about 30,000 vehicles. After 1990, however, when Chamorro's neo-liberal government opened the country to Western imports again, Nicaragua's vehicle fleet more than doubled in only two years, from 31,162 in 1990 to 67,486 in 1992. Today, there are about 170,000 motorized vehicles in Nicaragua. Motorization growth rates are currently at 10% a year. Nevertheless, with a total

population of 4 million, Nicaragua still only has about 40 vehicles for every 1000 inhabitants, which is comparatively low. The US has almost 600 vehicles per 1000 inhabitants.

The vast majority of Nicaragua's 170,000 vehicles are imported second-hand vehicles from the US, or old Soviet models. The

high average age of the vehicle fleet is responsible for high levels of road-based air pollution. Buses and trucks are especially loud and smoke-belching. Even at a fraction of the motorization levels of the US, the city of Managua has equal or even higher contamination levels along its major arteries. For example, a survey done in late 1996 showed that 13 of 15 locations around Managua continuously exceeded the acceptable levels of carbon monoxide according to US EPA and Pan-American Health Organization standards. Noise pollution is particularly penetrating in Managua, where houses are built in an open style for the warm climate.

### **Biking is Presently Unsafe**

Although widely used in the rest of the country, cycles are unfortunately not a very common sight in Managua. A survey in 1997 asking people why they didn't cycle in Managua revealed that the two main deterrents to bicycle use are fear of accidents and fear of being robbed or having their bicycle stolen. Motorist behavior is a major problem for cyclists, with drivers frequently switching into the oncoming lane to pass other vehicles, driving on the shoulder, or skimming the right curb. Apart from these safety concerns, however, attitudes towards bicycling are very

positive in Managua, as they are in Nicaragua in general. Almost every person interviewed said that their reservations about cycling were mostly restricted to Managua, and most were aware that bicycles are a major mode of transport in smaller Nicaraguan cities. Contrary to many other Latin American countries, the bicycle does not have a big image problem in Nicaragua, although cars definitely remain major status symbols. There are anywhere between 75,000 to 100,000 bicycles in Managua, although only a small fraction of them are currently used on a daily basis. Most bicycles are only occasionally used as recreational vehicles on weekends.

When bikes first hit the streets of Nicaragua in the eighties, most models were Indian or Chinese bicycles, which arrived completely knocked-down and were assembled in-country. There are also a good number of second-hand imported ten-speeds, but most of the newer models are mountain bikes. The two major bicycle factories in the Managua area, Tierra and Shannon y Candy, both import parts, mainly from Taiwan, and are equipped to quickly respond to consumer preferences. Shannon y Candy, which grew out of ITDP's Bikes Not Bombs project of the 1980s, is now a successful commercial enterprise which mostly produces mountain bikes, while the Tierra factory in Jinotepe also produces various cargo bikes, which are popular all over Nicaragua.

Animal drawn carts and cargo cycles continue to be used, and play an important role in the informal economy, for carrying, delivering and selling anything from newspapers to bread. They face, however, serious risks traveling on Managua's streets.

Unlike cycles, pedestrians are a major presence in all areas of Managua. Many people, especially women, can be seen walking alongside major roads headloading food products for sale. A smaller number of people have access to small, two-wheeled handcarts. Since few streets in Managua have sidewalks, most pedestrians are constantly forced to walk at the edge of the streets, thus exposing themselves to the fast moving, frequently swerving motor vehicles.

Given the positive image of the bicycle, its affordability, and reasonably high levels of bike ownership, biking could

potentially capture a significant share of passenger trips in Managua if safe and attractive cycling infrastructure were to be built. Especially for teenagers and university students, the bicycle has considerable appeal. Sidewalks, traffic calming, and pedestrian zones could also improve the pedestrian environment.

### **Chaotic, Overcrowded Bus System is Unable to Meet Demand**

Making biking viable would also help



*A cyclist pushed off of a Managua street*

address the pitfalls of the transit system. Since 95 percent of Managuans do not own a private vehicle, they depend on public transportation, but the present public transport system is unable to meet this travel need. A 1994 municipal survey put the city's urban public transport fleet at 954 vehicles, 58 of which were illegal operators. Even many of the authorized, legal vehicles do not meet the minimum health and safety standard. In 1994, 20 percent of the public transport vehicles were in serious need of improvement or even replacement, and another 65 percent were in need of serious repair. Together, the system still managed to satisfy the demand of 680,275 daily transport users; 54 per cent of the total population.

Managua's public transport fleet, which consists of buses, minibuses, camiones and camionetas (various trucks with passenger benches in the back), is notoriously overcrowded, making the squeezed passengers prime targets for pickpocketing. Passengers hold on to their bags tightly, and any larger bills are best hidden in socks, as pockets in clothing are sure to be cleaned out. In a recent survey,

about half of all public transport users in Managua reported having been attacked and/or pickpocketed during the last year.

The fare system of the public transport fleet in Managua is a single unified fare (currently about 13 cents) for each separate trip taken on a bus, no matter how long or short the person stays on the bus. Especially women are likely to have to pay even more than four fares in order to satisfy their travel demand, because they generally have additional household responsibilities like going to markets, or accompanying children and elderly relatives to health and educational facilities. Distances between stops on most routes are also too far apart. Ideally, people should not have to walk more than 350m to the nearest stop in their neighborhood. In Managua, the distance between many stops exceeds 500m.

Overall, the service area of Managua's public transport system is inadequate and poorly coordinated, its vehicles dilapidated, unsafe, and overcrowded. Nevertheless this ailing public transport fleet still forms the backbone of the transport system. As no special lanes exist for buses, the 90 per cent of passengers which are sitting in buses, camiones, and minivans are stuck in traffic jams largely produced by the richest 5 per cent of the population driving in private vehicles and taxis. Taxis, at ten times the price of bus fare, are not a viable option for more than 5% of Managua's commuters. This means that some thirty percent of Managua's total population is entirely dependent on walking. Increasing the viability of bicycling is critical to improving their mobility.

### **Managua Transport Planning and Politics**

Unfortunately, few of Managua's political decision makers and transport planning experts are aware of the vast potential which the promotion of non-motorized transport could have on the city's environmental, social and economic well-being. None of the current official urban development plans mention non-motorized transport, and no office of government has responsibility for non-motorized travel.

The fate of plans in general is not encouraging. Managua's official development plan, from 1992, is already obsolete,

*continued on p. 21*

# Making Bikes Work for South Africa

by Paul S. White

Gabriel Notweta reaches into the metal bin that's welded to the back of his tricycle, grabs the last handful of white waste paper, and piles it on the scale. Hands on hips, he squints at the reading and grins. It's a good morning: in one trip he collected 80kg. His haul nets him 39 Rand (US\$8.21), ample funds to replace his threadbare front tire. He inspects his tire carefully, deems it worthy for now, then pedals away for another sortie.

Gabriel, one of the thousands of black South Africans unable to find formal employment, ekes out a living collecting recyclables. Gabriel collects his paper in and around Midrand, perhaps the most rapidly growing community in the Johannesburg-Pretoria conurbation. Paper "hawkers" throughout South Africa collect all kinds of paper and cardboard, but prefer white office paper, "HL1", because it yields the most money per kilogram. Hawkers collect their paper from myriad sources—offices, homes, dumpsters—and typically transport their loads on their heads or in shopping trolleys borrowed from local supermarkets. Some hawkers, however, have recently discovered a more efficient method.

Gabriel is one of ten participants in the Workbike Pilot Project, the product of an experimental partnership between ITDP and Mondi Recycling, a branch of the largest paper producer in South Africa. The main goal of the project is to explore the viability of using non-motorized load-carrying technologies to fulfill the transportation needs of paper hawkers and other South Africans engaged in small-scale economic activities. The needs are vital: thousands of black South Africans are presently forced to transport their loads on foot—the inefficiency of which ensures that their endeavors will fail to bring their families out of poverty.

Equipped with workbikes, hawkers were able to triple their collecting radius, almost triple their speed, and double their hauling capacity over walking. More importantly, they doubled and in some cases tripled their income. "The bike is better than the trolley" boasts Gabriel, "and people in the street ask me: 'where did you get this bicycle and how did you get this bicycle?'"

Paper hawking and other informal sector enterprises were

*Paul S. White, ITDP's new Projects Director, recently returned from his first assignment: to evaluate the Workbike Pilot Project in Johannesburg, South Africa.*





anathema to pre-revolution policy makers. Now, in the 'new' South Africa, they are encouraged for their employment-generating potential. Indeed, in an effort to breathe life into a sagging economy rife with unemployed, Mandela's government eliminated many apartheid era policies that curtailed the informal sector. Black South Africans are now free to hawk anywhere they want, with virtually no restrictions. Unfortunately, not all vestiges of the apartheid era are so easily redressed: fragmented and sprawling race-dictated urban geography persists, and continues to place an enormous transport burden on black South Africans—98% of whom cannot afford motorized transport.

Gabriel, his wife and their three children live in Ivory Park, an informal settlement of 250,000, located 8km east of the area where Gabriel collects his paper. A spry 39, Gabriel is known for his far-reaching collection trips and is recognized by his peers as a strong cyclist and an accomplished mechanic. His enduring good humor and multi-lingual mediation skills (English, Afrikaans, Sutu, Zulu, Stronka) make him the go-to-guy in work-related disputes. When asked what he thinks about his new workbike, he responds: "I'm making more Rands, I'm not as tired at the end of the day, and my shoes last longer." But he would still rather be doing something else. The hours are long, and digging through rubbish is, understandably, not his idea of fulfilling work. Still, he says, he is much better off than before. With his workbike, he now makes about 190 Rand per week (\$40.86)—almost three times as much as he used to earn.

Peter Hunter of Mondi Recycling is happy with the project, and is eager to replicate it at other Mondi Paper Buy-In Centres throughout the country. Says Peter: "After we work out the bugs, like replacing 8-gauge spokes with heartier 16-gauge, we'll export the workbike concept to our other centers in Cape Town and Durban." The Project's novel finance program will accompany the workbike concept at the new locations. Though the collectors were initially unable to take full ownership of their bicycles, increased earnings and an ITDP subsidy have made the bikes affordable. Some collectors are currently making monthly payments on their bikes, and will soon own them outright. Peter likes what the workbikes have done for the collectors, but also has a more prosaic reason to relish the success of the project: a healthier bottom line. Mondi's profits are commensurate with the amount of paper the hawkers collect, thus rendering the relationship between Mondi and the collectors mutually beneficial. The project has shown that bikes are good for business.

As South Africa's sole manufacturer of load-carrying bicycles, Kim Johnson has sold his workbikes to a panoply of buyers: South African Airways uses scores of his stout rigs to ferry items around the tarmac at Johannesburg International Airport; ice cream vendors use them to chase customers at Zoo Lake; uniformed pie sellers pedal meat-filled pastries to white-collar workers "too lazy to leave their offices for lunch." Fruit sellers, car washers—and paper collectors—all use Johnson's workbikes. Johnson talks like a businessman, and is "bullish" on what he calls "mobile vending systems":

"If you are in a stationary position, you can only get as much business as the people who walk in your front door, or frequent your street corner. But if you're mobile, you can literally chase the business. [workbikes] bridge the white and black economies... There is a lot of business out there, just waiting to be taken, business that would benefit all of us."

Johnson continues:

These people [black enterprisers] have been trading in their backyards for years, and we [whites] weren't exposed to it. We lived on this side of the railway, and they on the other. But now, we are realizing that there is a helluva lot that these guys are doing that Johnson Cycles could help them with... bikes give them cheap access to white markets"

Insofar as the the Workbike Pilot Project sought to alleviate poverty and increase incomes, it was a success. Here's the breakdown: The average hawker equipped with a workbike earns US\$88 more per month than a hawker without one. Subtract the monthly maintenance costs, which amount to US\$15 per month. That leaves US\$73 per month that a biking hawker makes over and above what he used to earn walking. If a hawker borrows the US\$630 required to purchase a bike at 10% annual interest, and makes his monthly payments using only the extra income that the workbike affords, he will have paid the bike off in 9 months.



*So far, getting workbikes to women has failed.*

The project also aspired to demonstrate the utility of workbikes to other potential users. The project's success has already proven contagious: car washers, inspired by the new prosperity of the collectors, have just recently started using workbikes to service customers they used to reach on foot. The average workbike-equipped car-washer washes 6.5 cars per day, and is making, on average, 220 Rand per week (\$46.30)—double what they used to earn walking.

Additionally, it is worth noting that the increased income that the workbike equipped-collectors earn is not to the detriment of the other collectors using more primitive means. The workbike collectors have a larger collection radius, and are thus able to occupy a different niche than the walking collectors who concentrate their efforts at a closer proximity to the Buy-In Centre.

At the outset, ITDP and Mondi Recycling agreed that at least four of the participants should be women. Yet no women participated in the Workbike Pilot Project. The fact that South African

*continued on p. 21*

# GEF's Only Transport Project: **Tehran Clears the Air**

By Matt J. Ulterino



**T**he Alborz mountains, looming in the near distance over the Iranian capital, have traditionally provided both visual and recreational relief to city residents. But the view is no longer a clear picture. To view the Alborz, one must peer through the layers of smog and haze that shroud Tehran, one of the world's most polluted cities.

The absolute center of Iran politically, economically and culturally, Tehran leads and the rest of the nation follows. In the years following the 1979 Islamic revolution, the quality of life in Tehran continued to deteriorate. Explosive population growth, economic hardship and brutal traffic congestion made the city a difficult place to live and work. Without a healthy and well-functioning Tehran, the nation suffers.

While altitude and topography are partially to blame, a poorly managed transportation system is the immediate human cause of the problem. With the city's population tripling to nearly eight million residents in less than three decades, the over-taxed mass transit system and rapid increases in the number of vehicles burning low-grade fuels have pushed vehicle emissions to a crisis point.

But the situation is not entirely bleak. Tehran was the sight of the only transport-related Global Environmental Facility project, which provided at least a basis on which policy makers can deal with the pollution problem. Over the past five years, data and reporting on pollution and its health impacts has been gathered and analyzed on an unprecedented scale. Significant

transportation and land-use solutions are being considered by Iran's leaders, but as of yet, progress has been modest.

## Smog Patrol

Worsening air pollution and traffic congestion have long been apparent, but prior to 1990 little was done about it. A traffic-restricted zone in the center of Tehran, limiting the number of vehicles that could enter, dates from 1979, and planning for a subway system began in the early 1970s, but its construction had long been delayed by political instability.

Real progress, though, coincides with the rule of Tehran's current Mayor, Gholam Hussein Karbaschi. In office since 1990, Mr. Karbaschi came to Tehran with a reputation for getting things done. While the position is an appointed one, and though he is often accused of ruling by fiat, he remains popular with most Tehranis and is credited with improving the quality of life.

While knowing there was an air pollution problem only required looking out the window, policy makers wouldn't make a move until they had the hard data detailing the smog problem. So beginning in 1992, the national Ministry of Health commissioned the National Institute for Tuberculosis and Lung Disease to undertake the most comprehensive study ever of the health impact of air pollution in Tehran. Additionally, the Air Quality Control Company, a subsidiary of the Municipality of Tehran, was created in 1993, which made ongoing pollution monitoring, policy formulation and program implementation a part Tehran's public mission.

Ten pollution monitoring stations were established to measure the level of suspended particulates, sulfur dioxide, nitrous oxide and carbon monoxide in the atmosphere. Additionally, 200 men and women were chosen and studied to measure the level of lead in their blood. Data was also collected on the number of emergency room admissions for acute respiratory ailments among Tehran's population.

The research revealed that the biggest source of pollutants in Tehran is auto emissions. Lead levels are dangerously high, and suspended particulates were found to be seven times higher than World Health Organization standards. The problem grew even worse in the autumn and winter as air inversion traps more of the pollutants in the city. The Institute estimates that roughly 4,000 deaths per year can be attributed to Tehran's particulate matter alone, while elevated lead levels were shown to adversely impact school performance in children. The researchers were also able to make a conclusive link between bad air pollution days and increased hospital admittances for respiratory ailments.

### Reducing Auto Emissions

Pollution from traffic congestion is made worse because most of the cars on the road burn dirty, leaded fuel. While unleaded is available at the same price, few cars use it. The majority are too old, and owners of newer cars choose leaded mainly out of habit or concern for performance. While three-quarters of the city's official orange taxis have switched to cleaner-burning liquid petroleum gas (LPG), a mixture of propane and butane, an equal number of informal taxis burn low quality, leaded fuel. And buses are poorly-maintained, aging diesel models known for heavy particulate emissions. The result is grey, heavy air which permeates the city.

Thorough research on Tehran's pollution proved to be the needed catalyst for further action on the problem. As a result, the Tehran Transport Emissions Reduction Project, or TERP, was launched in 1994 with the financial support of the World Bank-managed GEF. The GEF-sponsored project was to be used to demonstrate effective anti-pollution interventions that could be transferred and utilized elsewhere.

An international panel of experts was chosen by the Air Quality Control Company to collaborate on policy formulation and to coordinate the activities of the numerous government agencies involved in smog reduction activities. The starting point for a group of four international consultants (two Americans, an Iranian-American and one Greek) was to meet with the various government and industry groups to gain a better understanding of the planning process in Iran and the capacity for action. The team developed baseline projections on pollution levels based on population growth, growth and make-up of the vehicle fleet, travel times and patterns, fuel make-up, projected fuel consumption, and likely changes in land-use patterns, which projected significantly worsening air quality due to the growth in motor vehicle use.

The TERP also supported plans by Tehran's government to decentralize it's government and commercial functions to help alleviate the city's overcrowding and congestion. It is estimated that the daytime population rises by about two million people - most heading to the same area - because of the extreme centralization of activity. Multiple activity nodes are seen as part of the solution.

TERP was followed by a project identification phase prepared by SWECO, a Swedish organization chosen by the Iranians. Their proposals included:

- switching to higher quality fuels and conversion of busses to compressed natural gas (CNG);
- better inspection and monitoring of cars and air pollution levels;
- traffic mitigation measures, including traffic demand management, HOV lanes and improved traffic signaling;
- increases in public transportation capacity, such as bus priority lanes, adding additional bus routes and advocating for an expansion of the subway system from the current building of two lines to four;
- a better coordinated parking system with metering; and
- pricing policies that more accurately reflect the cost of auto transport.

rately reflect the cost of auto transport.

SWECO modelled the business as usual situation versus the likely impact of implementing the TERP measures to develop different forecasts for the year 2015. According to SWECO, the business as usual transportation situation would increase greenhouse gas emissions by 30 percent, push the total number of vehicles up by 20 percent and deaths from suspended particulates would rise by 650 per year. In comparison, the TERP measures would reduce the number of greenhouse gasses released into the atmosphere by 40 percent, reduce particulate emissions by 10 times, and the number of particulate-related deaths from 4,000 to 2,300. It also predicted that the modal split would shift from 41/59 percent between car and public transportation under business as usual to 32/68 percent.

### Moving Forward

Despite this research, implementation and ultimate success has been slow in coming. While cost may be a factor, (SWECO estimates that the proposed measures will cost \$2.5 billion U.S. dollars over the next 17 years) most of the costs are related to the metro projects, which have gone forward, and in any case are not the most important from the point of view of air quality improvement. Lack of political will, overlapping bureaucratic responsibility for the projects, and lack of technical capacity to implement the projects have all slowed progress. Nearly a dozen and a half municipal and national ministries and departments have been involved in the project, and the chain of command for implementation is a bit unclear. It will take some sorting out and cooperation amongst often territorial government partners for the proposals to be put in place.

*continued on p. 23*



*Pollution monitor, Tehran*

# Sustainable News

## 20,000 Bikes Over the Sea

Osaka, Japan is littered with abandoned bikes. In South Africa, however, many of the poor cannot afford a bike. The municipality of Osaka launched "Cycle Aid for Africa", a program that sends Osaka's unwanted bicycles to Education Africa, a nonprofit South African organization which will distribute the bikes to South African school children who often have no reliable means to get to school. 3,000 bikes are slated to arrive before the end of the year, and 17,000 more will follow. Donations of bicycles and cash have poured in from Japanese individuals and district governments; the eight districts participating in the program have already sent 1,000 bikes. Mitsuyo Hara, an Osaka official involved with the project, is confident that they can meet their goal of sending 20,000 bikes. "Sakai city has already donated about 400 bicycles," he said.

Source: The Japan Times

## Motorists vs. Cyclists in S.F. Critical Mass Meltdown

For years, U.S. cyclists have staged "Critical Mass" rides as a means of promoting bike culture and cyclists' rights. The 5,000-rider strong San Francisco Critical Mass ride in July resulted in some fisticuffs with motorists and police, 250 arrests and unprecedented gridlock.

Poor judgement by city officials and a handful of cycling trouble-makers led to chaos as cyclists, by their sheer number, effectively blocked expressway ramps, main thoroughfares and intersections. The media clips highlighted incidents of "road-rage" on both sides (now a bonified psychological disorder, by the way). Some stories, however, hit the crux: cyclists' concerns are legitimate, immediate and worthy of attention.

## Cycle Rickshaw Persecution Persists

The cycle rickshaw business in Europe continues to spread, but not without a fight. Frankfurt's fifty cycle rickshaws, introduced last May, are hap-

pily rolling with blessings from local officials. But rickshaw reactionaries in Berlin and Hamburg will not allow them to operate in their city centers, citing traffic problems. Nasser Nouri, the visionary behind Germany's would-be rickshaw explosion, is confident that those opposing this plan will eventually wake-up to the myriad benefits of rickshaws and change current policy. In an expression of his enduring optimism, Nasser recently ordered the latest and most luxurious rickshaws in production from Beijing, that are, according to Nasser, "as comfortable as a big Mercedes."

In England, Erika Steinhauer recently introduced a British-Indian hybrid to Oxford, where she has founded the Oxford Rickshaw Company. Erika triumphed over cranky cab drivers and ornery bureaucrats, and now has permission to operate her fleet— but only on fixed routes.

While cycle rickshaws gain beachheads in the West, persecution persists in Asia. 36,000 cycle rickshaw operators in Ho Chi Minh City are subject to increasingly restrictive regulation. Vietnam's cars-first policy is also evident in plans now underway to construct a massive 1,125 mile expressway on the erstwhile Ho Chi Minh Trail.

Source: Frankfurter Rundschau, Vietnam Investment Review, New York Times

## Taipei City Pursues Expressway Project

The second phase of Taipei's Expressway Construction Plan, a project of Taipei's municipal government, is underway. The first phase, completed over the last decade, built numerous large expressways, many of them multi-layered. One particularly unsightly project, the East-West Expressway, which began in 1990, now nears completion. The double-decker structure features a total of eight lanes, and an additional multi-purpose underground layer that will provide about 2700 parking units. Only six access ramps are planned over a length of 6.4 km, meaning the city will

effectively be sliced in half. The city's Public Works Department admits that because of the high degree of land utilization, "land reclamation for the Expressway project often encountered resistance," and laments that "in spite of



Education Africa provides South African

over twenty years of hard work, the Expressway system has not yet [had] an ideal effect."

## Copenhagen: Clinton Refuses Citybike One

When President Clinton came to Denmark last July, Copenhagen had a special present waiting for him: the mayor of Copenhagen, Jens Kramer

# Transportation Briefs

Mikkelsen, presented the President with a specially decorated version of the Copenhagen White Bicycle, complete with the official presidential seals on the two wheels. Copenhagen has about 1,800 of these free bicycles, which were



Children with bikes from Osaka, Japan.

introduced three years ago and are heavily used by tourists, businesspeople or anyone else in need of a quick ride. The bikes can be obtained by inserting a 20 Dkr coin (about US\$ 3) into one of the many official citybike-stands in the inner city of Copenhagen. The money is returned if the bike is re-parked at one of the stands, otherwise the next user may simply pick it up from the street for free and earn the extra money by returning

the bike to a stand. Broken bikes are repaired by prisoners in the Copenhagen jails. Unfortunately, President Clinton missed his opportunity to ride "Citybike One" as he hurried off to the airport in a heavily armored limousine right after the speech,

escorted by a dozen other black vehicles rushing through the streets of Copenhagen at 100 km/h. Probably it would have made little difference to Clinton to know that there are excellent bike paths to the airport, which is less than 10 km from downtown Copenhagen.

## Kuala Lumpur: Bike-Friendly by 2000

The ubiquitous parallel-to-the-road iron grate deathtraps that snag countless cyclists every year will disappear thanks to a new plan by authorities in Kuala Lumpur, Malaysia to make their streets bicycle-friendly by the year 2000. The plan is partly the result of a championing by Tun Abdul Razak, the bike-commuting ex-Prime Minister.

Recently underway, the plan has already given rise to the country's first dedicated bicycle lane in the suburban housing area of Wagsa Maju. The US\$320,000 project will feature sheltered bike parking at certain bus stops, and rows of shade trees running parallel to the lane. Additionally, Mayor Tan Sri Kamaruzzman Shariff recently allocated US\$1.6 million to build bikeways through out Kuala Lumpur. Developers will also be required to provide bikeways in new housing estates.

Source: SUSTRAN

## Putting Public Transport First: New Exclusive Bus Lanes in Korea and Malaysia

Korea's Ministry of Construction and Transport plans to double the length of exclusive bus lanes in Korea's cities from currently 408 km to 916 km in 1998. The capital Seoul currently has 170 km of lanes, which is to grow to 341 in 1998. Extensions of bus lanes are also

planned in Pusan, Taegu, Kwangju and the Kyonggy province suburbs around Seoul. Kuala Lumpur, Malaysia, recently installed ten bus lanes along congested stretches of major roads. Taxis are also allowed in these lanes. Most motorists seem to respect the new lanes, especially since the maximum penalty for private cars and motorcycles entering these lanes is RM 1,000 — US\$400.

Source: SUSTRAN

## Russia's High-Speed Rail Underway

Russia is building a new \$5.5 billion high-speed train link between Moscow and St. Petersburg. The new link, while potentially reducing highly polluting air travel, will cut through several sensitive nature conservation areas. And to make room for the new station in St. Petersburg, the project will demolish many historical buildings.

Source: T&E

## High-Speed Bikeway Planned in The Netherlands

Three Dutch cities are planning to build a 13 km high-speed bike link, which would connect the cities of Helmond, Eindhoven and Nuenen. The new bikeway would consist of two wide, asphalted lanes which would have their own on- and off ramps, excellent lighting, as well as side walls which would protect riders against the wind. The bike industry is to develop new racing bikes which would more easily reach speeds of 30 km/h. "If this works, the bicycle will be able to compete with the car along this stretch in the long run" says local planner J. van der Zanden. A similar, yet even more futuristic proposal for urban bicycle expressways is being promoted by Joseph Adler in Toronto, Canada, who envisions a network of covered, elevated structures 15 feet above the street. Mr. Adler claims that the cost of the system including operation and maintenance would be very low, and that the return period of the required investment is very short.

Source: Westfälische Rundschau

*continued on p. 19*

## Up in Smoke

# Jakarta: A City in Crisis

by Walter Hook

Even before the smoke from countless peat-fires in Sumatra cloaked this city in a permanent fog, Jakarta was projected to become the world's most polluted city by the year 2000. Upper respiratory tract deaths caused by motor vehicle pollution have doubled in less than a decade, and children and the elderly are the most vulnerable. Before the smoke, road vehicles accounted for 44% of suspended particulate matter, 89% of hydrocarbons, 100% of lead and 73% of NOX, all of which are in violation of World Health Organization standards most days, and the World Bank predicts that these emission levels will increase by five times by the year 2010.

These environmental problems are mirrored by economic problems; the value of the Indonesian rupiah has fallen 30% since July, dramatically increasing their debt problems, and leading 16 major banks to the brink of collapse. Economic collapse was staved off only by a \$40 billion dollar rescue package from the IMF, the World Bank, and Western governments.

Jakarta's transportation nightmare is both a cause and a reflection of this economic crisis. Subsidies to oil prices and a dramatic increase in road construction have cost Indonesia over \$1 billion a year between 1988 and 1994. Furthermore, Indonesia has borrowed \$6 billion from the World Bank, the Asian Development Bank, and Japan's OECF for road projects over the last two decades, to pay for a tripling of Indonesia's urban road network that has done nothing to curb the country's growing congestion and pollution. Despite just spending \$4.5 billion to bail out the Indonesian debt crisis, a recent World Bank staff appraisal report claimed that its own economic analysis could justify expanding the national road system by another 43%. But

Indonesia has borrowed over \$6 billion for road projects. Today it faces "structural adjustment" from the IMF.

the explosion of motor vehicle consumption in Jakarta, primarily of Japanese motorcycles and cars, is only further worsening Indonesia's foreign exchange and debt crisis. Now that the IMF and World Bank have agreed to pick up the bill, a little analysis of the impact of all this road lending on Indonesia's debt problems might be in order, before structural adjustment is once again carried out on the backs of the poor.

Indonesia's road-dominated transport system is particularly ill suited given that Java is the most densely populated settlement in the world. High density cities like New York and Tokyo are served by high capacity commuter rail, subway, and bus, while Jakarta, five times as dense-

ly populated in some areas, is served primarily by bus and paratransit vehicles which are trapped in the congestion created by motorcycles, taxis, and cars. Unlike Japan,

where 35% of inter-urban travel as well is provided by rail, only 6% of Java's inter-urban travel is served by rail, and 81% of this rail system is of a sub-standard grade built over three decades ago. Prior to 1996, the World Bank had not made a significant investment into Indonesian rail since 1974. Despite this neglect, rail passenger ridership has increased by 16% since 1988, commuter rail by 21%, and lines are operating at 100% capacity. And

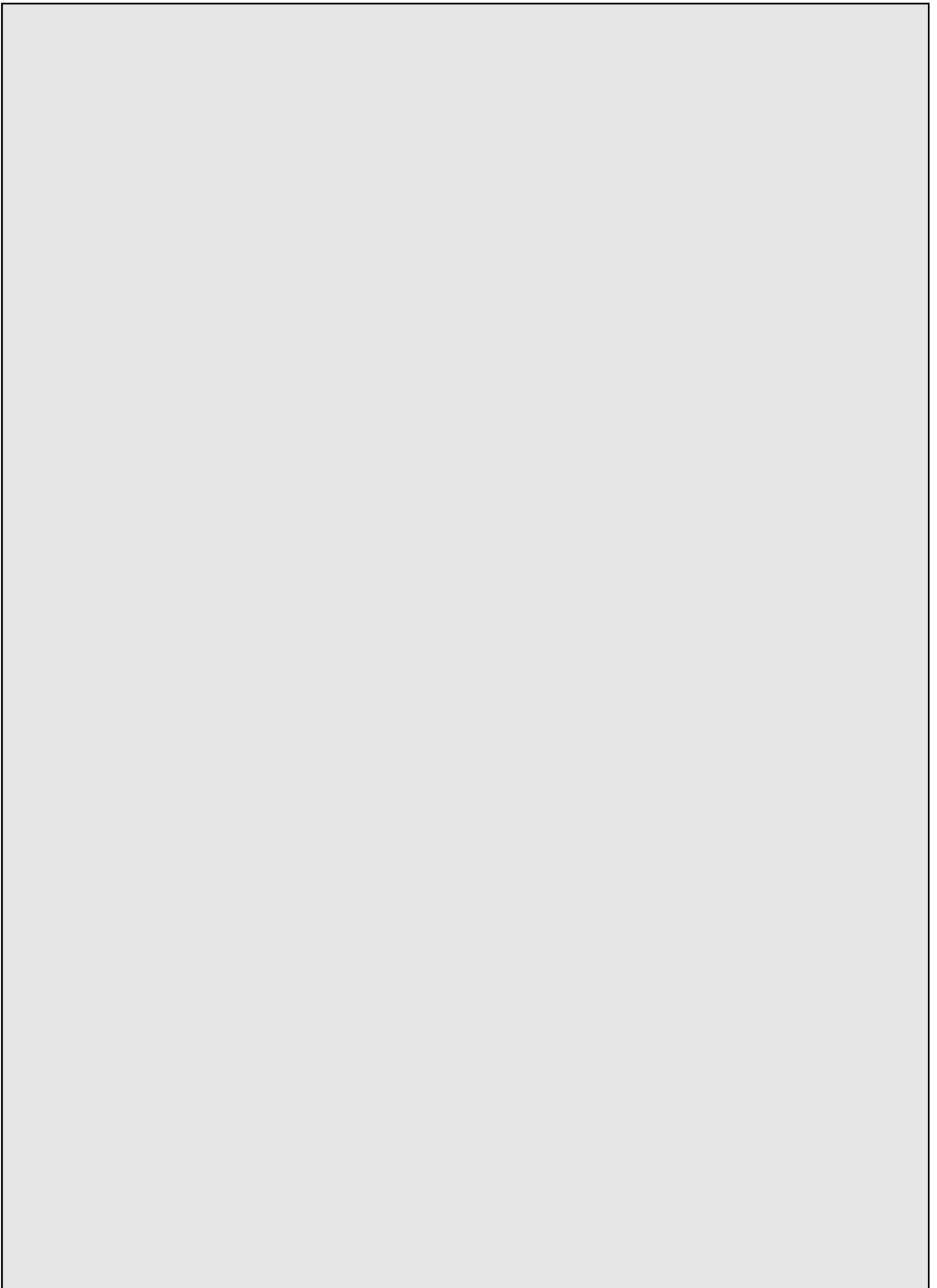


Jakarta's three-in-one policy: too little too late

the rail sector, unlike the road sector, has been able to completely cover its operating costs out of fare revenues since 1993.

The growing use of motor vehicles is stimulating an uncontrolled sprawling urban development which is putting enormous pressure on Indonesia's scarce land resources, with serious ramifications for housing, food supply, and environmental protection. Every year over 250km<sup>2</sup> of agricultural land, forest, or wetland is converted to roads or urban usages. Furthermore, Java's enormous population density means that if the road network is expanded to the degree that the World Bank claims is justified, over

continued on p. 20



# Letter

*continued from p. 3*

dence, which aided Kuala Lumpur's major bicycling promotion initiative. ITDP and Sustran also joined with the NGO coalition monitoring the Asian Development Bank, and met with the Deputy US Executive Director to the Asian Development Bank (ADB) to press them to develop a sustainable transport policy. In the coming months, ITDP and Sustran will develop a case study of a major ADB highway project to show how the projects are ignoring public participation, facilitating motorization, and ignoring the needs of pedestrians and other non-motorized road users.

In Managua, Nicaragua, ITDP, thanks to the Caritas Foundation and the Rockwood Foundation, was able to respond to a request from the National University of Engineering, and the Central American University, to develop a bike plan for the City of Managua and to hold a major conference on bike planning to develop public participation and support for the project. The plan and the conference successfully won support for the bike plan from both city and national officials and international donor agencies.

## **Rerouting the Multinational Development Institutions**

In the spring, the European Bank for Transport and Environment (EBRD) tried to pass a new transport policy which ended all lending to public transit on the grounds that it was not 'consistent with sound banking principles' because they were subsidized. Out of the other side of the same mouth, we learned that because toll roads the EBRD had bankrolled in Central Europe were turning out to be a financial boondoggle, they were only going to support highway projects fully subsidized by governments. We pointed out the hypocrisy of their position to the US Executive Director, who raised this point during the Board's evaluation of the policy. The Central European Bankwatch Network and Euronature in Germany also objected on similar grounds. Thanks to our collective efforts, the EBRD's transport

policy was amended to be more public transport-friendly.

At events surrounding Rio + 5, the five year follow up to the Rio Earth Summit, in both Sao Paulo and in New York, ITDP gave papers on how well countries and the UN Institutions have achieved the transport and climate change objectives of Agenda 21 and the Framework Convention on Climate Change. Most countries are nowhere near their promised CO<sub>2</sub> targets, and the inability of most countries to address rampant motorization is largely to blame. At the behest of Sao Paulo Minister of Environment Fabio Feldmann, we promoted better facilities for bikes, pedestrians, and buses via local media appearances.

This summer, ITDP completed a draft

**Most countries are nowhere near their CO<sub>2</sub> targets. Unsustainable motorization is a major reason why.**

of a new Transport Policy for the UN Development Programme, which is now under review. Now that language supporting more sustainable transport policies has been included in several UN documents thanks to the efforts of the UN Transport Caucus jointly chaired by ITDP and the UITP in Brussels, the UN Agencies are developing plans to implement their sustainable transport and poverty reduction goals. ITDP presented the outlines of this new direction at the UN Center for Human Settlements' Conference "Practical Approaches to Urban Poverty Reduction" in Florence.

## **On the Home Front**

Here in the US, the critical battle over ISTEA, the omnibus national transportation legislation, continues. Several of our Board members, particularly Jon Orcutt of the Tri-State Transportation Campaign, and Michael Replogle of the Environmental Defense Fund, have been actively involved in making sure that more money is available for bikeways and other environmental 'enhancements,' and ensuring that the coordinated regional planning that ISTEA initiated are not gutted by highway interests. Their success or

failure in this fight will make an enormous statement to the world: if the most auto-dependent place in the world, the US, is changing direction, then its time that the rest of the world to do the same.

ITDP has also taken on domestic contracts where we felt our particular expertise could broker agreements between organized labor and the environmental movement. We helped the New York Amalgamated Transit Union's (ATU) campaign to get exclusive bus lanes on the major highways and bridges leading to Manhattan from the South, quantifying the enormous economic benefits that would result. We helped ATU's Baltimore chapter discredit a misconceived privatization effort that would have increased the cost and hurt the quality of transit service in that city. We have also been working with Columbia University to resolve the public transit equity questions raised by the 1995 lawsuit by the 'Straphangers Campaign,' to stop the New York Metropolitan

Transportation Authority's (MTA) discriminatory fare hikes. ITDP's role is to develop some general criteria for assessing the equity of public transit financing that can employ similar situations from Budapest to Sao Paulo.

We couldn't do any of our work without the support and encouragement of our members and the dedication of our staff and Board who have volunteered long and hard hours for the cause and rarely get sufficient thanks. There have been a few changes in the Board and staff. Jon Orcutt of the Tri-State Transportation Campaign was made Treasurer, replacing long time Board Member Robin Stallings who moved to Texas. Our heartfelt thanks to Robin's years of hard work and support for the Institute and best wishes to his new endeavors. Paul S. White, previously with the Adventure Cycling Association, has come on board full time to run our demonstration projects as Karen Overton's time will be taken up with the World Bank Project in Mozambique and her new responsibilities as head of the newly-independent Recycle a Bicycle Program. Vice President Matteo

*continued on p. 18*



# Prague

*continued from p. 5*

involved extensive pedestrian zones, 24 streets closed to private cars, and most other streets restricted to local traffic only. With through-traffic routed around the city center, the volume of car traffic fell by 59% in spite of increased car ownership. At the same time, the City of Prague sharply restricted parking in the center, giving priority to local residents and businesses, but requiring them to pay fees for the necessary annual permits.

As is still the case in Warsaw and Budapest, most of the national government subsidy went to metro construction in Prague until 1995. However, the national government also provided a 10% matching subsidy for bus replacement and a 30% subsidy for train and tram replacement. Since then, however, the national government sharply curtailed metro subsidies. The City of Prague now has the incentive to invest less in metro expansion and more in tram and bus services. The result, in fact, is that new metro construction has slowed. The last expansion was in 1994 (from 44 to 50 km) and future expansions are being delayed due to lack of funds. By contrast, Prague has already opened up one entirely new light rail line in the south of Prague, and several others are either under construction or planned. Moreover, several existing tram lines have been extended, and most of Prague's 136 km of tram tracks have been reconstructed, greatly improving service comfort, speed, and safety. In addition, 150 new tram vehicles have been purchased to replace the old trams now in use. Most of the bus fleet has already been replaced, with average bus age now less than five years. Finally, the City of Prague has established a new regional public transport agency (ROPID) to coordinate suburban bus and rail services, where similar efforts in Budapest until now have

been a failure. Since 1993, ROPID has tendered service contracts with various operators to provide 38 new bus lines in the suburbs. It has also improved suburban rail by introducing more regular train schedules (e.g. every 30 minutes) and permitting local commuters to use certain long-distance trains.

Such improvements were possible because of booming municipal revenues during the early 90's growth spike, much

for trams as they approach. Moreover, after five years of extremely lax enforcement of parking regulations between 1989 and 1994 (described by one Prague official as "parking chaos"), the City of Prague instituted a zonal parking system in the city center. Not only are most parking spaces reserved for local residents and businesses, they must pay substantial fees for the annual permits required. Residents pay 500 Czech crowns for the first car and 4,800 crowns for a second car. Businesses pay 50,000 crowns per vehicle. To help deal with the severe parking problems in Prague, a private company (Euro-park) has been commissioned to administer the sales of parking permits and operate on-street parking meters. The new parking control system only came into full effect in May 1996, and it is not yet clear how effective it will be, but at least it is a step in the right direction.



*A recently modernized tram line in Prague*

of it from tourism, and the sale of municipal bonds in international capital markets, but it is unclear that such heavy support can be sustained. And like elsewhere in Central Europe, public transport fares have increased by 900% since 1990. Over the same period, gasoline prices have risen only 152%, less than the overall 175% rate of inflation between 1990 and 1996, while the purchase price for a new standard car rose by 176%, roughly the same as inflation.

## Prospects for the Future

Fortunately, the City of Prague has been able to maintain some of the car-restrictive measures introduced under socialism, at least in the historic old town. In addition, it has been adopting some car-restrictive measures already used in Western Europe for many years, but virtually unknown in Central Europe until recently. For example, at 31 intersections trams now have automated priority in traffic signals, with lights turning green

With the Czech economy still growing and incomes rising faster than inflation, the private car will become even more affordable in the coming years, and it seems quite likely that car ownership and use will continue to rise rapidly. That is especially problematic in Prague, where incomes and car ownership are the highest. With so much traffic congestion, noise, air pollution, and accidents, there is considerable risk that irreparable damage will be done to the historic town center.

At the very least, it would be possible to strengthen transport policies that reduce car use in the historic core of Prague, as such policies have already been in effect for two decades. Since they are primarily under the control of municipal authorities, the central government would have difficulty blocking them. Extending car-free zones, reducing parking supply and making it more expensive, prohibiting non-resident traffic, and improving public transport services would all help the situation.

*continued on p. 18*

# Prague

continued from p. 17

That would save the old town, but what about the rest of Prague, where most residents of Prague actually live? Is it enough just to save the charming medieval core for tourists to enjoy? Can Prague ignore severe problems of air pollution, noise, congestion, and accidents in the 95% of Prague outside the historic core?

There are virtually no parking restrictions at all outside the city center. Moreover, the admirable traffic calming measures introduced in the old town for the past three decades are almost totally absent outside the core. Suburbs outside the city limits are growing very rapidly. Since they are outside the land-use planning jurisdiction of Prague, suburban communities deliberately have very lax land-use regulations, virtually no traffic restrictions, and very low taxes in order to lure businesses away from Prague. The

result is alarming growth in low-density sprawl and leapfrog development at the fringes of Prague.

For obvious reasons, the old town has gotten all the attention of city planners and transport engineers. It would be a mistake, however, to ignore the less glamorous districts of Prague where most residents live, even though tourists and foreign experts on transport and urban development seldom venture there. The prospects for the outlying districts of Prague, and especially for its outer suburbs, seem especially bleak. Both the local governments outside Prague and the central government resist attempts to control land-use and restrict car use. Thus, it seems likely that, even if transport policies can be improved to save the city core of Prague, the outlying districts and suburbs are headed toward more sprawl and extremely car-dependent development. ♦

*John Pucher is Professor of Urban Planning at Rutgers University.*

# Letter

continued from p. 16

Martignoni and award-winning Canadian human-powered vehicle designer Karl Miller have been brought on board to run the India project. Dr. Kenneth Baar, a well respected urban planning lawyer, has been brought on to add to our technical assistance efforts in Central Europe and at the EU. ♦

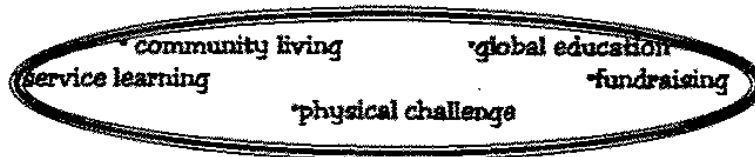


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# The Trans-Israel Highway: an Update

by Yaakov Garb

The proposed Trans-Israel Highway (see the Summer 1996 issue of *Sustainable Transport*), Israel's largest ever transport project, is moving ahead. Bids to build and operate the first 90 kilometers of this project that will eventually run through the center of populated Israel, were submitted by 4 finalists in an international competition, and the government of Israel, through the trans-Israel Highway Company, has entered into deliberations with the two large consortia.

Much of the decision revolves around which company can offer a lower toll rate, and by the years end it is expected that a winner will be announced, with construction beginning by next summer.

The organization representing the scores of settlements whose land will be appropriated for the project have been largely worn out by repeated fruitless promises and arduous negotiations on compensation for their land. Currently they are trying to be allowed to convert portions of their remaining agricultural land to more lucrative commercial and housing uses in exchange for the appropriated areas. Angered by the fencing of their land by the Highway company before any settlement has been reached, several settlements have repeatedly downed these fences, coming close to confrontation with police.

Arab villages are particularly hard hit: they own their land, rather than having it on long term lease from the government; these are only the most recent in decades of appropriations of their land by the state; and they lack the access to the planning and political apparatus available to the Jewish settlements.

While the Highway was promised to be budget neutral, paying back the loans for construction from toll income, more and more lures have been necessary to keep private capital committed to the project. The recent \$7.5 billion government bailout of the highway companies in Mexico should give Israeli taxpayers pause. Eager to use private capital to build infrastructure that diminishing budgets no longer permit, the government is under tremendous pressure to show that Israel is a reliable partner in such deals.

The government, in addition to providing and clearing the land, and constructing all connecting roads, promises to pay if traffic volumes are lower than predicted, to refinance, and a \$0.5 billion "buy back" at the end of the concession period.

The Society for Protection of Nature in Israel has been waging a media campaign and protests against the project, and commissioned a major study of some of the project's land-use impacts.

The State Comptroller found the project to contradict desirable transport principles and best practices. The Floersheim Institute of Policy Studies (Jerusalem) has



*Land for peace? No, land for highways.*

published a major review of the planning and evaluation process, which found a series of deficiencies severe enough to merit a freeze and reevaluation of the project.

And in November, Likud Kneset Member Uzi Landau tabled a Law Proposal that would do exactly this, signed by 30 Members of Parliament.

Because of its scale and proximity to Israel's largest and rapidly suburbanizing population center, this project is not so much a road but a national transport and land-use policy for coming decades. Will transport sanity prevail against its gathering momentum? ♦

## Sustainable Transportation News Briefs

*continued from p. 13*

and IFRTD Forum News Vol 5.1

### NMT Deaths in US Cities seen as Public Health Crisis

Over 6,000 pedestrians are killed by cars and trucks every year in the US, 14% of all people who die in traffic accidents. In addition, 110,000 pedestrians are injured every year in traffic accidents, an average of over 300 people every day. Nevertheless, only 1% of all Federal transportation safety money is spent on improvements for non-motorized transportation, according to a recent study by the Surface Transportation Policy Project. The risk of a pedestrian being killed by a car or truck is roughly double the risk of homicide by a stranger with a gun, the study found, and in New York City, where almost 10 percent of people walk to work, the risk is triple. New York City has an average of 310 pedestrian fatalities per year, or close to one per day.

Source: The New York Times

### Yellow Line Highway Blasts Through Rio Favelas, Dislocating Hundreds

The Municipality of Rio de Janeiro has decided to go ahead with the construction of the controversial Yellow Line Expressway, a 15 km long road connecting Jacarepagua, Barra da Tijuca and Recreio dos Bandeirantes to the Island of Fundao in the Guanabara Bay. The project is being built as a build-operate-transfer toll road, with the private concession company being allowed to toll sections of the road already built with public funds. The road cuts through favelas and will require the resettlement of 10,000 low-income people. The project is being financed by the private sector arm of the Inter-American Development Bank, and the inability to get any but the most rudimentary documents on this project indicates that growing private

# Jakarta

*continued from p. 14*

800,000 people are likely to be displaced, and Indonesia's track record on resettlement is poor.

## Indonesian Government Efforts to Deal With the Mobility Crisis

Many Indonesian government officials are aware that simply expanding the road network indefinitely is not a feasible solution to Indonesia's transport woes. In recent years, several initiatives to improve public transit, reduce transport sector air emissions, and control traffic have been initiated, but many have been undermined by conflicting political and economic interests.

There are three major infrastructure

because it covers a very limited area, it is not tightly enforced, and drivers get around it by picking up children and paying them a nominal fee to serve as additional passengers.

A parking control plan was drawn up in 1991 by private consultants, but it was never implemented. The plan recommended increasing downtown parking costs, and restricting the number of downtown parking spaces. It also recommended changing current building codes from minimum parking requirements to maximum parking limits. There is a plan to increase parking fees to around \$3.00 downtown for all day, but over half of the parking spaces downtown are not controlled by the government but by a 'sort of Mafia'. The government loses an estimated \$3.5 million a year as a result.

Certain roads are also restricted to

of the vehicle fleet is in violation of these standards. There is some discussion of making the standards more enforceable.

'Operation Blue Sky' was a special initiative of the Indonesian Government to deal with Jakarta's air quality problems. It included a new law regulating bus tailpipe emissions and requiring emissions inspections. Public transit vehicles and paratransit are significant contributors to the overall transport sector emissions problem. All buses are now supposed to be inspected every six months. In fact, however, enforcement has been weak, and there are only two inspection stations which is insufficient to handle the fleet. The regulations also did not apply to the Metro-mini paratransit buses, which are a major source of particulate pollution. They are part of the protected 'cooperative' sector, where ownership is

## When the cycle-rickshaw was banned in Jakarta, many routes were taken up by motor-rickshaw and bemo. Now these vehicles may also be banned.

plans for Jakarta under discussion, and a handful of traffic demand management plans. Curb lane buslanes were put in on several of Jakarta's main thoroughfares, but they have done little to increase the travel speeds of buses because of numerous taxis and other vehicles driving and stopping in the bus lane. An attempt to relocate the buslanes to the center of major roads was also a failure, as no provision was made for the safe boarding and alighting of passengers.

Jakarta's commuter rail network, while limited to several key corridors, was successfully modernized by funds from Japan's OECF and a recent loan from the World Bank. Its modernization, however, was quite expensive, consuming 68% of total public transport spending in the late 1980s, while bus fleets deteriorated.

### Traffic Restraint Measures

In the early 1990s Jakarta set up the 3-in-1 plan, which restricts a 9km section of the main North-South arterial to vehicles with three or more passengers. The plan has not been effective in restraining traffic

use by certain types of vehicles. There used to be around 100,000 three-wheeled non-motorized taxis called becaks in Jakarta, which were first restricted to secondary streets, and then banned from most of the city. Their routes were taken over by three-wheeled motorized bajaj, bemos, and motorcycle taxis. Bajaj and bemos are now not allowed on certain major roads, such as Jl. Thamrin and Sudirman, and there is talk of banning these vehicles all together.

### Operation Blue Sky

Over the past several years, the Government of Indonesia has begun to make more serious efforts to address Jakarta's air quality problem. Japan's JICA has been providing technical assistance for air quality monitoring, and they funded the establishment of a number of fixed air quality monitoring stations operated by BAPPEDAL, the Ministry of Environment. Currently there are tailpipe and ambient air emission standards but they are 'voluntary,' and a random test by BAPPEDAL indicated that more than half

limited to 5 vehicles, and most of them are owner-operated. They are politically powerful and they threaten to block traffic any time the government proposes to impose emission controls or increase the heavily subsidized diesel prices. Driver/owners also seem to take pride in a throaty roar from the engine, which is antithetical to emission control.

The Ministry of Mining and Energy also announced that leaded gasoline would be phased out by 1999, and the President has supposedly agreed, but the plan is being resisted by the state oil company Pertamina. Apparently switching to unleaded gasoline would require extensive investment in refining capacity, and Pertamina lacks the necessary funds.

### The Hope for Sustainable Transport Advocacy in Indonesia

Despite the difficulties of working as independent NGOs in Indonesia, several groups manage effective advocacy work in the transport area. A group of transportation technical experts working at the various government ministries with

responsibility for transport formed the "Indonesian Transport Society" last year to share ideas about how to solve the country's transport woes. Also influential with technocrats in the bureaucracy, particularly at BAPPENAS, are the research institutes such as the Agatika Foundation in Bandung and those associated with Gadjai Mada University. Together, these groups provide a voice of reason within a chaotic planning bureaucracy.

BAPPEDAS has also set up local consultative councils at the mayoral (kota) and provincial (kabupaten) level where some public comment on transport projects and plans is tolerated. Organizing meaningful local participation into these local consultative councils was recommended as a way of enhancing public participation in the planning process.

All public transit modes are organized into a government-controlled organization called ORGANDA. ORGANDA is supposed to represent the interests of Metro-minis, bajaj, bemos, microlets and kopajis. It did nothing, however, to protect the becak drivers when they were banned, and is doing nothing to protect bemo and bajaj drivers who also face likely elimination. The local drivers therefore feel frustrated with ORGANDA, and feels that it is an attempt by the government to control the industry rather than represent the industry.

The Indonesian Consumers Union (YKLI) has played a positive role representing bus passengers in struggles against fare increases and to maintain the quality of service. Their strength comes from 'productively' criticizing consumer related problems through the media. Closely affiliated with the YKLI, particularly outside of Jakarta, is the Indonesian Legal Aid Society (LBH), which has represented people facing involuntary resettlement from new road construction, in the case of the Jogjakarta and Surabaya ring roads, for example. They also gave legal support to becak drivers when they were being driven out, and may work with bajaj and bemo drivers too if these issues arise. They are also working on a law which would require public hearings on all major infrastructure projects. LPIST, another NGO, has worked on transport issues from the perspective of labor, representing bus and paratransit operators. These organizations have found ways to advocate for positive change despite the

## Nicaragua

*continued from p. 7*

unable to keep up with the reality of the rapidly growing city. The city is currently completing a new city-wide needs assessment, which will form the base of the new 20 year development plan, but even this long term plan is being outpaced by the spontaneous, unregulated expansion and development of the city. A plan for the

**Half of public transit passengers have been robbed in the last year**

redevelopment of the city center, which was destroyed by the 1972 earthquake, was finished in 1994 by the City of Managua, with technical support from Amsterdam's Sister City program, but it remains unimplemented.

The bike plan alone, then, is not enough. As all initiatives for actual projects come "from above," getting cycleway infrastructure constructed in Managua requires getting the Mayor himself to take a personal interest in the project. Lower-level officials are unlikely to pursue a pro-

ject unless it has been presented to the Mayor or one of his close advisors first, and subsequently passed inspection there.

### Next Steps

Building a network of cycle paths could make cycling viable in Managua, which in the long term would not only improve the environment and traffic safety, but also improve the City's finances, as the provision and maintenance of a cycling infrastructure is much cheaper than comparable infrastructure for motorized transport.

The next step will be for the City of Managua to move beyond a verbal commitment and carry out a more comprehensive routing and engineering study for a cycling network. JICA could play a critical role in this by providing funding and technical expertise for the study and a pilot project. The creation of a person responsible for non-motorized transport planning and project implementation within the Alcaldia of Managua is also critical.

The city of Managua is at a crucial stage of its reconstruction, and major infrastructure decisions with important environmental, economic and social ramifications will be made over the next decade. A decision to include the provision of a non-motorized infrastructure into the city's development plans for the next millennium would put the Nicaraguan capital well ahead of other developing country cities in terms of visionary, sustainable urban planning, and environmen-

## South Africa

*continued from p. 9*

women bear a disproportionately larger share of poverty's burden begs the question even more: Why didn't women participate in the Workbike Pilot Project?

Upon being interviewed, the Mondi employees responsible for selecting the project participants stated their belief that the goal of encouraging women to participate was misguided: "you'll never see a black woman on a bike," one stated. This belief is widely held in South Africa, and may be one self-fulfilling prophetic reason

why no women were recruited to participate. Another reason for the failure to include women in the project is the fact that most paper collectors are men. If the project targeted roadside kitchen operators, which are almost invariably owned and operated by women, the results may have been different. Nevertheless, at present very few black South African women ride bicycles. Most have never been able to afford one, and as a consequence, many don't know how to ride. This trend is strengthened and perpetuated by the conventional view that "women shouldn't ride bikes", as one male paper collector

*continued on p. 23*

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"Bus Privatization in Great Britain." By David Bayliss. *Pro. Instn. Civ. Engrs. Transport*, 1997, 123, May, 81-93.

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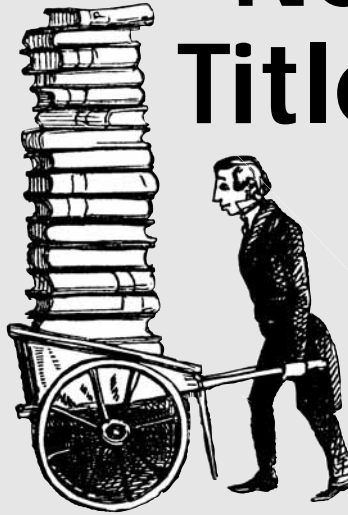
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*Policy of Air Protection in Poland.* By Zbigniew M. Karaczun. Contact: Institute for Sustainable Development, Warsaw. (0-22) 646 05 11, fax: (0-22) 646 01 74.

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"What conclusions can be drawn about bus deregulation in Britain?" By Peter R. White. *Transport Reviews*, 1997, Vol. 17, No. 1, 1-16.

# New Titles



*Transport and Communications for Urban Development: Report of the Habitat II Global Workshop.* Contact: United Nations Centre for Human Settlements, PO Box 30030 Nairobi, Kenya. 621234, fax: (254)-2-624266. habitat@unhcs.org

*Transport For the Poor or Poor Transport? A General Review of Rural Transport Policy in Developing Countries with Emphasis on Low-Income Areas.* By John Howe. Contact: International Labour Organization publications, CH-1211 Geneva 22, Switzerland.

*The Urban Transport Crisis in Europe and North America.* By John Pucher and Christian Lefevre. Contact: MacMillan

Press Ltd. Houndmills, Basingstoke, Hampshire, London, RG21 6XS.

*Transport and Sustainable Human Settlements: A UNDP Policy Overview.* By Walter Hook. Available 1998. Contact ITDP for update.

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**TRANSED '98: 8th International Conference on Mobility and Transport for Elderly and Disabled People**, September 21-24, 1998. Perth, Australia. Contact: (619) 388-2241, [indomed@psinet.net.au](mailto:indomed@psinet.net.au).

**Urban Transportation Policy: Tool for Sustainable Development. (CODATU)**, September 21-25. Cape Town, South Africa. Contact: C. Jamet, STP, 9 Av de Villars 75 007, Paris, France. Fax: 33 1 44 18 78 04.



## Tehran

*continued from p. 11*

Nonetheless, some progress has been made. Some of Tehran's major boulevards now have bus priority lanes fully separated from autos, and movement in them is fluid and efficient. And money has recently been authorized by the municipality to convert about half of the city's bus fleet from diesel to CNG. The traffic restricted

zone in central Tehran continues, and the National Institute for Tuberculosis and Lung Research found that carbon monoxide levels are roughly 40 percent lower in the zone than outside. The new subway system, when opened in about two years, will reduce surface trips by 10% to 15%, although mostly from buses.

Certainly, a good deal of work remains to be done. But, according to Paimeneh Hastaie, Managing Director of the Air Quality Control Company and

advisor to the Mayor on environmental affairs, Tehran is doing some progressive things and can end up as a model for others to emulate. "Our collaboration with GEF demonstrates that we are anxious to move ahead," says Mrs. Hastaie. "With the number of comprehensive studies that have already been completed on pollution and congestion, along with the management style of our Mayor, other agencies in government have been more willing to act. It is easier for us to create sound policy." ♦

## South Africa

*continued from p. 21*

put it. The ubiquity of this view, coupled with the fact that women have less income to spend on bicycles, puts bicycling out of reach for most South African women.

Maria Sshbambu didn't ever consider riding a bicycle, but she does now. Her roadside kitchen, which fits into a large plastic cooler which in turn fits into a shopping trolley, is *the* place for lunch. Her food is popular with the paper collectors, and Gabriel is at the front of the line. On the menu today is "pom" (like thick grits) and spiced mutton. A paper-plateful costs seven Rand (US \$1.52). Maria uses a shopping trolley to ferry her

business from her squatter camp, located 2km from her roadside site, and as a result spends much of her work day in transit. When asked whether or not she would ride a bike instead of pushing her trolley, she gazes sheepishly at the ground and defers to Gabriel: "She would like a bicycle," he says, "now she sees me with my bicycle, but she has no Rands to buy one."

Joyce Mzelase, 44, and Ulysses Mzelase, 35, know first-hand the obstacles that keep black South African women from riding bikes. However, according to Joyce, a lot of it is in their heads. "[They] think it's too difficult," she says. They have been riding avidly for almost two years, always ride together, and are both saving a lot of money that they used to

spend on combies (mini-bus taxis). They ride identical mountain bikes, wear identical University of Michigan baseball hats, and sport matching lycra riding shorts. Together, they overcome the deterrents: they helped each other save the money to buy their bikes, look out for each other in traffic, and through mutual encouragement give each other the mettle necessary to endure the disapproving yells and "funny looks" that men often throw their way.

For the majority of people that reside in and around Johannesburg, South Africa, bicycling is not an easy alternative to embrace. Social censure, lack of capital, poor facilities and sprawling urban geography are formidable barriers for any would-be cyclist to overcome. The



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