sustainable transport

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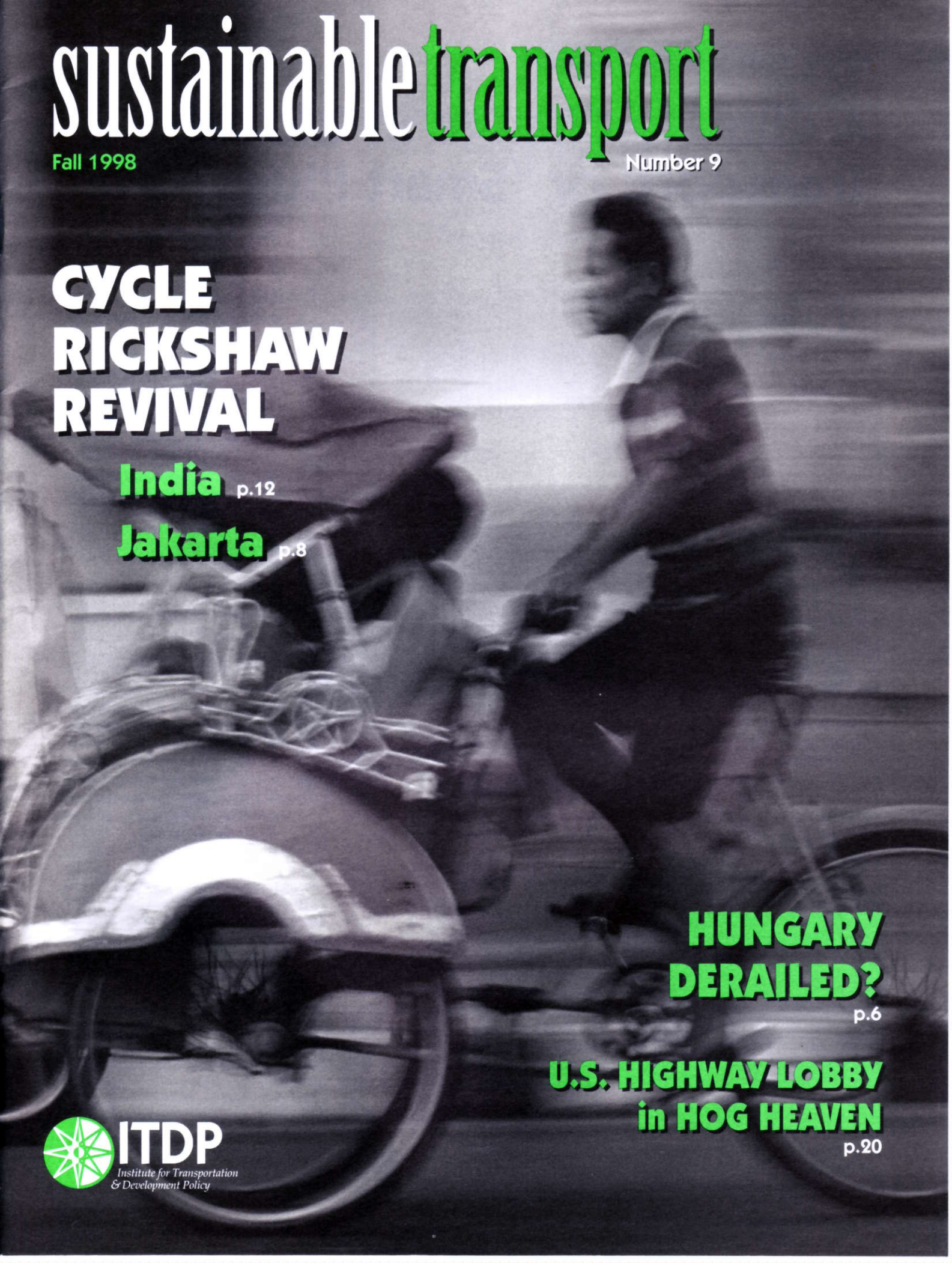

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ITDP
Institute for Transportation & Development Policy

A Climate Change in Global Transport, or "Smart Plugs?"

Last year, governments from around the world met in Kyoto and signed an agreement to reduce greenhouse gas emissions. Developed countries agreed to concrete emissions targets; developing countries agreed to develop plans to minimize emissions. A new, 'clean development mechanism,' was set up to help developing countries address the issue of climate change, and 'Joint-Implementation' (JI) was accepted as a way for developed countries to meet their climate change targets, complementing the Global Environmental Facility (GEF) which was set up to implement the goals of Agenda 21 and the climate change treaties.

Since then, however, little has happened. Governments and international agencies have been unable to come to grips with the dramatic increase in transport sector CO2 emissions resulting from growing use in motor vehicles globally. Transport CO2 emissions are growing at 2.5% a year, and are projected to double by the year 2020. Transport is responsible for roughly 15% of total Greenhouse gas emissions, and the share is growing. In the EU transport accounts for 32% of CO2 emissions, and is the largest single source. While today developed countries are responsible for 57% of these emissions, by the year 2015 developing countries will be responsible for over half. Catalytic converters do nothing to reduce CO2 emissions. Compressed natural gas may reduce emissions by 10%, a marginal improvement. Electric vehicles may or may not reduce CO2 emissions depending on how the power is generated. They have their advantages, but not much for CO2.

Heretofore, the GEF has done next to nothing to reduce CO2 emissions from the transport sector, focusing instead on converting coal-fired power plants to oil. The GEF's draft operational directive for transport, released last year after more than 2 years of delays, decided to focus its support entirely on the promotion of hydrogen fuel-celled public transit vehicles in developing countries, an unproven technology which has yet to be introduced successfully even in the U.S. or Europe. Thanks to quick intervention by ITDP, SUSTRAN, and other environmental groups, the GEF's operational directive is being revised and the guidelines broadened.

Karen Overton prepares bike shipment for South Africa

Up to this time, there has only been one U.S. JI project in transport, and if it is any indication of what we can expect, JI does not offer much hope to resolving the global motorization crisis. The project, called 'Smart Plugs', gives emissions reduction credits to the U.S. for every 'smart plug' that a U.S. firm sells overseas. These 'smart plugs' apparently reduce transport sector emissions in the vehicles that use them. Of course, the firm is trying to sell its 'smart plugs' anyway, so what exactly is the U.S. taking credit for? By the same token, couldn't the U.S. take emission credits for every GM car it sells overseas if the GM car pollutes less than a domestically-available alternative? We see serious problems here.

Since 1994, the World Bank has spent $3.12 billion on new highways in China, and the Asian Development Bank another $1.012 billion. The new Manila transport master plan sponsored by Japan's International Cooperation Agency, calls for wasting $6 billion on new urban highways. Balancing this international activity, we are offered 'smart plugs' and hydrogen fuel celled vehicles that aren't operational anywhere in the world. This is a recipe for a climate change disaster.

Today's traffic nightmare is not a problem that will be solved by 'smart plugs.' The low-cost Curitiba bus system is not technically complicated to implement, but it is politically difficult to implement. The extensive bike networks of the Netherlands and China offer another low-cost approach that has also not been replicated. Bicycles generate even less pollution than a hydrogen fuel-cell bus. The difference is that over 90% of the world's population can afford a bicycle. The problem is not a technology problem, it's a governance problem. Environmentalists, public transit users, bicyclists, and pedestrians are not as well organized or as well funded as motor vehicle interests, and tend to be excluded from the transportation decision-making process.

Ellen Cavanaugh

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Paul S. White

But as the problems are 'heating up,' the climate is beginning to change. Sustainable transport campaigns were recently initiated in Romania, Bulgaria, Managua, Johannesburg, and Israel. The Sustainable Transport Action Network for Asia and the Pacific, that was started by a group of Asian NGOs, ITDP, and UNDP's innovative Asia Pacific 2000 program, held its Second General Assembly in Manila, thanks to ITDP's contributors, the Changing Horizons Charitable Trust of the Tides Foundation and the New Land Foundation. Its members include the most effective sustainable transport advocates in Asia. Out of this meeting, formidable sustainable transport campaigns were initiated in Jakarta, Manila, New Delhi, Penang, and Calcutta. The Jakarta coalition already met with the Governor of Jakarta and convinced him, temporarily, to rescind the ban on cycle rickshaws. (See p. 8). We know what needs to be done. But SUSTRAN's fate still hangs in the balance as UNDP's Asia Regional Office continues to threaten to close the Asia Pacific 2000 program.

ITDP hopes that SUSTRAN can serve as a model for other regional sustainable transport coalitions in Africa and Latin America, facilitating meaningful participation by citizens in a planning process from which they are currently excluded.

ITDP is also demonstrating other, more cost-effective and sustainable solutions to the global mobility crisis: ITDP's Cycle Rickshaw Improvement Project, based in Agra, India, is moving along with the help of our Indian partners, the Asian Institute of Transport Development (AITD). This fall ITDP and AITD will unveil five prototype cycle rickshaws to leaders of the Indian tourist and bicycle industries, rickshaw unions, environmental/ecotourism groups, and local and regional governments. Matteo Martignoni, ITDP vice-president and project director/designer is working with Karl Miller, Glenn Ray and George Bliss to develop superior vehicles which aim to improve passenger comfort and alleviate driver strain — while simultaneously retaining the aesthetics of traditional Indian design. The three-year project, only in its early phases, has already

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

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

Cover photo: Richard I'Anson, in Lonely Planet's forthcoming "Chasing Rickshaws"

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News Briefs

IFC Funds Disastrous Coastal Highway

PANAMA CITY. On June 25, the World Bank's Board of Director's approved a loan from its private-sector lending arm, the International Finance Corporation, for a private company to construct the disastrous Corridor Sur toll highway in Panama City, despite the 'no' vote by the U.S. Executive Director. The loan approval process made a mockery of the environmental review process, as construction on the highway began five months before the Environmental Impact Assessment (EIA) was completed. The EIA itself was a sham, as it ignored the effects of development along the costal zone, including threats to mangroves, a shrimp industry, and the habitat of several endangered species–even though the World Bank's own 'Environmental Sourcebook' states that serious environmental impacts of induced land development must be addressed in the EIA. The justification for World Bank involvement in this private toll road, which primarily benefits high income air travelers and real estate speculators, is weak.

Puerto Ricans Resist Route 66

Severe water shortages in '94 and '95, caused by the destruction of riparian (water feeder) areas by highway projects throughout the country, have stimulated angry protests against Highway 66, a planned expressway that would connect northeast Puerto Rico with San Juan. The expressway would cut a huge swathe straight through 400 acres of undeveloped land. Other protestors are fighting the widening of Piero Avenue in San Juan, another project that would eliminate hundreds of trees. To repair some of the damage, the Department of Environment is planning to plant 1 million trees.

-The New York Times

China Exposed to Acrid Skies

BEIJING. After years of silence, forty Chinese cities recently began issuing weekly reports disclosing their air pollution levels. The data shows that Beijing–with over 178,000 premature upper-respiratory deaths annually–is one of the most polluted cities in the world. A recent World Bank report puts five Chinese cities among the world's dirtiest top ten. Beijing's 1.3 million registered cars (up from 200,000 only ten years ago), which on average emit 10 to 15 times more exhaust than their American counterparts, are a growing part of the problem. Beijing recently banned leaded gasoline, began tailpipe spot checks, and next year will require that all new cars come equipped with catalytic converters.

-New York Times, International, Sunday, June 14, 1998.

Cyclists and Pedestrians Breathe Easier than Drivers

Car drivers breathe air that is as much as five times more polluted than air breathed by nearby pedestrians and cyclists, according to the UK-based Environmental Transport Association Trust (ETA). Further, ETA researchers found that car ventilation systems have little impact on air pollution level. A similar Australian study found that benzene levels in cars exceed ambient levels by up to 11 times. For older cars lacking catalytic converters, driver exposure to benzene was up to 27 times greater during typical commuting trips.

-Air Quality Issues, Vol. 3, Issue 3, January 1998.

Malaysian Students Protest Expressway

KUALA LUMPUR. In Kuala Lumpur in February, about 2,000 University of Malay students and members of the public protested the construction of the Kerinci Link Expressway. The demonstrators, who converged at the main entrance to the university, were up in arms about the impact of the proposed road, which would cut through their beloved campus. Nearby residents have also taken their concerns to the press. The Kerinci Link is a component of the Sprint Expressway network, a RM1.3 billion project that is scheduled to be completed by the year 2000. Residents of Kampung Sungai Pencala, a Malay village settlement on the outskirts of Kuala Lumpur, have expressed similar concerns over the Pencala link, another link road in the network which would pave as much as 38 hectares of their wildlife reserve land.

-The Sun, Berita Harian and Utusan Malaysia (Malaysian Newspapers)

Budapest Nixes Free Parking

BUDAPEST. Two out of three Budapest residents still commute via public transport, but traffic in downtown Budapest has been increasing 9% per year since 1991. In response, the Municipality is gradually eliminating free parking downtown. Attila Pocs, program director of the Parking Alliance— the newly-formed body that will line Budapest's streets with parking meters and hire a squad of meter maids to patrol them— is determined to stem the increasing droves of drivers. "I come to work by subway every day. I wish everybody would follow my example and make this city a healthier place to live in," he said.

-Budapest Business Journal

European Commission Claims Eco-Taxes on Roads are a Trade Barrier; Activists Protest.

SCHONBERG, Austria. While the European Commission just signed its new White Paper on Fair and Efficient Pricing, it is continuing legal action against Austria for enacting environment-related toll increases on the Brenner motorway — the vital north-south transalpine motorway connecting

Source Transportation Alternatives

Austria and Italy. The EC claims such eco-taxes constitute a trade barrier and thus violate the Eurovignette Directive, despite the fact that the Directive has already been revised to allow the eco-charges and is only awaiting the Commission's signature. Outraged, environmental activists blocked the motorway for two days in mid-June. The activists now face legal action from the International Road Transport Union, who are also lodging complaints against the Austrian authorities for allowing the action.

"For a World Without Cars": Car Busters Magazine Debuts

A new international magazine, Car Busters, hit the newstands in the U.S. and Western Europe. Seeking to cultivate what one Amsterdam activist called, "a global action feeling", Car Busters, published in five languages, features "how-to" articles about tactics being employed by activists throughout the movement. Randy Ghent, co-editor, summarized one such article: "...a Budapest activist founded a tactic that I've dubbed "car-biking": When cars block her path in the bike lane, she

picks up her bike and "rides" it over the cars, if possible leaving muddy tracks to show what had happened. This causes no damage to the car, but gives the driver a clear message that bike lanes are for bikes." Also featured are an expose on Ford's collaboration with the Nazis, recent torture of Argentine Ford workers, and articles on how to make your bike take up as much space as a car. To subscribe to Car Busters, contact:

CAR BUSTERS Magazine & Resource Centre, 44 rue Burdeau, 69001 Lyon, France, tel.: +(33) 4 72 00 23 57; fax: +(33) 4 78 28 57 78, **carbusters@wanadoo.fr**

Cycling Dockworkers of Santos Left Out of Tunnel Development

A 200 million dollar tunnel project has been proposed to connect the port city of Santos, Brazil, to its neighbor, Guaruja'. The proposed tunnel design excludes provisions for cyclists, who comprise half of the traffic crossing the bay. If the project goes through, thousands of bicycling dockworkers who currently bring their bicycles across on the ferries will be forced onto the slower moving yet more expensive buses.

Aaron Golub of ITDP is currently doing a study of the project. Additionally, several community groups, including the dockworkers union, are organizing and advocating for bicycle provisions to be included in the tunnel design.

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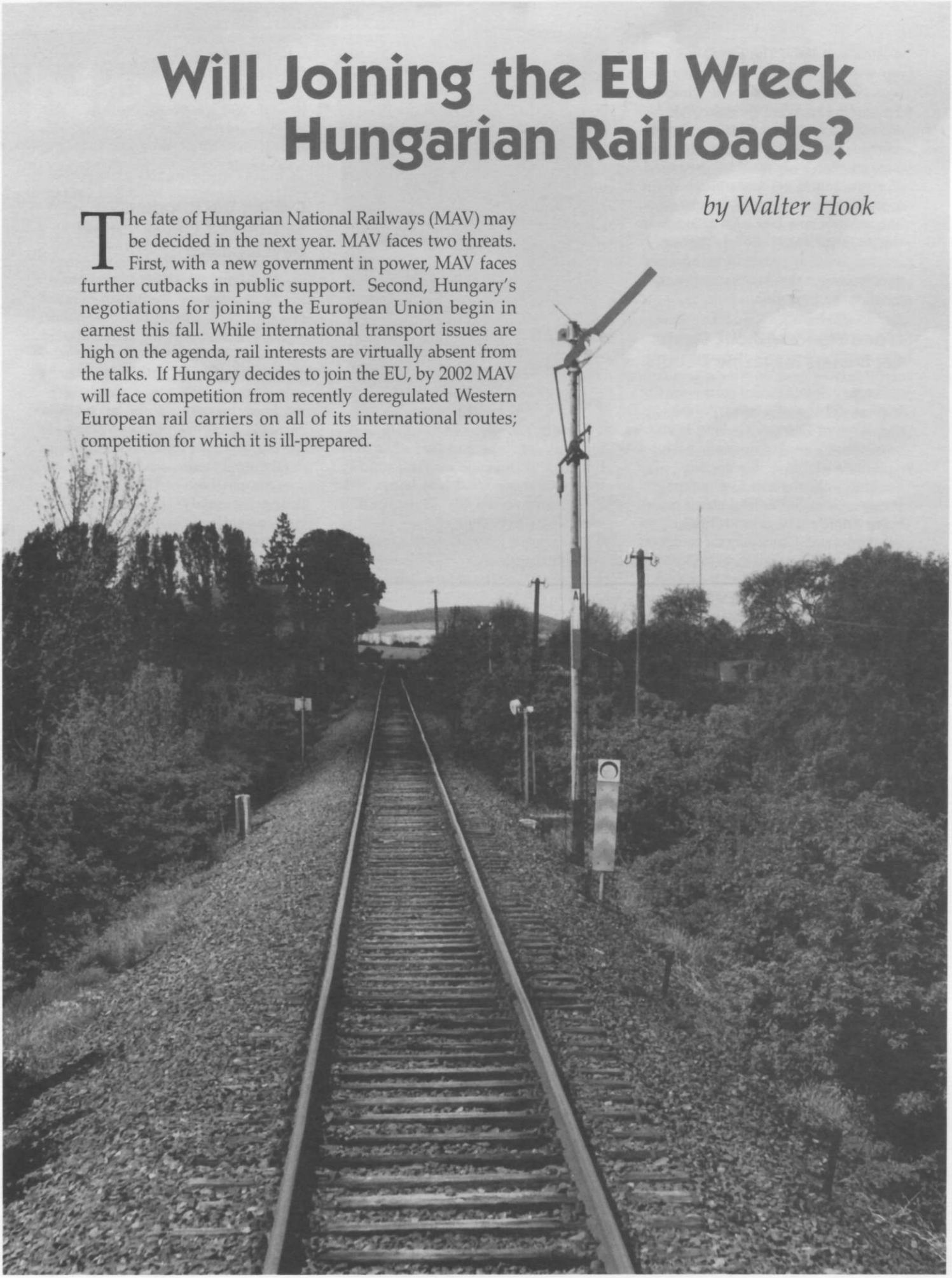
Will Joining the EU Wreck Hungarian Railroads?

by Walter Hook

The fate of Hungarian National Railways (MAV) may be decided in the next year. MAV faces two threats. First, with a new government in power, MAV faces further cutbacks in public support. Second, Hungary's negotiations for joining the European Union begin in earnest this fall. While international transport issues are high on the agenda, rail interests are virtually absent from the talks. If Hungary decides to join the EU, by 2002 MAV will face competition from recently deregulated Western European rail carriers on all of its international routes; competition for which it is ill-prepared.

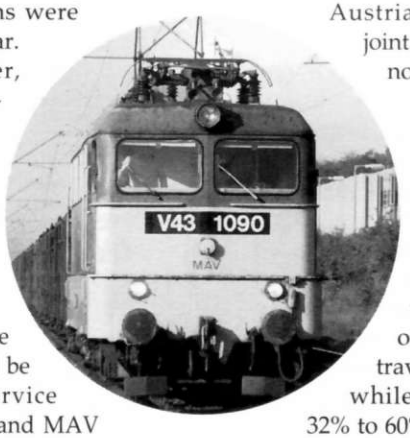


If MAV is unable to modernize, it will be unable to compete with both road travel and Western European rail companies. The growing traffic between Western Europe and both Turkey and the former Soviet Union will switch from rail to roads, and Hungary will lose a strategic sector to foreign-dominated firms.

Major Cutbacks and Layoffs Likely

This spring, a center-right coalition between the young Fidesz party and the rural Smallholders Party, came to power. Political unknowns, they have few ties to MAV or its unions. They are likely to decide whether or not to cut rail lines at the beginning of their term in office. While MAV's current deficits, at 12% of operating costs, are considered 'manageable' by the EBRD, this was achieved mainly through massive debt write-offs by the Government in 1994 and 1995. Experts disagree about the financial benefit of cutting branch lines, and an outmoded ticketing system makes it impossible to know which lines are profitable. In 1997, MAV's management tried to push through the closing of 1480 kilometers of branch lines and 70 out of 1400 stations, and the reduction of staff from 58,000 to 49,000 by the year 2001, but were stopped by the unions, local government officials, and citizen's groups. The final 5 Year Plan only included the replacement of 300km of branch lines with bus services, and required personnel reductions were limited to 600 per year.

This September, however, a new survey-based study estimating the profitability of individual rail lines will be released by the Transportation Research Institute. Just afterwards, the new government will be renegotiating its service contract with MAV, and MAV with its Unions and its workers. The government may use the new study to justify further line closings and layoffs.



MAV Poorly Prepared to Compete Within the EU

Hungary's entrance into the European Union could create a strategic opportunity for Hungarian rail. The Western European rail market is expected to triple in the next decade. The Council of Ministers— which governs the European Union— is likely to pass revisions of the 1989 Eurovignette Directive, increasing allowable trucking fees because of the extensive road damage and ecological damage they cause. Coupled with growing traffic congestion and rail deregulation, these changes have industry experts predicting a renaissance for European rail.

Unfortunately, MAV is poorly positioned to compete. While Hungarian subsidies to road users have increased by 1% of GNP since 1989, subsidies to the railroad have fallen by 1% of GNP. Today, government revenue support of MAV is only 28%, compared to the EU average of 46%. While Hungarian road users cover only 80% of government expenditures through road user fees like gas taxes, the Western European average is 200%. Losing business to more heavily subsidized road travel, MAV's maintenance has deteriorated. There are now speed restrictions on 40% of the network, up from 7% in 1990, and the rolling stock is 20% older than in 1990. MAV's locomotives are mostly inefficient diesel engines from the 1960s or electric engines from the 1970s. And of MAV's staff, only 300 of their 58,000 employees can pass the state foreign language exam in any foreign language. While new cooperative agreements with the Ukrainian and Austrian Railways to provide joint services will help, it will not be enough.

This shift in the nature of Hungarian government support has accelerated market-driven changes in travel patterns damaging to railways. From 1970 until today, MAV's share of total intercity passenger travel fell from 32% to 11%, while auto travel rose from 32% to 60%. During the same period, rail freight's share of total goods travel fell from 66% to 30%, and is projected to fall further, while trucking's share has increased from 20% to 50%. As MAV is fully Hungarian-owned, while the auto industry is predominantly foreign owned, such a dramatic shift in government support towards the trucking and auto industry is primarily benefiting foreign-owned companies at the expense of Hungarian-owned industries.

Money is not MAV's only problem. Until MAV's management is able to lobby on its own behalf and implement the sorts of changes required to make it more entrepreneurial and competitive, it will never be able to compete with the army of highway lobbyists.

Engineering a MAV Comeback

Modernizing its staff is key to a MAV comeback. Senior bureaucrats without the necessary skills to modernize the company need to be replaced with personnel trained in marketing, telecommunications and logistics, tourist promotion, real estate development, advertising, and other skills that are necessary to run a successful modern rail company, and current employees need to be retrained.

Track and engines need to be modernized. Wagons for transporting specialty goods, some of which may be necessary for complying with EU requirements for transporting hazardous materials, are needed. Ticketing and passenger information systems need to be modernized. Combined transport services for East-West traffic need to be developed. Support from PHARE, EBRD, EIB, and Germany's KfW Bank are helping in many of these areas. Tracks are also being electrified on three routes via a contract with a private concession company where MAV has promised to pay the concession company the difference between the previous operating costs along that line and the operating costs after electrification for a period of 15 years.

Developing strategic partnerships with the private sector for real estate development should also be key to MAV's commercial revitalization. Particularly in Budapest, MAV holds significant real estate which could be developed into multi-activity centers, attracting additional passengers to the railroad

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All photographs Ivo Ferenc

SUSTRAN notes

Asian Transport Advocacy Takes Off

From June 2-5, ITDP, UNCHS, UNDP Asia Pacific 2000 Program, and the Green Forum Philippines hosted the 2nd General Assembly of the Sustainable Transport Action Network for Asia and the Pacific (SUSTRAN). Following are presentations given by the SUSTRAN members in attendance. The Jakarta and Calcutta articles were updated by the authors to cover recent events.

JAKARTA'S CYCLE RICKSHAWS RETURN, BRIEFLY

–By Mr. Abdul Hakim and Mr. Darmaningtyas, LPIST-Indonesia

There was a week of optimism. In response to suggestions from NGOs like the Indonesian Consumers Union and LPIST, on June 23th, 1998 the Governor of Jakarta, Sutiyoso, told the press that, in order to help alleviate the economic crisis, he would allow the cycle rickshaw (becak) to operate in residential and commercial areas of Jakarta once again. Becak drivers demonstrated their support for the new policy in the streets. Only three days after the statement, there were 4,000 becaks in Jakarta, many coming from surrounding cities, such as: Tangerang, Bekasi, Sumedang, Cirebon (West Java), Pekalongan, Tegal, Brebes, and Semarang (Central Java).

Unfortunately, regional parliament members opposed to the new policy reacted quickly, especially the Development Unity (PPP, the Islamic party). The Governor, they claimed, had lifted the ban in violation of Regional Legislation no. 11/1998, and called on the Governor to reimpose the ban. They were joined by a group of lawyers who took issue with the violation of the law, and by the highway lobby. The Governor, despite new opinion polls showing that the public favored the reintroduction of becaks by over 7 to 1, gave in to pressure. Not only was the ban reimposed, but the Governor and the five Mayors of Jakarta called for total elimination of the becak by July 31, 1998.

The Regional Government of Jakarta originally implemented Operation Becak Elimination from 1989 to 1992, when military personnel used violence, intimidation, detentions, and arrests to drive becaks from the streets. Although government officials have contended that the becaks created congestion, were a source of criminality, and were inhuman, the ban in 1992 had no affect on traffic congestion or criminality, and was opposed by the becak drivers themselves who have no alternative source of employment.

Public Uproar

The Governor's retraction aroused opposition from a host of becak supporters: becak drivers; NGO activists; consumers; and mass media. On July 7th, more than 2,000 becak' drivers — alongside their becaks— demonstrated in front of the Governor's mansion. Two days later, 300 students, housewives, and NGO activists organized their own demonstration in support of the becak, directed at their regional parliament members. These events were followed by two other demonstrations on July 23rd and July 29th 1998.

A riot broke out on July 24th in Taman Sari, West Jakarta, and Regional Parliament members blamed the becak drivers for this 'criminality.' Sujimin Suseno, a becak driver in Johar Baru, Central Jakarta, asked, "Do you really think that criminality will disappear upon banning the becak?" Jukimin, another becak driver, speculated that opposition from the business community was partly because the low cost of the vehicle made it possible for becak drivers to live debt free, which cuts into the profits of bigger businessmen.

A random survey conducted by LPIST and UCP found that 86% of Jakarta residents supported the operation of becaks in Jakarta, mainly due to their affordability, while only 14% believed they should be banned, most siting their inhumanity. The 15% who felt becaks should be illegal used the following modes for commuting: 37.7% used motorcycle taxis (ojek), 35% used microlet collective car taxis, 15.7% used private cars, and 15.7% used motorized rickshaw (bajaj), all vehicles disproportionately responsible for Jakarta having the 3rd worst air pollution in the world.

PLANNED OBSOLESCENCE: CALCUTTA'S TRAMWAYS FACE PHASE-OUT

–By Debasish Bhattacharyya, Indian Institute of Technology, Calcutta

In a move that belies its moniker, Calcutta Tramways Company (CTC), citing an insurmountable operating deficit, has plans to fold its extensive network of class one tramways and begin operating diesel buses. The decision, made entirely without public input, comes after widespread mismanagement and neglect of the trams, amid rumors of tram sheds and tram cars

Richard I'Anson, in Lonely Planet's "Chasing Rickshaws"

being unilaterally dismantled and sold to scrap iron dealers, and at a time when auto-induced air pollution and congestion are rising dramatically.

The move will only hasten motorization in Calcutta. The motor vehicle fleet in Calcutta rose from 310,531 in 1985 to 640,915 in 1997. Roughly 48% of the vehicles are motorcycles, 45% are cars and jeepneys, and only 1.2% are buses. This rapid increase in the number of motorcycles has led to levels of suspended particulate matter more than 15 times higher than World Health Organization- recommended levels in winter months, and carcinogenic Benzene levels 10 times those of most European cities.

Mismanagement of the tram system has led to deficits and sharp declines in public transit use, today accounting for only 1/3 of total travel demand. Calcutta trams, in their prime, carried passengers at 200-300% capacity. Subsidies kept the trams the most affordable mode of transport. Subsidies cannot be blamed for the deficit; mismanagement lies at the root of the problem. Often there are shortages of drivers, yet the tram to crew ratio is 1:30. Efforts to eliminate deficits instead cut vital tram operations. Consequently, maintenance of cars deteriorated and ridership waned, leading to further drops in earnings. CTC lost ridership to unregulated private bus and paratransit services, and other more polluting modes.

Instead of remedying the mismanagement of CTC trams, the CTC bought 300 buses to replace tram services, even though there were already four state bus companies in operation under the Calcutta State Transport Corporation (CSTC), all of which have an even higher deficit and higher subsidy per passenger than the tram system. The average life of a state bus in Calcutta is just 5.4 years, versus 50-70 years for the trams.

Widespread protests stopped the tram system from being totally dismantled, but maintenance and management of the system remains poor. There are 5000 bad track joints in the network, with gaps as wide as six inches and numerous missing rails that take as long as six months to repair. Welding failures appear even in newly replaced tracks within days of installation. Tram car maintenance costs could be substantially reduced if the tracks were maintained properly, yet hundreds of idle workers gossip and smoke while in uniform. Timetables are also mismanaged. Trams stop frequently on lines with little ridership, while stranding hundreds of waiting passengers on the most popular lines. Lack of pedestrian facilities on congested roadways also discourages ridership. The cost of a ride is also an obscure, unrounded figure, requiring coinage seldom found in circulation.

Reviving the CTC trams would cost roughly $25 - $35 million, or $29 per passenger, but the agency hasn't even requested the money. By contrast,

Calcutta's trams

Japan's OECF has agreed to fund a second line on the Calcutta metro, which has only about 200,000 daily passengers, and costs $1860 per passenger, and highway flyovers at several downtown intersections, costing the municipality $128 per motorist. In a poor city like Calcutta, where an insignificant proportion of the population depend on privately owned vehicles, this is a serious mis-allocation of scarce public funds.

[Some supplementary material from Prof. John Whitelegg]

MANILA NGOs PUSH for REVISION of MANILA MASTER PLAN

–By Philippines Sustainable Transport Network

After the General Assembly of SUSTRAN, several Philippino NGOs formed a coalition called the Sustainable Transport Network, (STN) which will advocate for more sustainable transport policies in Manila, now the world's 4th most polluted city. The STN grew out of the Sustainable Transport Forum, which held a conference on Transport and Environment last December. The STN's first effort will be to comment on and facilitate public participation in the Metro Manila Transportation Master Plan. Currently, the Master Plan calls for over $6 billion in new road construction, which will cost the Philippines roughly a quarter of their GNP just to meet the interest payments.

The recent construction of the Circumferential Road #5 (C5) displaced roughly 5,000 urban poor families who were evicted. Urban poor groups were actively involved in the resettlement conflicts. They complained to Japan's OECF, the funder of the project, and OECF forced some improvements in the resettlement. To the south of Manila, groups are fighting the proposed South Luzon Tollway Extension. The farmers opposed it, and organized to prevent the road from being built. It was rerouted through a 'sacred mountain' area, which is also meeting resistance.

PEDESTRIANS WIN THEIR RIGHTS in SEOUL, KOREA

–By Mr. Lim Samjin, Director, Networks for Green Transport (NGT)

NGT, which rose out of the democratic movement and the transport labor unions, started a campaign to improve pedestrian's rights in the early 1990s. They held a March for Pedestrians in 1993, a March for Disabled Access in 1994, and an Earth Day Bike Parade in 1995. They demanded that the Government collect data on pedestrian trips. It turned out that 30% of total trips in Seoul are pedestrian trips, and 47% of the 15,000 traffic fatalities a year are pedestrians. Armed with this data, NGT's head, Samjin Lim, previously the MC on an environmental talk show, was able to popularized the notion of Pedestrian Rights through the media.

Then, in 1997, they got the Act for Pedestrian Rights passed for the Seoul Metro Area. The new law requires the city to make a pedestrian master plan every 5 years, and allows for the creation of 'Pedestrian Only Zones.' Several were created. Now 40 organizations from 25 cities are working to pass

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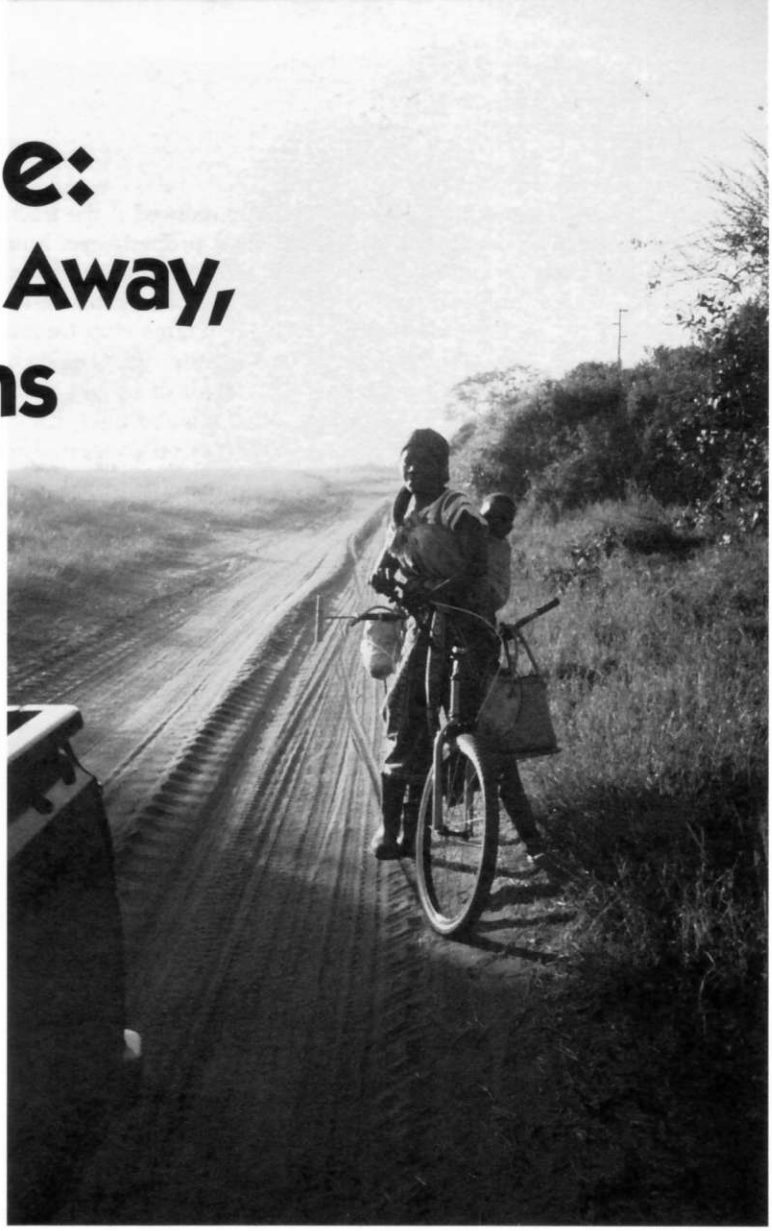
Debasish Bhattacharyya

Mozambique:
Roads Washed Away, Red Ink Remains

Edited by Luis Flores M.



On Thursday, July 16th, Mozambique's Minister of Public Works and Housing, Roberto White, admitted during Parliamentary hearings in Maputo that the $1 billion Roads and Coastal Shipping project (ROCS), largely funded by the World Bank, was unsustainable. Phases I and II (ROCS I and ROCS II), are nearly completed, $400 million is already spent or committed, and ROCS III is already being planned. Already, many of the roads built with these loans have virtually disappeared, but the debt remains. Ironically, in 1996, World Bank President Wolfensohn gave the technical excellence award to the African Roads Program, with the Mozambican Director of Roads and Bridges receiving an honorary certificate. The following is taken from an interview by journalists Carlos Cardoso and Joseph Hanlon with Roberto Chavez, then World Bank Resident Representative to Mozambique. The interview, conducted in November of 1997, appeared in the Mozambican daily Metical.

Chavez: In 1988-89 there was a World Bank consultant here who had vast experience in the Middle East and Latin America, but in Africa, zero. He came to Mozambique, saw the condition of the roads, did a lot of studies and concluded that in seven years a rehabilitation program could provide a decent road network, and that in ten years the system would be ready. As he had worked in much more advanced countries than Mozambique, he chose a technology used in those countries, namely asphalt. And he brought in some English consultants. So then we had this unfortunate triangle: a Latin American specialist who did not know Africa, an English road company also ignorant of Africa, and the (Mozambican) Director of DNEP (Roads and Bridges), who knows Africa very well but who bowed to the opinion of outside experts. So they designed a project that was technically consistent; but how was it to be financed, and what about the financing of the routine and periodic maintenance?

The technology adopted was very capital-intensive. There's a basic indicator used in road engineering, the roughness index. They told us that they were going for a roughness index of 2%, which is more or less as smooth as a baby's bottom, and that asphalt was the only way to get there. The Government had to pay in foreign exchange, but didn't have any. It had to borrow to buy expensive equipment and spare parts. The raw material - asphalt - was imported. Asphalt is very maintenance-intensive, which is fine in economies with large traffic volumes. In other words, we are transferring a technology which depends on having oil and the resources to justify asphalt. It's already apparent that the Nacala road needs resurfacing, after 4 years. Personally, what I find unforgivable is that the Bank was not more skeptical and better prepared before getting into all of this.

Q: In ROCS I, was there some awareness [that there were problems?]

Chavez: There was no awareness. It's only beginning now, with Minister of Finance and Planning,

photographs Karen Overton

Tomaz Salomao, because others still don't acknowledge any problems. This blew up in June 1997, at a meeting to discuss the restructuring of the program with the Bank...by which time ROCS I was far along, ROCS II was halfway, and we are already thinking about ROCS III. And Salomao, with a map of Mozambique in front of him, says to the Country Director (CD): "I think we have a problem with the roads. Recent-ly, I went overland from Pemba to Maputo; on that stretch the road doesn't exist. From here to here you can make some progress; from here to here the maintenance is appalling; from here to Sofala, forget it; from Zambezia to Sofala, quite impossible, and then in Inhambane..." He did the whole trip from north to south. The CD had never heard or even imagined what the status of the national road program might be; she had to hear it from the minister. She said, "We need more money for maintenance." "Madam, to maintain what?" he replied

She called the Director of Roads and Bridges and asked him to explain why they hadn't been able to make the system work. "The problem is this: we send the grader out, but after the first rain, when a truck goes by, the road falls apart. We would need major national and external resources just to maintain - more or less - the system". "So what's the answer?" "Very simple," he said, "A presidential decree closing the roads during the rainy season."

I thought he was joking; during the cashew marketing season, you're going to close the roads? Now he's discussing the idea with Minister White, and he wants to control the traffic on the roads during the rainy season; for example, no trucks for 48 hours after a downpour, and no pick-up trucks for 12 hours. A totally bureaucratic solution, in other words; how on earth can you do that? Is some inspector going to be on every road measuring rainfall and truck weights? My problem is that they won't admit that there's any other approach, but there is.

Some time back I was with Minister White and asked him "Why don't you cancel those contracts?" "It's very complicated" he said. On some secondary roads we will have the same problems. We will soon have problems on the Quelimane-Mocuba road. Some roads have already disappeared, but the debt remains.

But let me stress one thing: the ROCS has been a very good training and capacity building tool in Mozambique. The Director of Roads and Bridges takes the students from the university and gives them a scholarship at the engineering school; they do practical training in the ROCS during their vacations and then go straight into the ROCS program to replace the expatriates. And the engineers also get retrained. That should definitely be recognized. The problem is the wrong technology.

[For example, the heavily traveled 8 km Avenue Lenin extension in Maputo was built using concrete pavers on sand with labor-intensive methods. The main-

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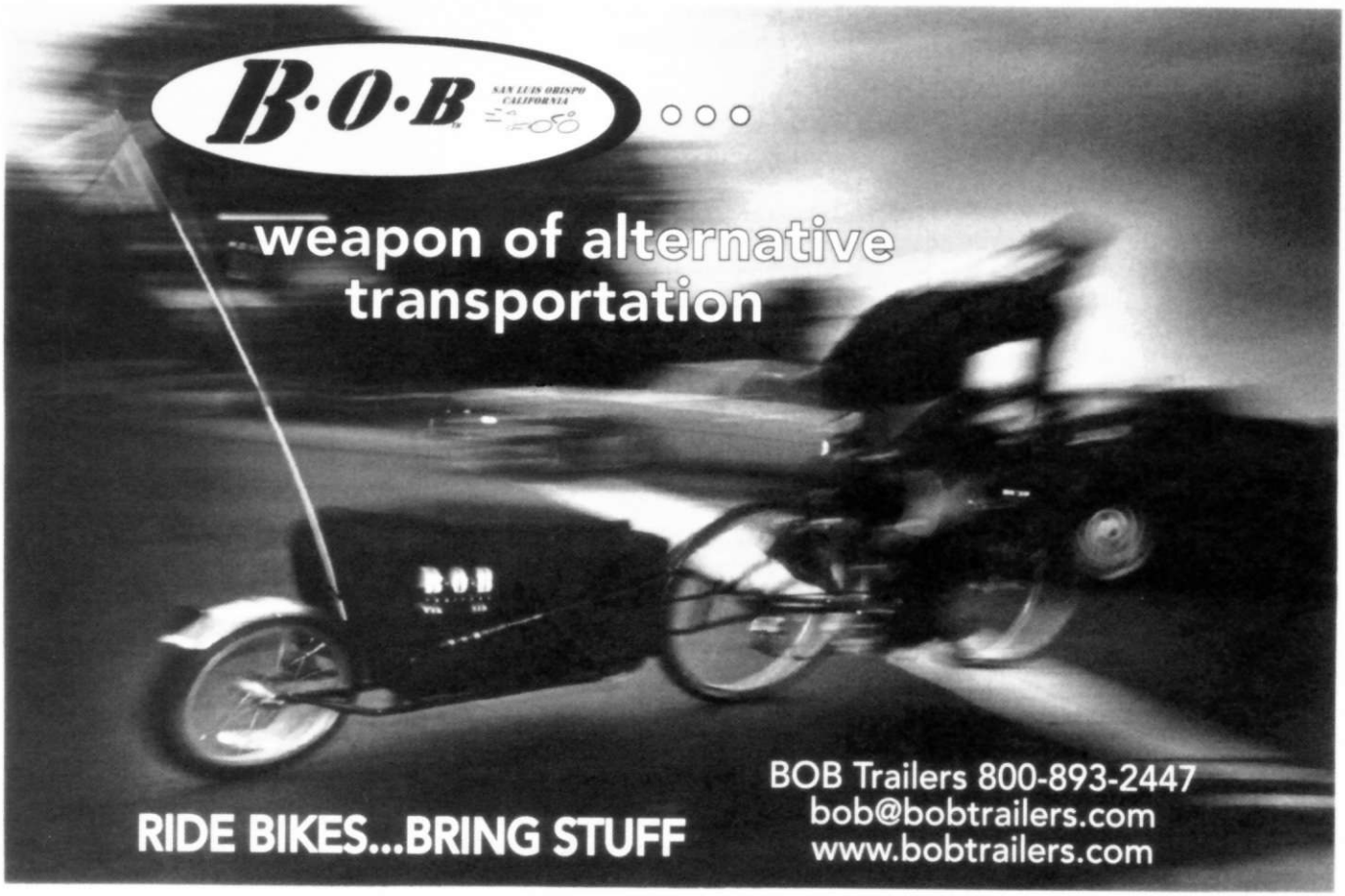

Reincarnating *the* Indian Cycle Rickshaw

by Paul S. White

The following recounts recent developments in ITDP's Cycle Rickshaw Improvement Project. The original project design was reported in "The Cycle Rickshaw can Save the Taj Mahal; The Taj Mahal can Save the Indian Cycle Rickshaw" (ST#7)

"It Will Never Work"

BBC reporter Paul Shuttlesworth wanted to shoot ITDP's Indian Cycle Rickshaw Improvement Project. I told him to call back in October, when our prototypes would be better developed. Yes, we were a little behind schedule. "Well," Mr. Shuttlesworth replied, "I really need some information now, because we're leaving for Delhi tomorrow." Later, we learned that he wanted the material for his science show called "It Will Never Work." Great.

When I arrived in Delhi on May 4, ITDP consultant Karl Miller had been in country for two months, sweltering in 115 degree heat, developing three prototypes. Contrary to our hopes, they weren't ready. Karl, who'd developed an award-winning human-powered quadracycle in China, had run into some problems.

We'd decided to do the design work in-country so that we could cooperate with Mr. C.P. Bhatnagar, an Indian engineer with ties to the local bike industy, who had developed new rickshaw designs of his own. Our project partners, the Asian Institute for Transport Development, (AITD), agreed to co-operate with ITDP on the project, as AITD's Dr. Anand, the Director of the National Gandhi Museum, had just published a book on cycle rickshaws in India, and supported their development as consistent with Gandhian development theory. They were going to bring in Mr. Bhatnagar to work on the project, and we would work out of his shop until a new shop could be set up.

Unfortunately, Mr. Bhatnagar and AITD ran into some sort of contractual dispute, and Mr. Bhatnagar was no longer willing to work on the project. Consequently, Mr. Miller had to spend his first weeks working with AITD's Mr. Mehta finding and setting up a shop. Karl then had to do the design work more or less by himself, although Mr. R.P. Gupta of Shivati Cycles, an associate of Mr. Bhatnagar's, provided some key help. Karl then lost some time developing a vehicle which Dr. Anand pointed out was too wide to comply with Indian traffic laws, which set the maximum width of rickshaws at 45 inches.

Then the bombs went off. My first thought was: thermonuclear war, oh, no, there goes the cycle rickshaw project! The political fallout from India's nuclear tests–U.S. sanctions–threatened our USAID funding for months, and cast a spectre of doom over Karl's final week. I was beginning to think the BBC was right.

It Probably Won't Work: The First Prototypes Are Developed

Working night and day to prepare the prototypes for their formal unveiling to the Delhi Advisory Board on May 15, I helped as Karl partially completed two innovative prototypes, and closed in on a third.

Improvements in cycle rickshaw technology have been inhibited because their low and moderate income operators and customers are understandably risk-averse. We knew if we were to overcome these barriers, we would need to bring the manufacturers, and potential customers and operators directly into the design process. So we asked Karl to develop three prototypes. By the day of the demonstration, this is what we had:

"Delhi Model"

Designed for cost parity with existing cycle rickshaws used in Delhi, this model was completed. Karl modified a work-bike carriage and attached it to a standard Neelham cycle rickshaw kit. This innovation reduced the carriage weight by 20 kilos, made the seat wider and more comfortable, lowered the gear ratio, and gave it a better canopy and less air drag, at a price competitive with the existing vehicle.

"Taj Taxi"

Designed to meet the requirements of lucrative tourist markets in Agra, home of the Taj Mahal, and other tourist cities, as well as for export, this model was done except for the canopy. Karl managed to get the weight down by 25 kilos, lowered the center of gravity and shortened the vehicle, making it more stable, gave it a new differential that he and Mr. Gupta of Shivati developed, five speeds, and mountain-bike handlebars, while still using the standard Neelham kit. In order to make some of these innovations, however, the passengers had to sit facing backwards.

"New Age"

This model was intended to demonstrate the technological capabilities of human powered passenger transport, using modern materials, with an integral frame, maximizing stability, travel comfort, speed, and safety. The day of the demonstration this vehicle was still propped up on bricks, as the drive train had still not been worked out.

On the day of the demonstration, Dr. Anand and Mr. Mehta of AITD, students and teachers from the Indian Institute of Technology, and other NGOs came to scrutinize and test the prototypes. Dr. Anand liked the Delhi model, which was lighter, more comfortable, while still affordable, *but wanted better armrests* and a retractable canopy. The students and Mr. Mehta were intrigued by the "New Age," but it wasn't ready for a test drive. Most observers felt the Taj Taxi was much easier to pedal, more comfortable, more stable, and handled better, but all felt that the rear-facing passenger seat was inappropriate, particularly for tourists approaching the Taj Mahal.

The rear-facing design presented another problem. When Dr. Y.P. Anand, former director of Indian National Railways and current director of the Nation-al Gandhi Museum sat on the passenger seat, the front of the vehicle popped up, jostling him. Karl, red-faced, explained that the short wheel base of the vehicle, while making it extremely maneuverable, made it prone to pop-up unless the puller was already seated as a counterweight. He pointed out that this could be remedied by placing the axle farther to the rear of the vehicle's frame.

Other advisory board members didn't fail to point out other flaws. The chain pops off when switching gears. The designers showed poor taste in seat and canopy color selection; they should have used more chrome and less pea green. There should be more passenger amenities, such as soft-drink holders, armrest padding, and space for parcels. Clearly, the prototypes needed more work.

After the presentation, a beleaguered Mr. Miller, his wife and his three-year old son returned to the cool of their native Calgary, Canada, and I returned to the air- conditioned apartment of the family I was staying with, to take stock of my notes, video recordings and photographs of Miller's work, and finally to a fitful sleep. At 3:00 a.m. I awoke in a puddle of sweat— the air conditioning had cut off again.

It was clear we needed an Indian engineer on the design team. The next day I set out for the Indian Institute of Technology (IIT), as usual, on my bicycle, trying to follow in the footsteps of India's most famous proponent of human-powered transport, Gandhi, who's life was his message. (I'd brought my bike over for basic transportation, and to do a little touring on the side. Sweating in 115 degree heat, and with particulate levels between ten and a hundred times higher than in the U.S., I looked like a coal miner after every ride.) A mile down the road, a grinding noise told me something was horribly wrong with my bicycle: seat crooked, rims out of true, front fork bent. Hmm.

Walking back to my residence, I considered suspects. Ramu, a local "house boy", was smitten by my Cannondale tourer from the minute I pulled it from the KLM travel box. (Bicycles available in India are largely limited to standard English-racer style bikes.) "May I ride it, Mr. White?" he had asked me repeatedly. "But its too big for you, Ramu," I told him. When I got back to the house, Ramu was sitting on the step, his knees covered with abrasions. "I'm sorry about crashing your bicycle, Mr. White," he said. What could go wrong next? That night, Pakistan set off their bombs...

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Photographs Paul S. White

Rickshaw

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Maybe it Will Work

Mr. Mehta loaded my bicycle into the back of his car and drove me to Jhandewalan Cycle Market, a Nirvana for cycle enthusiasts, where in ten minutes the mechanic had my front fork on a hydraulic press and bent back into shape. Twenty minutes later, my bicycle was back together and finely tuned. My confidence was making a comeback.

Meanwhile, bearing the Advisory Board's comments in mind, ITDP's Vice President and chief design expert Matteo Martignoni began the next phase of prototype development at his state-of-the-art Petaluma, California studio. He also started developing a new vehicle designed for carrying school children, another popular use of rickshaws in India. Assisting his work: Stephen Delaire, the manufacturer of Rotator Recumbent Bicycles, Glen Ray, a current Vice-President of the International Human Powered Vehicle Association who had worked on the Space Shuttle, and George Bliss, founder of Pedicabs of New York (PONY), and its non-profit affiliate, the Center for Appropriate Transport.

I set out for Agra with Mr. Mehta to get opinions on our prototypes from our Agra-based Advisory Board, set-up our Agra workshop, and show the photos to the people who would know best whether the vehicles would work or not: the cycle rickshaw wallahs that make the trip to the Taj on a daily basis.

Mr. Mehta and I secured a 10,000 sq. ft. workspace, appropriately, on Mahatma Gandhi Road. We outfitted the shop with workbenches, tools and supplies. Workers were busy whitewashing the walls and installing light fixtures. At the front of the building, the previous tenants had left a huge sign where they had painted their logo. It was time to hang a shingle and give this project a home. We commissioned a local artisan, who in no time had beautifully painted over the old sign with the following:

Cycle Rickshaw Improvement Project
ITDP AITD

That completed, I ventured out on my bicycle to gather comments on our prototypes from the denizens of Agra's rickshaw culture. I had met Mohammed Khan, a puller operating near the Taj Mahal, and invited him and several of his fellow wallahs to visit our new shop, thinking it would be a great photo opportunity with them in front of our new sign.

When we returned to the workshop, however, the sign was gone. I asked the landlord what happened. "Just as your painter was finishing, they showed up with a blow torch, cut it down and carted it off. I guess they did want it, after all." We called the painter back, and he painted a new sign.

I then met with Rajiv Narain, the General Manager of the Taj View Hotel and Chairman of the Agra Tourist Promotion Board. He agreed to Chair our Agra Advisory Board, along with several other tourist industry executives, manufacturers, assemblers, government officials, and rickshaw wallahs. Mr. Narain was a wealth of information. He pointed out that the main advantage of the cycle rickshaw over the Bajaj (motor rickshaw) is that it affords an expansive, open air feeling, so the canopy needs to be completely retractable. He suggested we include such features as on-board maps, rate sheets, drink holders, and other items which would help the cycle rickshaw function as a top-flight touring vehicle.

Richard I Ansm. in "Chasing Rickshaws"

Reactions from the Wallahs

I first spotted Mohammed Khan as he and his 100-pound single-speed cycle rickshaw were cranking two stout German tourists and their luggage uphill in blistering heat. I gave chase immediately. As I sidled up to Mohammed on my Cannondale, I noticed that he was very thin, and his sandals were worn through so that the balls of his bare feet touched his pedals. I tried to ask him some questions in my broken Hindi. Despite breathing air as poisonous as smoking 40 cigarettes a day, he said to me, in perfect English, "I will talk to you, but let me finish first."

Of historic Agra, Jawaharlal Nehru, India's first prime minister, said, "every stone, nay every grain of sand here, would have a story to tell if those were gifted with a tongue." Mohammed, who had plied Agra's streets for over twenty years, was conversant in several languages. He more than compensated for Agra's silent stones.

I pulled the photos of our prototypes from my messenger bag and asked his opinion. He squinted at them skeptically at first, then, as his countenance changed, Mohammed started talking. He was interested in the differential that Karl had developed from a modified auto-rickshaw differential; liked the gearing, which as he pointed out was similar to the cluster on my cycle; was pessimistic about the backwards-facing passenger seat on the Taj Taxi prototype. "It will never work, not for tourists."

"And," he added, "these rickshaws you have are not pretty." Then he launched into a lecture about Mughal art and architecture, elements of which, absent on our prototypes, are part of the beauty of the current rickshaws.

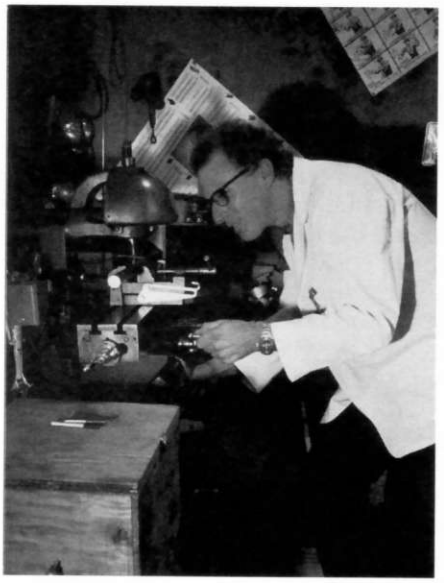
Then Mohammed shared his bundle of photos and letters from satistfied customers from around the world, all wrapped-up in his "good luck" bandana. Indeed, a ride in Mohammed's rickshaw, "though occasionally bone-jarring, (is) an informative and memorable experience," hand-scribbled one devotee. "You were a veritable encyclopedia of Taj lore" said another. We continued chatting about gearing, wheel base lengths, carriage materials, differentials, and what makes tourists tip. In closing, he emphasized the ever-important issue of affordability: such innovative rickshaws are worthless unless they are obtainable for the thousands of Agra rickshaw "wallahs", he said. This project, if it does nothing for Mohammed, will be a failure.

On to Ludhiana: The Bicycle Shangri-La of India

In Ludhiana, the center of bicycle manufacturing in India, project fortunes continued to improve. Neelam, the main Indian manufacturer of cycle rickshaw "kits" (the front end of the rickshaw which rickshaw assemblers throughout India use to construct complete rickshaws after adding their own unique carriages) agreed to partner with us to produce our new rickshaw frames when the time comes to manufacture a trial fleet. Research and design executives at Hero Cycles— the largest bicycle manufacturer in the world, producing 3 million bicycles per year— offered their assistance in putting our new designs on CAD-CAM (a computer design program), and pledged to back our project with other forms of technical support.

Next Steps

On September 1,1998, Mr. Martignoni will return to ITDP's rickshaw design and manufacturing facilities in Delhi and Agra. At this time, Mr. Martignoni will be working with Mr. Prabhu, a graduate student in mechanical engineering from the Indian Institute of Technology-Delhi who has extensive experience working on cycle rickshaw design and prototype development. Together with Sunil Kumar of Hari Om Cycle Mart, they will finish the prototypes.



Matteo Martignoni in his Petaluma shop

Then, by late October, ITDP will convene the members of both Project Advisory Boards and present to them the fully finalized prototypes. In the following weeks, the design team will incorporate their final suggestions into the completed prototypes, thus ending Phase I of the project. Then we'll contract out a local manufacturer to build a trial fleet of ten to twenty vehicles of the Taj Taxi, the Delhi Model, and the school children model. The Delhi Model fleet will be tested in Delhi by our project partners, AITD. At the same time, we will negotiate with several tourist service providers in Agra, hold a competitive bidding process, and then identify a trial operator who will operate and maintain the trial fleet for a period of several months.

ITDP's improved cycle rickshaws should be able to attract a significant share of tourist trips and school trips, allowing the participating rickshaw pullers to increase their income. Increased income should make possible the introduction of an improved but more expensive vehicle, a necessary condition if this project is to work.

Epilogue

As my stint in India drew to a close, I set out on a four-day bicycle tour from Ludhiana to Dharamshala, the home of 'Tibet in Exile' located in the foothills of the Himalayas. Other cyclists would often ride with me as I passed Hindu temples and families of monkeys, with the snow-covered peaks of the Himalayas visible in the distance. But the heat was intense, and the road often no more than broken bits of concrete and mud. I camped, stayed in hostels, or with village families who put me up. Nervous about the strength of my front fork because of Ramu's accident, I loaded my gear entirely onto my back rack. On the third day the rack gave out, and makeshift roadside repairs with electric wire proved unsuccessful. I was stranded, and couldn't understand why nobody would pick up a sweaty, dust-covered cyclist. After a while, however, I was finally able to flag a bus. As soon as I climbed up on the roof with my bike, the bus took off. I held on for dear life as the driver swerved around road workers, pedestrians, cows, trucks, and cyclists laden with firewood.

When I finally reached Dharamshala, the Tibetans were dancing on the rooftops. A hero's welcome, well deserved? No, it turned out to be the Dalai Lama's birthday. I spent the days conferring with the re-incarnation of the 7th Markham Dakpa Rinpoche. We had a vision. Lamas on bikes? Why not! ♦

Hungary

continued from p.7

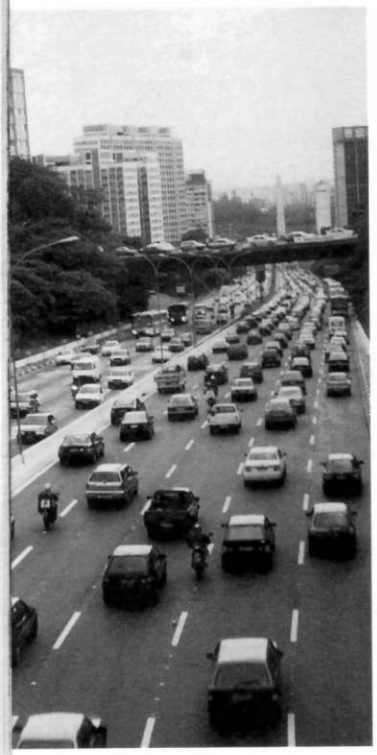
while generating revenues. Strategic partnerships with the tourist industry on rail lines with tourism potential value could save several short lines threatened with closing, while simultaneously bringing ecologically friendly economic development to rural areas. Telecommunications investments or leasing arrangements could also be further explored.

Hungarian Railways is one of the oldest railroads in Europe, and its track networks is one of the most dense. Modernized today, it could become a vital, internationally competitive industry, capitalizing on Hungary's skilled labor force, extensive infrastructure, and low labor costs. But without significant investment and modernization, Hungary will lose a key industry in which they could be internationally competitive. ♦

Paul S. White

São Paulo Curbing Car Use

By Eduardo A. Vasconcellos



After decades of unsuccessful efforts to build their way out of a world-class traffic congestion nightmare, the State and City of São Paulo have finally begun to adopt traffic control measures. One plan, initiated by the State Department of the Environment under Fabio Feldmann as a pollution control measure, restricted access to the city by each automobile one day a week between 7AM and 8PM during winter months. The plan was firmly opposed by the media, the automobile-dependent middle class, many traffic planners and the São Paulo City Government, which, besides belonging to an opposing political party, has historically advocated pro-automobile policies. Nevertheless, the plan was approved by the State Chamber, and became law. The plan reduced CO levels by 12%, reduced weekly CO2 emissions by 17 tons, and decreased congestion by 20% in the afternoon. These congestion benefits convinced the city authorities to propose their own license plate scheme, which restricted traffic only during the peak hours, from 7-10 AM and 17-20 PM, but year round. In both cases, compliance has been about 90%.

Brazil's New Economic Plan of 1994, which introduced the Real and curbed inflation, led to 10% a year increases in the automobile fleet. The City of São Paulo now has 4 million cars, or roughly 400 cars per 1000 people, which have created 60-mile long traffic jams that cost the city over $1 to $2 billion a year, and 2 million lost working hours daily. The miles of congested roads during peak hours have doubled from 60 km to 120 km since then, slowing bus speeds and increasing their operating costs and fares by 15%.

Motorization has also made the street environment increasingly unsafe. In 1995, four people were killed every day in a motor vehicle accident, and 63% were pedestrians. Every year 60,000 people are injured, and 9000 of them severely. Air pollution is also clearly linked to premature deaths among the elderly and increased morbidity among children. CO concentrations are above national standards 13 % of the time, NOx 26% of the time, and particulate virtually all the time.

Other major initiatives are also planned, but have not yet been implemented. Brazilian laws have already set tougher tailpipe emission standards for new automobiles and vehicles, which are slowly but steadily improving the emission levels, but have not been followed by any on-street emission controls, which are currently restricted to trucks and buses. The new traffic code, in effect since last January, creates a mandatory emission controls that are being organized. Once the conflict over who is going to perform it – state or local authorities – is solved, average conditions may improve remarkably.

The new metropolitan transportation plan also proposes major investments in railway infrastructure and services, to bring daily patronage from 900,000 back up to 2 million daily passengers. There are also plans to add 30 km to the subway system by 2004, which would increase subway trips from 2.5 million to 4 million. São Paulo will also add priority intercity bus corridors and a new articulated electric busway, complementing about 100 km of reserved bus lanes and exclusive bus routes and better integrating bus and the new railway services. The proposal includes a new integrated fare system, facilitating transfer between services. But very few efforts are being made in the city to increase bus level of service and bus corridors remain just a plan.

What Caused the São Paulo Traffic Nightmare?

Like most cities, land use regulation and transport decisions in São Paulo are completely disconnected. Large low income settlements develop in the outskirts of the city, uncoordinated with job and public service location, and poorly serviced by public transportation. In addition to typical problems of conflicts between ministries and levels of government, responsibility for metropolitan rail systems was divided between the Federal system and the state rail systems. The fiscal crisis of the Federal government contributed to a steady deterioration of Federal rail services, which lost a significant part of its ridership. The subway, although providing good services (approved by 90% of its users) still only serves a few regions. These two systems, and the bus system, remain poorly integrated.

The backbone of the urban transportation system is the metropolitan bus system, which serves 5.5 million passengers daily, and the local bus systems which serve another 1 million passengers daily. This system was poorly managed,

Photographs: Eduardo A. Vasconcellos

kept low quality, unreliable and inconvenient for most. Between 1968 and 1987 the percentage of trips taken by bus in the metropolitan area decreased from 59% to 43%. Few efforts were made to create larger, more efficient bus priority schemes and results were meager at the regional level, with the exception of the five city intercity bus corridor, which provides a high quality service. No city in the metropolitan region-including São Paulo - has ever organized a system to control the quality of bus services in a comprehensive and permanent way; control is limited to administrative and operational issues. Conversely, the São Paulo agency for traffic engineering has developed permanent and comprehensive indicators of traffic quality, directed towards automobile efficiency. Two attempts (1978 and 1985) to promote special bus services to middle class people failed in face of limited scope and planning deficiencies. Deterioration in the quality of bus services has led a sharp increase in irregular public transportation by minibuses and vans, which have captured from 10 to 15% of the regular bus' demand, inducing the media to call for deregulating the entire system.

Finally, extensive road construction was the only anti-congestion measure used in several periods of the city's history. From 1960 to 1980, investments on new arterial roads and expressways increased the length of lanes in the main arterial system from 886 km to 2,369 km. Thousands of circulation plans to improve fluidity were implemented and 20,000 short term parking spaces were created in commercial areas. Recently, the city spent about US$ 3 billion in public money on tunnels and expressways, which had no effect at all on congestion levels. By contrast, investments in bus corridors were left to private investors, who eventually refused to finance them.

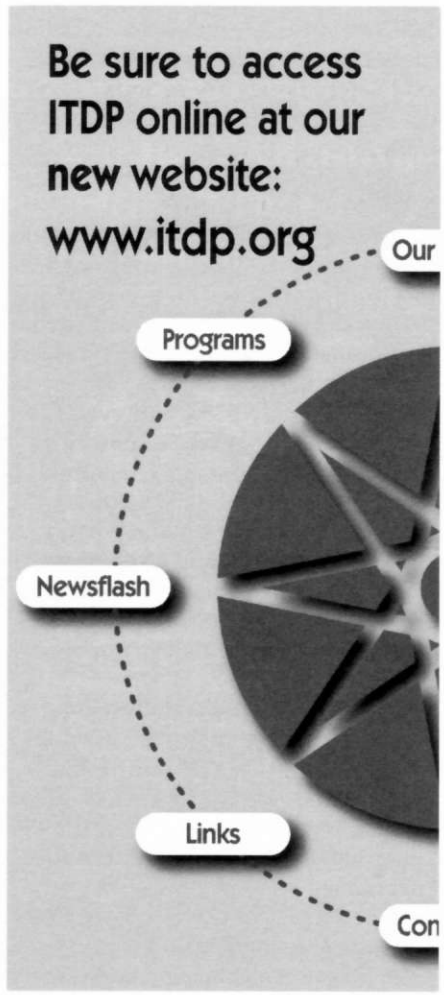
Auto ownership was facilitated for middle and upper class residents through easier access to bank financing and group sales through monthly installments. Licensing fees were always kept low (about US$ 50), and property taxes varied between 2% and 3% of the vehicles' market value, about US$ 300 for the average car. Gasoline prices have also been low (currently US$ 0.70 per liter). Accordingly, from 1968 to 1987, the percentage of auto trips in the metropolitan area increased from 26% to 42%.

High income motorists are allowed to consume eight times as much road space for daily trips as low income transit passengers. Average door-to-door travel times for automobile operators are still only 25 minutes, compared to 70 minutes for bus passengers, and over 90 minutes for train passengers. While automobiles run at 25 – 30 km/h on main roads, buses hardly travel at 15 km/h. As long as these conditions prevail, those wealthy enough to afford a car will continue to drive.

Pursuing long-term solutions

After decades of administrative gridlock, São Paulo now has a real opportunity to address its traffic nightmare in a more systematic way. The license plate scheme is a short term solution, but a first step towards more comprehensive solutions. Economic crisis prevents the city of São Paulo from further useless investments in tunnels and expressways. The severity of the congestion and a general decline in the quality of life has convinced increasing portions of the middle class to accept restrictions on motor-vehicle use, and to look for alternative solutions. Ultimately, the uncivilized space that was generated by automobile-based urban transport must be civilized: road systems should be redesigned to re-appropriate space in favor of non-motorized and public transportation, while subjecting the automobile to strict circulating rules. Enforcement should be reorganized by creating civilian police forces especially trained and by changing enforcement logistics towards the most dangerous and socially unacceptable traffic offenses, such as those threatening pedestrians and harming public transportation efficiency

Improving the bus system remains a major challenge. The answer depends on both institutional rearrangements, giving public transit both political and physical priority, and adequate financial and technical support. The new systems should form the backbone of the public transportation services, with high quality, flexible services monitored by modern technologies and tailored to different market segments, including those currently served by irregular operators: the more complex economic environment and the congestion constraints open the way to propose special public transportation services, as part of an integrated system. All bus services should be provided under flexible regulatory environments, able to optimize the use of resources while respecting general principles of public interest. Accordingly, proper quality indicators should be adopted as a basis to guide action and adopt corrective measures, similar to those developed to ensure automobile efficiency. ♦



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similar pedestrian rights laws in other cities. NGT also worked on Seoul Local Agenda 21, as part of a successful campaign to increase in the number of exclusive bus lanes and introduce congestion tolls. The congestion fee reduced congestion by 10%. Parking charges were also increased by local taxation.

BIKE LANES COME to NEW DELHI

–By Dr. Rajeev Saraf, People's Science Institute and the Indian Institute of Technology's Road Safety Center.

Some 60% of Delhi's population lives in squatter settlements scattered around the city, and only 15% of the population lives in housing that was planned in any way. As a result, there is little relationship between transportation planning and the mobility needs of the population. In low income areas, 44% of the trips are by bicycle, 26% are by bus, and 20% are on foot. Of the cycling trips, 90% are men. Despite this, there are virtually no facilities in Delhi for cyclists and pedestrians. As a result, road safety issues are serious. Over 45% of the population believes the commute to work is the most dangerous part of working life.

There are conflicts in Delhi between environmental groups and transport experts. There are no sustainable transport advocacy groups in Delhi yet but a coalition is needed. Environmentalists support the metro, despite the fact that annual per capita incomes are only $350, and even bus fares consume 10% of the income of the majority of its users. The money planned to be spent on the metro could run the entire bus system for free. Environmental groups also support banning the three-wheeled motorcycle 'Bajaj' taxis, but transport experts say they create jobs and fulfill an important mobility function.

The People's Science Institute is working on public participation on the new Delhi Master Plan, and the first meeting will be in July. They also worked with the Indian Institute of Technology (IIT) on community involvement in developing a pilot bicycle lane project in Delhi. IIT sold the project to the municipality by demonstrating that segregating motorized traffic from non-motorized traffic increased the travel speeds and the lane capacity of the motorized traffic. They are now trying to get express bus lanes included in the master plan as well, and may develop an 'alternative master plan.'

CLEANING DELHI'S SMOG

–By Shefali Verma, Center for Science and Environment, (CSE)

CSE is focusing on phasing out of outdated vehicle technology, improving the quality of the fuel, improving the availability of public transit service, and tightening vehicle inspection and maintenance. Premature deaths in Delhi due to heavy particulate in the air have risen from 7,500 a year in 1992 to 10,000 in 1994. Benzene levels are also 20 times EU standards, and only 2% of the vehicles use unleaded gas. There are no regulations controlling lead and benzene levels in the fuel. Three wheelers cause 65% of the emission problem, but taxis are also major contributors to the particulate problem, as they also use diesel because it's cheaper. Fuel is further adulterated by fuel sellers. Road taxes are also very low. Road tax is paid once for $25. CSE held a successful public awareness campaign. They placed a piece of damp white filter paper over a suction device beside a major street during rush hour, to resemble the action of human lungs, and in this short period of time the filter turned completely black. This got a lot of media attention. They are pressing for recognition of a 'Right to Clean Air.' They are also pushing for a 10% congestion tax and a 10% environmental tax on fuels.

A three-wheeled bajaj: a major source of partciulate pollution

Paul S White

KUALA LUMPUR, MALAYSIA: Expressway Capital of the World

–By Paul Barter and Sreela Kolandai, SUSTRAN Resource Center, and Sri Husnainis, AP 2000

Pressure from Malaysia's powerful rubber tire industry and national car industry have given KL more expressways per capita than any other city in the world. There is not much advocacy in KL on transport issues. The Consumers Association issued a 'Passengers Charter for Public Transit' which pressed public transit operators to provide better service, and some major road projects have aroused local opposition. Small, private-entrepreneur controlled minibuses were banned last year, and replaced by big private bus companies owned by the automotive industry which are unresponsive to users needs. KL has built a private-sector co-financed elevated LRT which is expensive and poorly integrated with the bus system, and pedestrian and bicycle access has been virtually ignored. The commuter rail system controlled by Malaysian railway is doing better due to growing congestion and the recent provision of minivan services

to get people from the train stations to their homes.

PENANG, MALAYSIA: Economic Crisis Ends Bridge Construction

–By Ganesh Rasagam, Penang Socio-Economic and Environmental Institute

The group 'Sustainable Transport and Environment in Penang (STEP) grew out of the Sustainable Penang Initiative, a coalition of NGOs promoting a more participatory planning process. STEP has a task force, sponsors an annual cycling event, is pushing for the development of a cycling master plan, and has developed a list of 'indicators' and 'measures of success,' such as a 'comparative report card,' which they would use for getting media attention and building public awareness. The group is trying to make the Penang bus more responsive to user needs (the routes are decided by a board that lives in Kuala Lumpur). Along with other groups, it opposed plans to build one of the largest bridges in the world between Penang and Georgetown historical district that was to be built by a company owned by the daughter of Ex-Indonesian President Soeharto, but due to Soeharto's fall and the collapse of the Asian economy, the bridge project was canceled.

WOMEN and MOBILITY in INDIA

–By Prema Gopalan, SPARC

Many women in India have never stepped out of their houses, or have left only to collect water or other household goods. After the earthquake, SPARC organized many women to become involved in reconstruction efforts, and women learned how to construct roads. They also set up micro-loan programs which helped women obtain jeeps or bicycles for use in isolated areas. Now many rural women want to get involved in other road construction projects, and want their own jeeps and transit vehicles to meet women's often unaddressed mobility needs, and bicycles for girls to reach schools.

BOMBAY SAVED FROM HIGHWAYS

–By Kisan Mehta, Save Bombay Committee

Bombay is one of the densest cities in the world, with 21,000 people per square kilometer, compared to 6760/km2 in Delhi. Jobs are concentrated at the southern tip of the Bombay peninsula. It has one of the best public transit systems in the world, but buses and trains are massively overcrowded. Commuter rail has 40% of the trips, and 3000-4000 people pack into each passenger car. Buses with capacity of 55 usually have 100 passengers. Bombay also accommodates 400,000 private cars.

The World Bank was planning to fund the Second Mumbai Urban Transport Project; (MUTPII) which planned to build some of 60 highway flyovers planned by the regional government, only some of which would avoid conflicts between roads and the rail lines. Save Bombay opposes the flyovers because they disrupt public transit services and pay little attention to pedestrian needs. They helped convince the World Bank to withdraw. The Provincial Government is going ahead with the project anyway, at a cost of $625 million.

Through media campaigns, Save Bombay Committee also helped stop

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Mozambique

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tenance costs on that road have been] zero. The other roads in Maputo have already needed routine maintenance and now they're being resurfaced. The answer is a 100% national program. First, it should be completely decentralized; second, it should be paid for entirely in Meticals; third, it should use only local firms and national materials and labor. Then the program will cost only a fraction of the ROCS, and it will be sustainable. The main urban roads and interurban highways can be done by companies of a certain size, such as Luso-Mozambican firms.

Q: This wouldn't violate Bank policy?

Chavez: Not necessarily. We're already doing labor-intensive tertiary roads with the International Labor Organization, in some cases using a food for work system. [A toll road is being privately concessioned, and is being built between Maputo and Johannesburg.] I could even imagine toll roads being done in concrete slabs, rather than asphalt. A program like this could absorb all the surplus labor in Mozambique, given the size of the country's road problems. If we had used such a scheme at the beginning of ROCS I the main north-south network would already be completed, I'm convinced of that.

Q: How much of the money from the disbursements has remained in Mozambique, and how much has gone elsewhere?

Chavez: I reckon that easily 30% or more was balance of payments support. Another 20%-30% was technical assistance: studies, overseas trips, etc. Most [of this] goes to foreigners. And 30% – in round figures – was devoted to infrastructure.

The Minister of Public Works, Roberto White, during Parliamentary hearings, blamed policies imposed by donors and 'ruinous management by building contractors' for the failure of the ROCS program. ♦

Global Warming Has Arrived...

Yet Environmentalism Seems Stuck in Traffic.

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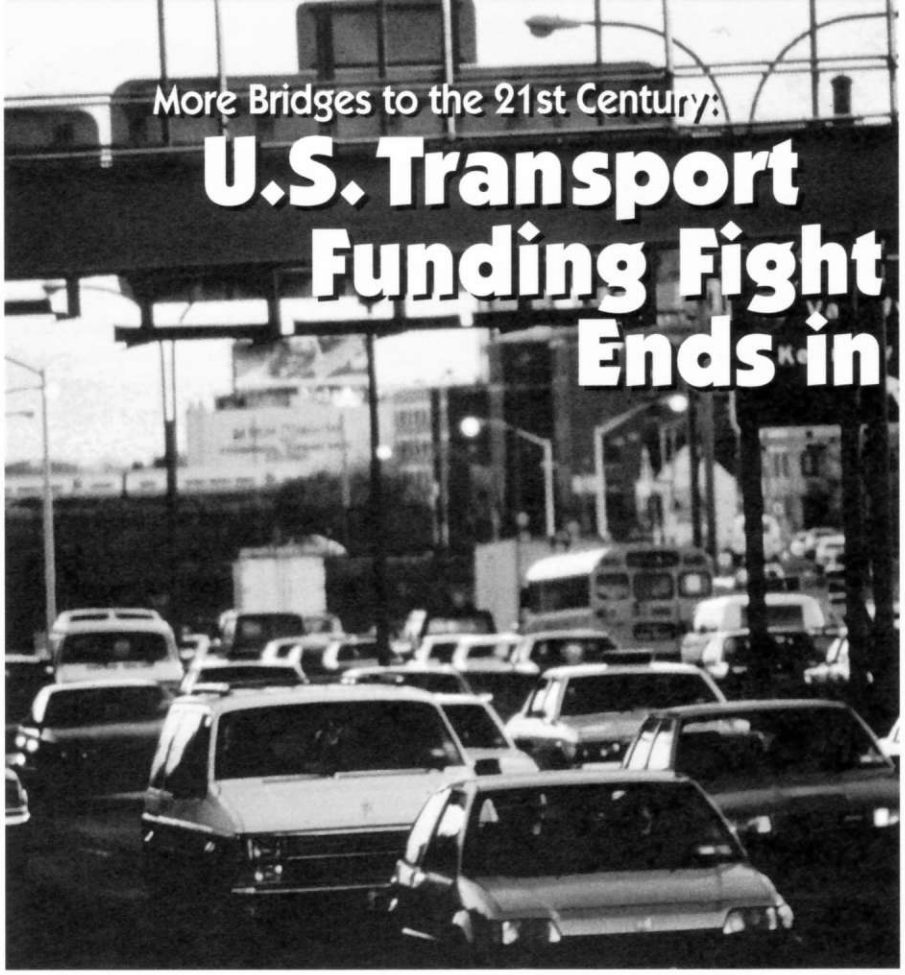

More Bridges to the 21st Century: U.S. Transport Funding Fight Ends in Pork-Fest

by Jon Orcutt

Congress approved and President Clinton signed TEA-21, the "Transportation Equity Act for the 21st Century," on June 9. Passage of the 6-year $216 billion authorization ended (for now) a two-year pitched battle over Federal transportation policy in the United States. The law papered over most of the debate's political fissures with more money, yielding mixed results from a sustainable transport perspective. While the "intermodal" planning structure of the 1991 Federal transportation law remains intact, and several innovative programs have been enlarged, TEA-21 authorizes record levels of highway spending. The latter will surely feed the relentless upward growth of American vehicle-miles traveled (total driving).

Several major cross-currents shaped the fight over successor legislation to the Intermodal Surface Transportation Policy Act of 1991 (ISTEA). Geographically, fast growing Sunbelt and Rocky Mountain states demanded a bigger share of the Federal pie than earlier authorizations had provided. Politically, the backdrop of the 1994 Newt Gingrich Republican Revolution in Congress generated a variety of proposals to scale back or eliminate Federal transportation programs (and hand Federal gas tax receipts back to the states). Finally, elements of the highway lobby faced off with transportation reform advocates over extension or repeal of the reforms from the ISTEA of 1991.

ISTEA had represented a sharp break with earlier Federal "highway bills" by relaxing barriers between highway, transit and other types of projects, and by mandating planning processes in metropolitan areas to promote a more balanced, "intermodal" approach to transport planning.

Sunbelt, radical Republican and road lobby interests had already organized an ISTEA-repeal coalition by early 1996. Its proposal pegged a state's share of Federal transportation funding to gas taxes collected in that state, rewarding car dependence and promising big cutbacks in transit-rich states. It would have repealed most of ISTEA's planning, environmental and non-motorized transport provisions. The coalition, known as STEP-21, at one point claimed support of over 20 state governments. STEP-21 took its cues from an anti-ISTEA platform developed by the American Association of State Highway and Transportation Officials (AASHTO), the national organization of state transportation departments. As early as 1994, elements within AASHTO were warning that "Social and political agendas antithetical to highway expansion pose a clear and present danger to the economies, public safety, and convenience of much of the United States." In 1995, AASHTO asked a group of private grant-making institutions to withdraw their support for the Surface Transportation Policy Project (STPP), the lead organization in the transportation reform coalition (the foundations stuck with the group).

In the end, however, sectional interests prevailed over states' rights and pave-the-world ideologies, as Governors and economic interests (including local road contractors and construction unions) in the northeast and other states that benefited from the ISTEA funding formula backed reauthorization of ISTEA "without radical change." Moreover, ISTEA's emphasis on cities, counties and localities won over a level of government often at odds with state DOTs. The pro-ISTEA forces included the National League of Cities and other municipal, regional and county associations. Together with STPP, national environmental organizations and the White House, these groups blunted the attack on ISTEA's program and planning structure.

But only money could break the stalemate between older states with crumbling infrastructures and those claiming that fast growth made them deserving of more Federal aid. Passage of the law was delayed from fall of 1997 until this spring while pro-spending

Photos Transportation Alternatives

Jon Orcutt is the Deputy Director of the Tri-State Transportation Campaign

Congressional leaders, led by House Transportation Chair Bud Shuster (R-PA), rounded up votes and beat back fiscal conservatives. The resulting bill was sufficiently massive to buy a big Congressional majority, though Republican budget hawks and the Clinton Administration both sniped at the legislation's potential to trample 1997's balanced budget agreement. The big buy-off could not have been accomplished in weaker economic times.

TEA-21's funding levels will provide $165 billion in guaranteed highway funding and $35 billion in guaranteed transit funding ("guaranteed" means the funding will come from protected gas tax revenue) over six years. The law authorizes another $10 billion for highways and $6 billion for transit, though this funding will be subject to the problematic process of annual Congressional appropriation from the general fund (which has been especially unfriendly to transit in recent years).

ISTEA provided about $157 billion for all programs from 1992 to 1997. TEA-21's $35 billion a year highway budget is roughly the equivalent of the entire GDP of Chile or Hungary. While TEA-21 funding come close to the recent tradition of 80/20 splits between highways and transit, the guaranteed funding tilts in favor of highways, with transit getting 17.5%. Moreover, while almost 95% of total highway funding is guaranteed, this is the case for only 84% of transit's share.

While transit will receive more guaranteed money under the deal than was proposed under either the original Senate or House ISTEA reauthorization bills, the massive avalanche of highway funding Washington has now unleashed could easily put sustainable transportation and anti-sprawl advocates' backs to the wall for years to come in many states, especially in the transit-poor South and West. The Wall Street Journal reported in July that highway contractors are staffing up in anticipation of more road work, and economists are wringing their hands over the inflationary potential of such mammoth public spending at the height of the economic upturn. "You'd rather do this during a recession," one analyst told the Journal.

On the other hand, because the ISTEA planning structure and funding flexibility was successfully defended, it should be possible for strong transportation reform coalitions to make headway in the states where these exist. Some positive aspects of TEA-21 include:

Transit Tax Benefit: The law makes the Federal $65 monthly tax-free employer transit benefit easier for companies to offer to employees, and increases the benefit to $100 in 2002. The provision will benefit regions with large transit ridership by easing commuting costs and increasing transit agency revenue. In New York City, for instance, the benefit could reduce the cost of a monthly bus/subway pass from $63 to $45 for an average worker.

Another highway, another suburb.

Clean Air: ISTEA's "Congestion Mitigation/Air Quality" (CMAQ) program is retained, with 35% more funding. CMAQ funds have been used for bike and pedestrian projects, purchase of clean fuel buses, transit capital funding, and rail freight links, although a variety of traffic management projects that actually worsen air quality in the long term were also funded. Under the new bill, states can also contribute CMAQ funds to Amtrak services.

Reform advocates fought off road lobby efforts to make CMAQ funds "transferable" to other programs in the bill — now only increases over FY1997 CMAQ funds for each state will be transferable. In more urban states, the impact of this change will be relatively small, but the funds could be badly abused elsewhere. TEA-21 also contains a new clean fuel bus program, which the House Transportation Committee says is funded at $1.2 billion.

Enhancements: Non-motorized transportation "Enhancements" funding, which accounted for the substantial increase in funding for bicycle and pedestrian transportation projects during 1992-97, will increase 40% in TEA-21. Project eligibility is expanded somewhat, most significantly in permitting funding for bicyclist and pedestrian safety projects. 25% of funds above a state's FY1997 Enhancements funding level can be transferred by the state to other programs.

Other Features: Attempts to weaken environmental review of highway projects were largely turned back by a nationwide mobilization of grassroots environmental groups. More public transit maintenance activities became eligible for Federal capital funding, meaning that transit managers will have more flexibility in the use of Federal funds. The provision eases somewhat the recent demise of Federal transit operating assistance.

The bill also provides a new $750 million (only $400 million guaranteed) "access to jobs/reverse commute" grant program for projects that increase mobility for transit-dependent populations. ISTEA's congestion pricing pilot program was reauthorized and renamed the "value pricing" program, with specific emphasis on development of "high-occupancy/toll lanes." Pilot programs for toll collection to cover highway maintenance on interstate highways, and for research into the "relationship between transportation, community preservation and the environment", which promote traffic calming and transit-oriented development, were also funded. ♦

NEW TITLES

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The Ecology of Place. Planning for the Environment, Economy, and Community. Timothy Beatley and Kristy Manning. Island Press, Washington, D.C., 1997. **www.IslandPress.com**

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Forced Evictions And Housing Rights In Asia (A Second Report) Edited by Kenneth Fernandes. Documents the process of forced evictions that occurred during 1996 and 1997 in 13 Asian cities. Available from the Asian Coalition for Housing Rights (ACHR) Secretariat, 73 Soi Sonthiwattana 4, Ladprao 110, Ladprao Rd, Bangkok 1030, Thailand. Tel: 662 538 0919, Fax: 662 539 9950 **achrsec@email.ksc.net**

Transport and Communications for Urban Development: Report of The Habitat II Global Workshop. 3-5 July 1995, Singapore. Brian Williams, Human Settlements Officer, United Nations Centre for Human Settlements, PO Box 30030, Nairobi, Kenya. Tel: 254 2 623916, Fax: 254 2 624265 **brian.williams@unchs.org**

Getting There: Strategic Facts for the Transportation Advocate. Campaign Against Auto Pollution. 310 D Street, NE, Washington DC 20002. (202) 547-9359 **Cap@icta.org**

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Towards Fair and Efficient Pricing in Transport. White paper on internalizing the external costs of transport in the European Union. **fgoodwin@arcadis.be**

Emissions Trading 101: The UNCTAD Report. by Michael Tebo. **www.weathervane.rff.org** or **dhunt@center1.com**

Sustran

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the Mumbai West Island Expressway, and successfully downgraded the planned Bombay Vadodara Expressway to the widening of existing roads. They are also pushing for an area licensing scheme with a fee of $500 a year to enter downtown Bombay. Motor vehicle taxes in Bombay are very low, only $2 or $3 a year, and Bombay's location on a peninsula makes it a perfect place to implement a Singapore-style area licensing scheme.

CYCLING AROUND BANGKOK'S TRAFFIC NIGHTMARE

–By Vivat Songsassen, Social Director, Thai Cycling Club

The 2000-member Thai Cycling Group in 1995 convinced the Bangkok Metro Area (MBA) Governor to create a bike network, and this year $10 million was approved for bike and pedestrian facilities. The Asian Development Bank was helpful in convincing the Governor to support the plan. The current system has four lines but they are not linked or integrated into a network, and there are big problems with motorcycles taking over the lanes. The club also has a 'recycle-a-bicycle' project which refurbishes bicycles for children.♦

BULLETIN BOARD

INTERTRAFFIC '98–Sao Paolo, Brazil, 8-12 September 1998. Organization Intertraffic '98 South America, RAI Group , PO Box 77777, 1070 MS Amsterdam, Netherlands. Tel: +31 20 549 1212, Fax: +31 20 646 4469, **intertraffic@rdc.nl**

Rail-Volution '98–Portland, Oregon, USA, 12-16 Septemeber 1998. Surface Transportation Policy Project (STPP) 800 788-7077.

44th World Congress of the International Federation for Housing and Planning–Lisbon, Portugal. September 13-17, 1998. Contact Jake Bierhuys at the IFHP Secretariat, Wassenaarseweg 43, 2596 CG, The Hague, The Netherlands. **IFHP.NL@inter.NL.net**

CODATU VIII:–8th World Conference on the Development and Planning of Urban and Peri-urban Transport Cape Town, South Africa, 21 - 25 September 1998. Claude Berenguier, Exec. Manager, CODATU Association, Espace Ville, Rue Maurice Audin, 69518 Vaulx en Velin, France. Tel: +33 47 204 7701, Fax: +33 47 204 7702, **codatu@entpe.fr**

Training Course on Managing and Financing of Rural Transport–London, October 12 - 23, 1998. Topics include: Rural Transport Infrastructure, Rural Transport Services, Rural Transport Planning. Contact person at Transport Research Laboratory (TRL) : Linda Parsley;–Fax: +44-1344 770 719 **lindap@o.trl.co.uk**

UITP Asia/Pacific Congress and Exhibition–Hong Kong,–Oct 20 - 23, 1998. Contact: Mrs Phoebe Lau, Asia/Pacific Liaison Officer for the International Union of Public Transport (UITP), Tel: +852 2993 8721; Fax: +852 2993 7782 **phoebel@mtrcorp.com**.

84th Annual Conference of the International City/County Management Association–Orlando, Florida, October 25-28, 1998. Anne Peyton, ICMA, 777 North Capitol Street, N.E. Suite 500, Washington, D.C. 20002. Fax: 202 962 3681. **apeyton@icma.org, www.icma.org.**

Creating Better Cities with Children and Youth: A Workshop Series on Participatory Strategies for Urban Change–Amsterdam, November, 1998 (exact date TBA). Joyce Cordus, Averroes Foundation, Linnaeushof 6, 1098 KH Amsterdam, Netherlands. Fax: 31 20 5929677. **Averroes@euronet.nl, www.euronet.nl**

VELO HAVANA'98, International–Bicycle Conference and Exhibition–Havana, Cuba, 8-11 December, 1998. Organising Committee, International Conference and Exhibition "Velo Havana '98", Apartado Postal 17029, Habana 17, C.P. 11700, Cuba. Fax:+(53-7) 33-8250 **iitransp@transnet.cu**

Third International Workshop on Transportation Planning & Implementation Methodologies for Developing Countries: Emerging Trends (TPMDC - 98) Bombay, 15-17 Dec., 1998. Dr S. L Dhingra/Prof. P.K. Sikdar, Co-ordinators, TPMDC - 98 Civil Engineering Department , Indian Institute of Technology Powal, Bombay-400 076, India. Fax :091-022-5767302/5783480, **dhingra@gemini.civil.iitb.ernet.in**

VELOZITY: Australasian Cycling Conference–Adelaide, Australia, February 17-19, 1999 Peter Solly and Lindsay Holmes, Conference 99, PO Box2617, Kent Town, South Australia 5071, Australia.–Tel: +61 8 8362 5959, Fax: +61 8 8362 1776 **www.velozity.adelaide.net.au**

Caring Communities for the 21st Century:Villages and Cities–UN Headquarters in New York, February 10-11, 1999. fax (212) 759-5893, **iccc@undp.org**

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stirred the interest of National Geographic Explorer and the BBC, both of which are working on stories about the project.

In Johannesburg, South Africa, in partnership with the resident Afrika Cultural Centre, ITDP is establishing that country's first youth bicycle program, modeled after the successful NYC Recycle-A-Bicycle Program founded by ITDP's Karen Overton. The program, which is being capitalized by an ITDP-sponsored shipment of 300 bicycles, 30 Burley trailers, tools and parts which arrived in Johannesburg this summer, will be kicked-off in late August at a ceremony with Mayor of Johannesburg in attendance, continuing our work with the Afrika Cultural Centre and building on the success of ITDP's Workbike Project (see ST#8). Later this year ITDP will begin implementation of the Workbike Centre Project–a multifunctional facility that will provide technical support, training, small loans, subsidized bicycles, workbikes and trailers to local artisans and vendors.

Thanks to ITDP-affiliated community bicycle programs and NYC and DC-area ITDP members, ITDP will send 350 quality used bicycles, tools, over 75 bicycle trailers, materials and parts to Magude, Mozambique to support AMRU's (The National Mozambican Association of Rural Women) ongoing efforts to mobilize their membership and strengthen their burgeoning bicycle culture.

In 1999, ITDP will continue to demonstrate the efficacy of cost-effective, sustainable solutions with exciting new projects. In Haiti, thanks to funding from Alternative Gifts International, ITDP will work with orphanages in Port-au-Prince to establish a Recycle-A-Bicycle program through which teens will earn their own bicycles and learn how to use them to navigate the streets of Port-au-Prince, earning income as bicycle messengers, mechanics, mobile vendors and recyclable collectors.

The solutions already exist, but are continually ignored. Until we muster the political will necessary to back the widespread implementation of proven, cost-effective, and sustainable transportation systems, we will continue to get 'smart plugged'. ♦

sustainable transport

Your tax-deductible contribution, now more than ever, sustains ITDP's youth bicycle projects in South Africa and Haiti; funds workbike procurement and training for rural women in Mozambique; advances ITDP transport policy initiatives in Central and Eastern Europe, Southeast Asia and the Americas. Additionally, your gift to ITDP helps convince larger donors to replicate ITDP's innovative programs. Keep the wheels of the 'Velo'-lution greased and give to ITDP today!

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CHASING RICKSHAWS

Text by Tony Wheeler
Photographs by Richard I'Anson
192 pages, 238 full-color photographs

Chasing Rickshaws captures the full spectrum of rickshaw culture, telling the stories of rickshaw pullers, riders, owners, passengers, repairers, manufacturers–and even rickshaw artists–in 12 Asian cities. The authors visit the crowded dormitories of pullers in Calcutta, who come into their own when monsoon rains flood the streets and stall other modes of transport; and they locate the scrap yard in Hanoi where rickshaws are destroyed because they lack the proper license. Other topics include: rickshaw folk art, the history and origins of the rickshaw, rickshaw workshops and more.

Proceeds from Chasing Rickshaws help ITDP save this sustainable yet threatened mode of transport.

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