

A Tale of Two Cultures: Ethnicity and Cycling Behavior in Urban Ghana

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A preliminary study of attitudes towards cycling in Accra, Ghana, showed that significant differences have been found to exist between cycling practice and attitudes toward cycling in two areas of the city that share low-income characteristics but have a different ethnic social base. Three key propositions were explored: (a) riding is commonplace in Nima, where it appears an everyday part of childhood and an accepted means of transport, but in Jamestown it is seen as dangerous and the behavior of rebellious, deviant school-age males; (b) there is an established network of bicycle hiring traders who facilitate access to bicycles at a higher level than that suggested by ownership figures; and (c) women riders and women hiring traders act as role models for other women of all ages to ride bicycles. Then the policy consequences of these findings in the context of the promotion of nonmotorized means of transport were considered.

Recently attention has been focused on the development of nonmotorized transport options as an appropriate and sustainable strategy for the Third World (1-3). Transport policy research has identified substantial differences in the extent to which various developing areas of the world have taken up the cycling option; dramatic differences between Asia and Africa have been identified. In China, more than half of the inhabitants own a bicycle; in Asia as a whole, the figure is near 40 percent. Sixteen percent of Latin Americans own a bicycle, but only 3.5 percent of Africans do. Furthermore, within Africa itself significant differences are found between French-speaking and English-speaking West Africa (4). It is this established pattern of differences that formed the rationale for our research into attitudes toward and patterns of cycling in Ghana. The research was conducted as part of a joint project between the Transport Research Laboratory (TRL) and the Ministry of Transport and Communications, Ghana, with linkages to the World Bank's Sub-Saharan Africa Program.

A less remarked upon but equally distinctive difference between regions is found in Ghana itself (5), where, in the 1980s, of the national stock of 200,000 cycles, 34.2 percent were to be found in the northern region, 43.8 percent in the two upper regions, and only 0.7 percent in greater Accra (Figure 1). In the three uppermost regions of Ghana, cycle ownership was about 53 per 1,000 persons, some 65 times higher than that of Accra. Cycling in Ghana has been primarily a northern practice. Recent figures indicate an expansion of this stock with imports of bicycles estimated at 67,000 for 1992, 225,000 for 1991, and 158,000 for 1990 (4).

Currently, there is considerable policy activity, not least on the part of the World Bank, to diffuse cycling practice to the large urban centers of the south (6). There is some evidence of a sup-

pressed demand for bicycle use in Accra (6). It has been estimated that in certain low-income areas, 62 percent of households own a bicycle (7), but this figure does not hold true for all or most low-income areas of Accra. Even where households own a cycle, conditions for cycling on the main thoroughfares are so poor that most cycling takes place only within local areas. Even causal observation indicates that cycle use is not evenly distributed among the low-income districts of urban Accra. In this context, it was decided to investigate differences in attitudes toward cycling and cycling practice itself within urban Accra. Personal observations, contacts with local transport experts, and information provided by interviewers engaged in other transport research projects all indicated that the level of cycle use by the residents of Nima was higher than that in other areas.

Nima, a low-income, densely populated urban district, has traditionally been and remains a major reception area for migrants from the north. Because cycling is a more common practice in the north, this migration link provides a path for the transference of the northern culture of cycling into the urban south. Migrants are carriers of a nonmotorized transport culture. Moving from this analysis, which was largely shaped by local expert knowledge, an investigation of cycling attitudes and practices was conducted in the low-income area inhabited by northerners (Hausa, Fra-Fra, Kusasi, Dagomba, Busanga, etc.) and in a low-income area (Jamestown) inhabited by indigenous social groups (Ga) (Figure 2). Preliminary evidence indicates that there are variations in transport culture within the city, variations that correspond with patterns of migration linkage to areas of greater nonmotorized transport use.

Understanding these differences in transport culture has important policy implications. Substantially different patterns of childhood socialization were found with regard to cycling in Nima and in Jamestown. In Nima, adults encouraged boys to learn to cycle, although attitudes toward girls and cycling were more problematic; in Jamestown, both boys and girls were strongly discouraged and frequently punished by their parents for cycling. These differences in patterns of socialization have their consequences for subsequent use of the bicycle and thus for the viability of the bicycle as a mass means of nonmotorized transport. A clear policy implication of such differences in transport cultures within a city is that where policy makers intend to install cycling infrastructure, the positioning of the initial parts of the network should be anchored on the existing areas of high usage. Locating facilities where the user population has poor access may very well lead to implementation failures.

The work reported here is the outcome of three pilot surveys and a conventional travel diary survey. The first survey on the household activity patterns of low-income households was of 14 households. The survey attempted to capture a number of types

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of households (nuclear, large extended male headed, female headed). As a consequence of the inclusion of large extended households, the survey contains information on many persons (245), albeit of a preliminary form. Questions about the use of cycles and the ability to ride were included in the semistructured interview format used for the household activity research. On the second survey, which was explicitly concerned with cycling, 16 individuals were interviewed, 8 of whom came from Nima, 8 of whom came from Jamestown. Of the eight from Nima, four were cyclists, four were not; patterns were similar with Jamestown.

Within their interviews, these 16 individuals made reference to the cycling/noncycling experiences of 216 other persons. The third survey was concerned with the transportation needs and experiences of women petty traders; included in this category of women traders were those women who sold their own services as human transport (*kayayo*—head load carriers who carry goods from the market to the bus station or truck parks). In this survey, there was no prompt on cycle ownership or opportunities for riding. None of these 12 economically active low-income women made any mention of bicycle use or ownership. Although further ethno-

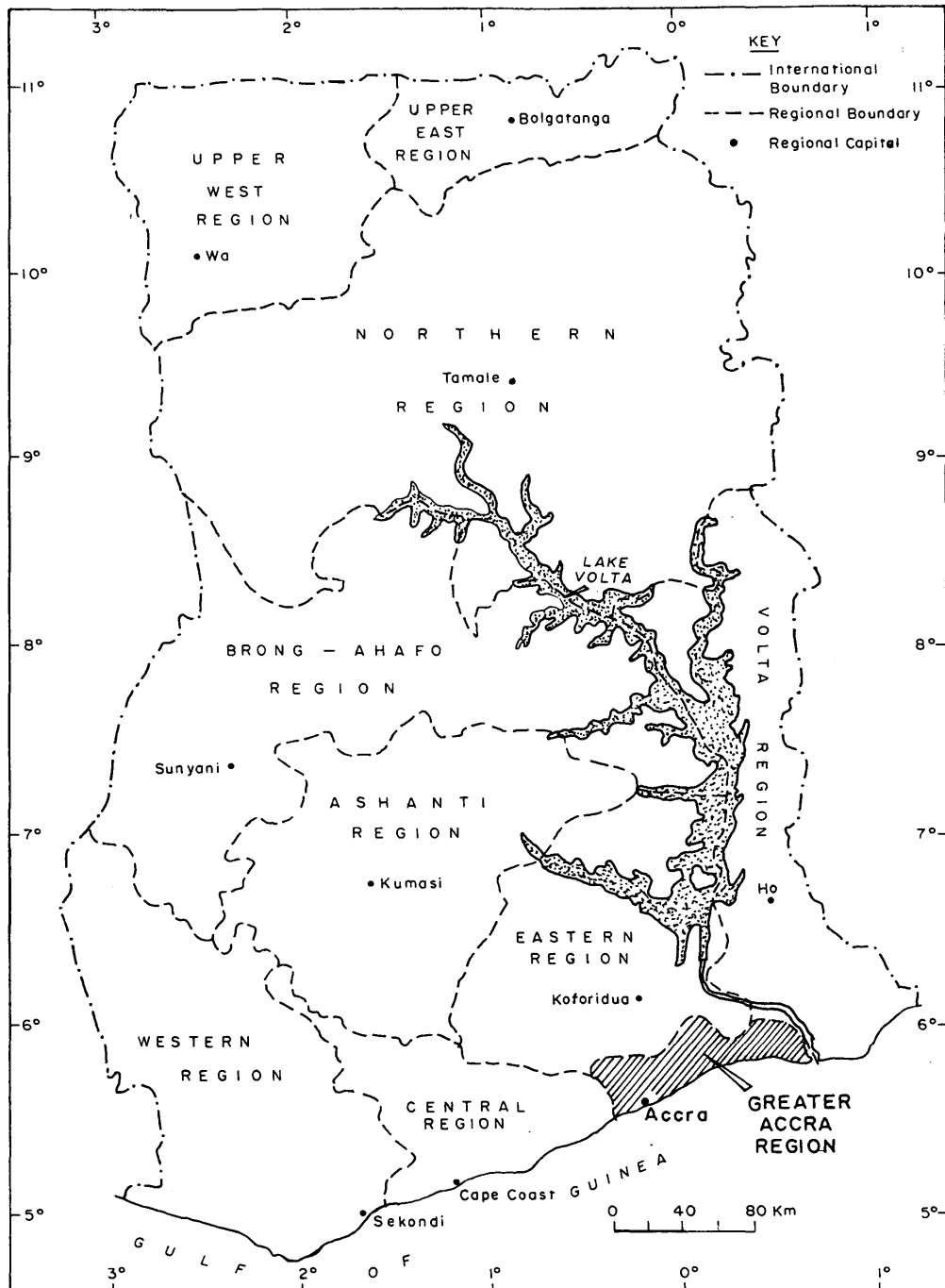


FIGURE 1 Map of Ghana.

graphic and survey work is planned on these issues, for the moment our evidential base is confined to these 42 interviews that span the personal travel experiences of 473 low-income persons. Of these, 290 persons are based in Nima, 116 in Jamestown, and the rest in other low-income areas of Accra (Russia and Madina).

This paper is divided into five sections. In the introduction, the concept of transport culture and its significance for policy decision making has been discussed. The second section explores the various socialization processes with respect to cycling in Nima and Jamestown. The third section examines the importance of hiring arrangements as opposed to ownership rates in the transmission of cycling skills and identifies the obstacles such hiring arrangements pose for the use of cycles for economic or occupational purposes. The fourth section examines the opportunities and constraints surrounding women cycling in a Third World location. The final section and conclusion provide some concrete policy implications of this analysis.

PERMISSION OR PUNISHMENT: AREA DIFFERENCES IN PARENTAL ATTITUDES TO CHILD CYCLING

As a consequence of nation building dynamics, the ethnic composition of local areas has rarely been an explicit focus of official statistical research. As a consequence, it is difficult to provide a definitive estimate of the social composition of the Nima and Jamestown areas. Local knowledge (8) and dissertations conducted at the University of Ghana (9,10) indicate the strongly migrant and northern composition of Nima and the indigenous, coastal social composition of Jamestown.

From the qualitative materials that have been collected, a clear distinction in attitudes toward cycle use exists between these two locations. In Nima cycle use was widespread among men; such cycle use has a strong economic and occupational component. In Jamestown, reports of adult cycle use were substantially less; cycling in Jamestown appears to be primarily a leisure activity for young men. Respondents' reports on the "cycling culture" of these two areas were congruent with the on-street observations of our local interviewing and research team.

Both in Nima and Jamestown, young men enjoy the freedom of mobility provided by the bicycle. In Nima such riding activities on the part of such youths typically occur with parental encouragement; however, in Jamestown, our respondents, both adults and children, reported parental resistance toward and prohibition of cycling activity on the part of children. Thus, children who cycle in Jamestown typically are doing so without parental consent and in opposition to parental authority. It may very well be that part of the pleasure of cycling in Jamestown is derived from this flouting of authority. Whether or not this is the case, it is certainly clear that cycling in Jamestown was seen as a deviant, male, school-age behavior. Cycling in this context was the equivalent of hooliganism, a negative behavior for which children would be punished when parents became aware that they had been engaged in such an activity. A nonriding man in Jamestown recounts the following:

On the question of whether his parents knew he was cycling, since he rode in the community, he said they knew and saw him on several occasions on a bicycle. The question as to how was their reactions towards his riding, he said, "My parents did not take kindly to it all; each time I was reported, I was beaten and denied from food for that

day." It was not a good experience at the time, because it was always tempting to ride.

The language that both children and adults, reflecting on their childhood cycling experiences, use to describe the way in which their parents became aware of their cycling activities is that of being "reported." Where children were reported to their parents for their involvement in cycling activities, punishments often extended to being beaten. That such negative attitudes toward children cycling were not simply parental attitudes but were communal attitudes is indicated by the involvement of other persons in reporting the child to the parent.

The involvement of the wider community in the social control of children provides a social surveillance capability that extends beyond the immediate residential area; if surveillance were viewed as the responsibility of parents alone, the chances of detecting such "wayward" behavior would be significantly lower; communal surveillance, on the other hand, increases the probability that children cycling will be detected and reported. A girl from Jamestown explained that her parents learned that she could ride when "someone went and reported [her] to them." When her parents realized that she could ride, "they advised [her] to stop immediately because [she] could easily be hit by a moving vehicle."

Although these attitudes necessarily generated substantial barriers to cycling as a routine activity on the part of children, the thrill of cycling clearly exceeded the fear of punishment for most young men, and although parental and community attitudes militated against ownership and routine use of cycles by children, the episodic bouts of riding by risk-taking children resulted in a wider diffusion of cycling skills than ownership statistics suggest. To finance their deviant behavior, children frequently used their "feeding money" to hire bikes for periods as short as 15 to 30 min. The availability of very short-term cycle hire permitted Jamestown youth to circumvent the prohibitions placed on riding by their parents. No doubt when children redirected their financial resources reserved for food toward leisure activity, it further alienated Jamestown parents from cycling.

In Nima, community acceptance of bike riding meant that boys almost without exception learned to ride bicycles. It also meant that girls also commonly learned to ride, although community acceptance did not extend to women riding bicycles much beyond puberty, and those who did ride were comparatively rare. The respondents in Nima commonly reported pleasant feelings and experiences while riding bicycles. These included both feelings of superiority over friends and peers when they were children, because they could ride and others could not, to feelings of independence in their movement when they were older. The problems of learning to ride reported by Nima respondents were mostly about the physical problems of riding. "For children, I feel it is part of childhood activities to learn to ride bicycles especially for most children like these in our Nima community," according to one Nima woman who is a noncyclist.

By contrast, in Jamestown, community acceptance of bicycle riding did not exist and although it was still common among boys of school age, a number of children did not learn to ride, especially girls. The learning problems cited by Jamestown respondents were not confined to the physical dangers of learning to ride on busy inner-city streets without the provision of safe play areas but also explicitly included the moral penalties of detection and punishment by parents or indirectly by means of other members

of the family or neighborhood. Whereas cycling in Nima was an open and esteemed activity for children, cycling in Jamestown was a furtive if thrilling experience.

Nima culture encourages children to acquire cycling skills, whereas Jamestown culture discourages children from doing so. Nevertheless, the boys of Jamestown typically overcome such social barriers and learn how to ride. However, the negative culture surrounding cycling in Jamestown militates against youth viewing cycling instrumentally, that is, as a major means of transport as opposed to a mode of leisure. By contrast, children in Nima tended often to cycle purposefully to places such as school and marketplaces. They also reported the use of bicycles when running errands for parents; this was even cited sometimes as a method of winning parents' consent to more playful bike riding—a girl from Nima reported, "I use the bicycle to run errands for my parents and myself. I also use it to derive my sparkling pleasure."

Before leaving this discussion of the cultural differences toward childhood cycling, it is important to note that there are good reasons that parents in Jamestown might seek to influence their children against pursuing cycling activities. The mixed road use patterns of developing contexts generate many dangers for the young cyclist. The interactions between cyclists and pedestrians (many of whom may be operating as human transport bearing head loads and children on the back) and cyclists and motor vehicles in contexts where road surfaces are in poor repair and roadside gutters crumbling and broken do not provide a safe environment in which children can learn and practice cycling. Nevertheless, what remains interesting is why the parents of Jamestown, which enjoys more or less the same traffic and infrastructural conditions as Nima, discourage their children from riding whereas the parents of Nima do not.

NONMOTORIZED TRANSPORT IN A DEVELOPING CONTEXT: CYCLE-HIRE IN A PETTY TRADING ENVIRONMENT

The low cycle ownership levels found in urban Accra disguise how widely spread is the ability to cycle. Clearly, the extensiveness of hiring facilities in a context where ownership statistics are low is very important in providing low-income youths with the opportunities to learn these skills. However, it is not simply a question of the extensiveness of such hiring provision; rather the explanation of such widespread diffusion is to be found in the special character of hiring arrangements in the developing urban context.

Some special features of cycle hiring arrangements enhance the opportunities of youth to make use of the service. First, much of the hiring is undertaken on the basis of very small time units or hiring by small specified distances (popularly known as "*kobo-kobo*"—pole to pole). These can be seen as the transport equivalent of other petty trading arrangements in developing countries. Petty trading arrangements typically mean that the poor are paying more for a commodity than are the wealthy. The consequence of small time unit hire and small distance unit hire in transport is no different, as the information in the following table indicates:

Hiring Duration	Nima (cedis)	Jamestown (cedis)
15 min	50	
30 min	100	60–100
1 hr	200–300	120
Pole to pole	20–40	20

The cost of a new bike was given by one respondent as 27,000 cedis. At the rate of 200 cedis an hour, the cost of a bike to a hirer/trader could be recovered in 135 hr of hiring. Rates appear to be lower in Jamestown; perhaps this is explained by the low levels of adult patronage.

These petty trading arrangements around cycling appear to be primarily used for learning to cycle and thereafter for leisure cycling by youth. Among all categories of respondents, the first use of cycles predominantly occurred during childhood with most respondents having ridden a cycle at some stage of their life. Many first had access to bicycles through the cycle-hire traders that existed within their communities. "The boys who hire or rent the bicycle out on commercial basis taught me how to ride," said a girl in Nima. "I used to give them some extra money after I have hired and paid for the time or distance I use for cycling and asked them to push me around. They did this for a couple of days and number of occasions before I became finally perfect and started riding on my own." Another respondent began riding bicycles with schoolmates at a bicycle hiring unit at Jamestown. According to him, groups of peers go to this pool to hire bicycles at break time, which would last for an hour.

Petty hiring arrangements, although overall an expensive means of gaining access to riding opportunities, are offered at sufficiently small units of income to permit children to be the major purchasers of the service. These traders offer, from a child's perspective, the additional benefit that bicycle access can be obtained without the presence of overbearing parental supervision. Respondents from both communities reported that often hirers restricted learners to riding between two posts (*kobo-kobo*) that were within sight of the hirer so that they could oversee any damage being done to their bikes. This arrangement, of course, transfers the burden of supervising the child's safety in learning to cycle from the parent to the trader; preventing damage to the bike cannot be ensured without preventing damage to the child. Given the youthful character of this market for cycle-hire, it is in the interest of the trader to ensure that hirers have achieved sufficient proficiency before letting them loose on the wider road network. The involvement of traders in generating cycling proficiency for children has its counterpart in the lack of parental involvement; parents were not reported as being involved in the teaching of bike riding.

The financing of bicycle riding among those that were riding as boys appeared predominantly to be from allowances given to them for other purposes. Money given to them to buy food while at school was commonly siphoned off to pay for bicycle hiring fees. It was noticeable that, in general, girls were using means of being able to afford to ride that were different from those of boys, either by using other sources of funding, such as trading activities, or by borrowing bicycles from relatives for free. A girl in Nima described it like this:

As part of my labour activities after school, I sell Nido powdered milk in bits to children in the neighbourhood and makes a profit of about 300.00 cedis on each container. It is out of this amount of profit, I set aside 20.00 cedis to hire the bicycle to learn to ride. This is how I initially financed my riding.

Through such hiring arrangements, and despite vehement parental opposition, the cycling skills necessary to support sustainable mass nonmotorized urban transport policies may be present in areas such as Jamestown; however, childhood socialization processes that define cycling as a dangerous form of leisure may work against the adoption of the nonmotorized transport option by the

adult. Existing short-term/distance hire arrangements neither permit the opportunity for the development of childhood routines of purposeful cycle journeying nor provide the necessary motivation for the acquisition of maintenance skills or even the necessary acquaintance with the techniques and procedures involved. The time/distance constraints of petty hiring mean that the cyclist never moves beyond the hirer's local area and thus is never out of the range where maintenance becomes the user's and not the hirer's responsibility.

Much of the attention on promoting the cycling option as a sustainable transport strategy has focused on the need to establish more flexible purchasing arrangements and to reduce import taxes and tariffs that place the bicycle out of the financial range of low-income households. Although this policy impulse is undoubtedly correct, there is mileage to be gained in considering a reorganization of existing hiring arrangements toward a longer leasing period for cycle-hire. Similarly, it may be useful to consider purposely reshaping the character of the hiring market. Currently, the market is largely a youth leisure market; however, the promotion of cycle-trailers on a hiring basis has the potential for converting these existing cycling facilities into more economic and occupationally useful services. There is evidence that in northern Ghana women traders have begun to use such cycle trailers (1), whereas there is not yet any evidence of such activity on the part of women traders in Accra. Purchasing such transport equipment may prove a substantial barrier to adoption on the part of low-income women—certainly in urban centers where relatively cheap motorized transport is available; the hiring or long leasing option on such enhanced load-bearing facilities may have the capability of altering existing preferences.

MAVERICK RIDERS? BARRIERS AND OPPORTUNITIES IN WOMEN'S CYCLING

In both Jamestown and Nima, there was clear evidence of a prejudice against adult women who cycled: adult women learning to cycle in Nima did so late at night when social and traffic activity had decreased substantially. The comments of cyclists themselves reflected the negative attitudes of the community around them toward women cycling. Men, cyclists and noncyclists alike, appear to consider cycling not suitable for women, although in Nima riding by girls is somewhat accepted. When asked what type of people ride bicycles in his community, a nonrider in Nima responded, "a few workers, few school children, and many children have taken to bicycle riding from hiring."

In Jamestown, bicycle riding even by girls is treated with some suspicion, and girls who ride are considered of "questionable sexuality." The most common justification for why women should not ride bicycles is the apparent danger of the activity on the main roads. Such attitudes also are often held by women noncyclists. Other explanations also demonstrated an apparent unwillingness to allow girls an ability to "play"; their role, from a very early age, is to assist in reproduction within the household, be it social, or at a later stage in life, biological. "It is not safe at all to see women riding, our roads are very bad, with many potholes and woman riders often run into children and people's wares by the road side," said a riding man in Jamestown. Asked whether he knows some women riders, the respondent explained that he knew a few and that those women behaved like men, that they even play football with men.

By contrast, the attitude of cycling women in both communities is often one of support to other riders, particularly other women. They themselves derive encouragement from greater numbers of woman riders and try and support other women who want to ride. One of our Nima respondents was a female cycle-hire trader. By her account the presence of woman hirers increased the likelihood of women learning to ride or hiring bikes to practice as there was reduced embarrassment and social pressure. When a girl cyclist from Nima was asked about her feelings about women riding bicycles, and why, she said,

I admire females who can ride perfectly well. When they ride, I always have the urge also to go on a bicycle and ride. With adult female cyclists, I see them as role models and a source of encouragement to develop and advance in cycling activity. Why because as many females cycle, they help to change our attitudes towards female cycling and more females would join in the activity.

Respondents drew attention to the problems that women's dress posed for modesty if they were to cycle. The arrival of the bicycle in Western culture produced exactly the same concerns, with the consequence that a specific cycling dress designed to ensure the appropriate level of modesty was initially adopted by female cyclists. Although such concerns over dress are not confined to the Muslim community alone, the Muslim male community represents a substantial part of the cycling community and such concerns about modesty operate, given present dress code, against the diffusion of adult cycling activity to the adult female sector of this community.

Any policy concerned with promoting cycle adoption by women must engage this problem at some stage. There is, however, a practical solution that might be incorporated in any promotional activity. In a number of Muslim communities, most particularly those in which women are heavily engaged in field agriculture, women wear trousers and tunic dresses. Such dress is highly suitable for cycling activity and could be promoted in conjunction with cycle use; in such circumstances, its Muslim pedigree could usefully be emphasized.

Concerns about the environmental damage caused by motorized transport and constraints imposed by global financial problems have resulted in the reassessment of motorized developments as the appropriate transport policies for the Third World. However, the pilot research already has indicated that women face difficulties in gaining community acceptance as cyclists. If environmentally friendly policies are promoted without attention to such gender differences in the social acceptability of cycling, then a situation will occur in which environmentally friendly policies can hurt the economic activities of women. The promotion of fair transport policies must ensure that if the cycle option is adopted where motorized transport would previously have been the appropriate policy candidate—motorized transport being socially acceptable for women, albeit as passengers—active promotional measures must be taken to ensure that cycling by women is not socially discouraged.

This research indicated that a number of changes could be made that would be likely to encourage higher levels of cycling by women. First, the poor design of the existing infrastructure exposes women cyclists to ridicule, harassment, and injury from other road users; an improved infrastructure could do much to make cycling less risky for women and thus more socially acceptable because exposure to danger is regarded as an unfitting experience for women. (A program to construct segregated cycle

ways in Accra was scheduled to commence in January 1994 under the auspices of the World Bank.) Second, alterations in the design of cycles and cycle accessories could do much to change the bicycle from a transport mode for the solitary individual into a facility for transporting occupational loads. The promotion of trailers and substantial front load carrying baskets to women petty traders would, if successful, generate a substantial market for cycling. Currently, the only visible use of such technology is by the males who sell Fan ice cream from cold boxes built into the front of their vehicles—the Fan boys. Any such promotion campaign would have to focus on providing safe locations for parking vehicles. Women who currently use cycles to make purchases at markets encounter major problems in finding secure parking facilities for their bikes. If cycle trailers do indeed become adopted in the urban trading context, then this problem will be greatly magnified.

PROMOTING NONMOTORIZED TRANSPORT IN DEVELOPING COUNTRIES: POLICY IMPLICATIONS

It has been argued that cycle ownership and use are not evenly distributed across the low-income areas of Accra. Instead, the clear focal hub of low-income cycling activity is located in Nima. Consequently, any program of cycleway infrastructural provision in the city would do well to consider the benefits of centering the initial stages of such a development in this area of high usage. Locating cycleways in areas of low cycle usage would enable their invasion by other road users.

Much of the focus around the promotion of cycling as a sustainable transport option has fallen upon the purely technical infrastructural requirements; however, for implementation to be successful in developing such cycleways, special features of the developing context need to be considered. Given the existing patterns of mixed road use, even where segregated facilities are provided, the danger remains of the spillover of road-side trading into these newly provided areas. Consideration should therefore be given to establishing strong visual signing, which indicates and helps enforce the moral rights and entitlements of cyclists at least to priority in such locations. As has been noted, there are particular problems of interaction between cyclists and human transport (head load carriers). Given the importance of human transport in Africa, policies designed to promote cycling will also need to be sensitive to the highway requirements of this particular social group.

Although the extensiveness and petty renting character of current hiring arrangements enable the development of the technical skill of cycling, such arrangements do little to promote the ready economic or occupational use of cycles. Such hiring arrangements can contribute little toward the mass adoption of sustainable non-motorized transport options, apart from providing the conditions for the wide diffusion of cycling skills. Clearly, the provision of infrastructure has to be accompanied by arrangements that enable the financing and purchasing of vehicles.

It is apparent that anticycle childhood socialization processes are in play in certain African low-income areas and that road use conditions may play some considerable part in explaining the pat-

tern of such "prejudice." Policy makers can, according to respondents of this study, usefully think about providing safer learning environments for child cyclists. In this way the negative attitudes of parents in such areas may be encouraged to change in the more positive and sustainable direction.

It also has been noted that there are clear cultural barriers to women cycling. This is a matter of some considerable importance because if policy intentions are to favor the bicycle as a transport mode in developing contexts, where women have key economic and transport roles and there are cultural barriers to women and cycling, then any such transport policy will be likely to increase gender inequity. Specific attention is thus required to promoting such infrastructural, vehicle design, dress, and social adjustments that will facilitate the development of women's cycling.

To summarize, there are cultural factors that condition transport behavior—in this case, cycling behavior. Unless transport policy takes explicit account of such factors, there are likely to be real and substantial policy failures.

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REFERENCES

1. Howe, J., and R. Dennis. *The Bicycle in Africa: Luxury or Necessity?* Working Paper IP 3. Institute of Hydraulic and Environmental Engineering, Delft, The Netherlands, 1993.
2. Kipke, B. G. Bicycle Usage in Two Cities of Africa. Presented at 67th Annual Meeting of the Transportation Research Board, Washington, D.C., 1988.
3. Replogle, M. Sustainable Transportation Strategies for Third World Development. In *Transportation Research Record 1294*, TRB, National Research Council, Washington, D.C., 1991, pp. 1–8.
4. *Urban Transport Working Group Strategy Paper*. Sub-Saharan African Transport Program, The World Bank, Washington, D.C., 1990.
5. Howe, J., and I. Barwell. *Study of the Potential for Intermediate Means of Transport*. IT Transport, Ltd., for Ministry of Transport and Communications, Ghana, June 1987.
6. Pankaj, T., and A. Coulthart. Nonmotorised Transport in Rural and Urban Ghana. *Appropriate Technology*, Vol. 20, No. 1, June 1993, pp. 29–30.
7. TDP Consult. *Urban Transport Project—Addendum to Urban Poor Mobility Needs Study. (Non-Motorised Vehicle Counts)*. Draft Final Report. Ministry of Transport and Communications, Ghana, 1992.
8. Nukunya, G. K. *Tradition and Change in Ghana*. Ghana Universities Press, 1992.
9. Neequaye, M. *Queueing for Convenience? Slum Sanitation Arrangements in Accra*. Department of Sociology, University of Ghana, Accra, 1993.
10. Nyarko, E. K. *Waste Management in An Urban Slum: The Case of Nima-Accra*. Department of Geography, University of Ghana, Legon, 1992.